

APPENDIX D

**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN
AUAS ROAD UPGRADE**

TABLE OF CONTENTS

1	LEGAL REQUIREMENTS	3
2	PLANNING AND DESIGN PHASE.....	5
3	CONSTRUCTION TENDER PREPARATION PHASE	6
3.1	GENERAL REQUIREMENTS FOR THE EMP – CONSTRUCTION PHASE.....	6
3.1.1	EMP ADMINISTRATION	6
3.1.2	ROLES AND RESPONSIBILITIES	6
3.2	ENVIRONMENTAL AWARENESS TRAINING	8
3.3	MANAGEMENT REQUIREMENTS OF THE TENDER PREPARATION PHASE	9
4	CONSTRUCTION MITIGATION DETAILS	11
5	OPERATION AND MAINTENANCE PHASE.....	25
6	APPENDIX A: TREE MANAGEMENT ZONES	26
7	APPENDIX B: POTENTIAL NON-COMPLIANCE ACTIONS	27
7.1	PROCEDURES	27
7.2	OFFENCES AND PENALTIES.....	27
7.3	FINES	28
7.4	PENALTIES	29

1 LEGAL REQUIREMENTS

The table below provides a list of permits and legal requirements to be met during the construction phase, and to be considered during the planning phase of the project. Relevant instructions are included under the various phases.

Table 1: Relevant legislated permit requirements

THEME	LEGAL INSTRUMENT	MANAGEMENT REQUIREMENTS	CONTACT PERSON
Archaeology	National Heritage Act 27 of 2004	All protected heritage resources (e.g. human remains etc.) discovered, need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they may be relocated.	Tel: (061) 244 375/385/594
Environmental	Environmental Management Act 7 of 2007 EIA Regulations (EIAR) GN 57/2007 (GG 3812)	The amendment, transfer or renewal (after three years) of the Environmental Clearance Certificate (EIAR s19 & 20).	Tel: 061 284 2751
Forestry	Forest Act 12 of 2001 Nature Conservation Ordinance 4 of 1975	<ul style="list-style-type: none"> Protected tree species and any vegetation within 100 m from a watercourse may not be removed without a permit. A Harvesting Permit is required if wood is to be collected (harvested) for use as fuel. Protected tree species to be removed require a permit. 	MEFT Director Mr. Johnson Ndokosho Tel: +264 61 208 7663/6 Email: Johnson.Ndokosho@Meft.Gov.Na
Labour	Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.	Labour Law Advice: Tel: 061 309 957
Water	Water Resources Management Act 13 of 2013 – Groundwater control area	Sections 26 and 29 (no permits, but restrictions incorporated into this EMP). Groundwater control area City of Windhoek Drought Response Plan	Gracy Tshipo 264 61 290 2373

	Windhoek Town Planning Scheme		
Public Open Space	Town Planning Scheme	Taxi Rank area is a public open space and the new use needs to be advertised and the area close and rezoned.	City of Windhoek Planning, Design and Traffic Flow (061) 290 2482 or UTP@wind hoekcc.org.na

2 PLANNING AND DESIGN PHASE

Table 2: Management requirements for the Planning and Design phase

ASPECT	REQUIREMENT
Tender documents	<ul style="list-style-type: none"> • Ensure that this EsMP is included in all construction contracts. Communicate specific details to the tenderers, to ensure they are fully aware of specific restrictions, e.g. construction camps outside of groundwater protection zone, procedure for tree removal, grievance mechanism, etc.
Communication	<ul style="list-style-type: none"> • Communicate with the City of Windhoek when construction is to take place so that appropriate public notices may go out through their Public Relations Department. • Ensure the grievance mechanism is in place and publish its details.
Survey	<ul style="list-style-type: none"> • During the survey, identify all mature trees, to be removed, conserved and possible to be conserved and mark them physically.
Design	<ul style="list-style-type: none"> • Appoint a landscape architect/urban design expert or similar to integrate the design of the taxi rank, park, cycling and pedestrian lanes in the project, determining the planting of trees, and other vegetation their locations, together with other landscaping elements. Consider how the trees in the shoulder area can be retained, so that the cycling and pedestrian lanes are adapted to include such trees. This design should also incorporate the use of vegetation as a screen in front of sensitive receptors to noise, such as the tourism facilities. • Complete the support to properties losing their informal accesses from Auas Road. • Communicate to the NDF, to investigate an alternative for their main entrance, ensuring Blaubock Street remains an entrance only for emergency exits. • Finalise the design of the taxi rank to ensure the existing trees are incorporated as far as possible, that the ablutions facility is robust for public traffic and against vandalism and theft. Include a suitable fence, e.g. a palisade fence that is see-through around the site.
Construction sequence	<ul style="list-style-type: none"> • Design the construction sequence to limit noise and dust reaching sensitive receptors – i.e. taking account of the prevailing wind directions. Avoid works in upwind from prevailing wind directions.

3 CONSTRUCTION TENDER PREPARATION PHASE

3.1 GENERAL REQUIREMENTS FOR THE EMP – CONSTRUCTION PHASE

3.1.1 ESMP Administration

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

3.1.2 Roles and Responsibilities

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

a) Contractor

- The Contractor shall appoint a person from the construction team to take responsibility for the implementation for all provisions of this EMP.
- The Contractor shall report on the status of the implementation of the provisions of the EMP.
- The contractor should implement the environmental awareness training as stipulated in this report.
- The contractor must list the stakeholders of the project and their contact details with whom communication would be required throughout the contract. This list, together with an indication of how stakeholder communication will be done throughout construction must be agreed upon and given to the ER before construction commences.
- The contractor is also responsible for compliance to this ESMP by all sub-contractors. Make sure that all sub-contractors have a copy of this ESMP and that they understand its contents. Include the ESMP in the sub-contracts/agreements with sub-contractors.
- The Contractor must adhere to the regulations pertaining to Health and Safety, including the provision of protective clothing and shoes, failing which the contract may be ended immediately.

b) Employer's Representative (ER)

- The Developer needs to appoint an Employer's Representative (ER) that could act as the Employer's on-site implementing agent and will be responsible to ensure that the Employer's responsibilities are executed in compliance with relevant legislation and the ESMP. In addition to general project management, the ER in collaboration with the developer has the responsibility to appoint the Environmental Control Officer (ECO) (see below).
- Any on-site decisions regarding environmental management are ultimately the responsibility of the ER. The on-site ER shall assist the ECO where necessary and will have the following responsibilities in terms of the implementation of this ESMP:
- Ensuring that the necessary environmental authorizations and permits have been obtained.
- Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO where necessary.
- Ordering the removal of person(s) and/or equipment not complying with the ESMP specifications.
- Providing input into the ECO's ongoing internal review of the ESMP, this review report is submitted to the Employer.

c) Environmental Control Officer (ECO)

- The Environmental Control Officer (ECO) will be a competent person appointed by the ER to act as the Employer's representative to monitor and review the on-site environmental management and implementation of this ESMP by the Contractor.
- The ECO shall be on site daily during the construction contract. 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 I&APs with regard to environmental matters.
 - Regular site inspections of all construction areas with regard to compliance with the EMP.
 - Monitoring and verifying adherence to the EMP, monitoring and verifying that environmental impacts are kept to a minimum.
 - Taking appropriate action if the specifications are not followed.

- 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.
- Advising on the removal of person(s) and/or equipment not complying with the specifications (via the ER).
- Recommending the issuing of fines for transgressions of site rules and penalties for contraventions of the EMP (via the ER).
- 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.

3.2 ENVIRONMENTAL AWARENESS TRAINING

The Contractor shall ensure that adequate environmental awareness training of site personnel takes place and that all construction workers receive an induction presentation on the importance and implications of the ESMP. The presentation shall be conducted, as far as is possible, in the employee's language of choice.

As a minimum, training should include:

- Explanation of the importance of complying with the ESMP.
- Discussion of the potential environmental and social impacts of construction activities, including specific elements that are sensitive in the study area, including the existing trees, Arebbusch River, the nearby properties that are sensitive to noise, dust and nuisances, and the traffic situation.
- 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.
- Applicable fines/terms when there is non-compliance, leading to disciplinary process and eventually dismissal upon continued non-compliance.

The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

3.3 MANAGEMENT REQUIREMENTS OF THE TENDER PREPARATION PHASE

Table 3 below provides actions to be taken during the tender preparation phase.

Table 3: Construction tender preparation phase management requirements

ASPECT	MANAGEMENT REQUIREMENTS
ESMP implementation	Relevant sections of this ESMP should be included in the tender documents/contractors so that the contractor can make provision for implementation of the ESMP.
Financial provision	<ul style="list-style-type: none"> • Financial provision should be made for dust suppressants, to be used to prevent dust from reaching sensitive receptors, especially during windy periods. • Financial provision for citing the construction camp outside of the groundwater protection zone (See Section 3A.) • Financial provision for hauling to borrow pits further away, topsoil management and the rehabilitation of borrow pits should be included as a cost item within construction tender documents (even though borrow pits are not permitted along on the site). • Financial provision for the co-opting of a health officer from the Ministry of Health and Social Services to facilitate HIV/AIDS and TB education programmes periodically on site during the construction phase should be included as a cost item within construction tender documents. • Financial provision for the facilitation of an induction programme for both senior, casual construction personnel as well as subcontractors and associated personnel should be included as a cost item within tenders concerning the construction and/or maintenance of services infrastructure. • Financial provision for the implementation of a Tree Management Plan – specific resources to oversee the workforce and to ensure that there is specific care for tree conservation, the removal of selected trees only and for applications of tree permits. • Financial provision for the drafting of a Communication Plan and Grievance mechanism should be included as a cost item within construction tender documents.
Recruitment	<ul style="list-style-type: none"> • The contractor should liaise with the CoW concerning approved SME's, and arrange with these to collect the removed revegetation from a pre-identified site. • Provisions designed to maximise the use of local labour should be included within tenders concerning the construction and/or maintenance of services infrastructure. • A provision stating that all unskilled labour should be sourced from local communities should be included within the contract.

- Specific recruitment procedures ensuring local firms enjoy preference during tender adjudication should be included within tenders concerning the construction and/or maintenance of services infrastructure
- Provisions promoting gender equality pertaining to recruitment should be included within tenders concerning the construction and/or maintenance of services infrastructure.
 - Women should be given preference for certain jobs (e.g. flag bearers)

4 CONSTRUCTION MITIGATION DETAILS

The following table provides an overview of all the major environmental management themes pertaining to both generic and site specific construction mitigation details. This table serves to act as quick reference, for the detailed mitigation details that follow below, for the implementation of the construction component of this EMP.

Table 4: Generic and site-specific environmental management actions for the construction phase

THEME	OBJECTIVE	SECTION
Waste management	Avoid and where not possible minimise all pollution associated with construction.	Section A
Borrow pits	Ensure topsoil protection and post-construction rehabilitation.	Section B
Health and safety	Safeguard health and safety of labourers and general public.	Section C
Dust and noise	Avoid and where not possible minimise dust and noise associated with construction.	Section D
Environmental training and awareness	Awareness creation regarding the provisions of the EMP as well as importance of safeguarding environmental resources.	Section E
Environmental conservation	Minimise construction activity footprint and safeguard biodiversity in ecologically sensitive areas.	Section F
Employment/ Recruitment	Minimise negative conflict through legal and fair recruitment practices.	Section G
Stakeholder communication	Provide a platform for stakeholders to raise grievances and receive feedback and hence minimise negative conflict	Section H
Socio-economic and Miscellaneous	Ensure due consideration is given to matters regarding the cultural and general wellbeing of the affected community and matters incidental thereto.	Section I

SECTION A: WASTE MANAGEMENT

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Waste management plan	The Contractor should compile a Waste Management Plan which should address as a minimum the mitigation measures included below.
Hazardous waste	<ul style="list-style-type: none"> • All heavy construction vehicles and equipment on site should be provided with a drip tray. <ul style="list-style-type: none"> – Drip trays are to be transported with vehicles wherever they go. – Drip trays should be cleaned daily and spillage handled, stored and disposed of as hazardous waste. • All heavy construction vehicles should be maintained regularly to prevent oil leakages. • Maintenance and washing of construction vehicles should take place only at a designated workshop area outside of the groundwater protection area. <ul style="list-style-type: none"> – The workshop area should be lined with concrete. – The workshop should have an oil-water separator for collect run-off from washing. • Spilled concrete and bitumen (wet or dry) should be treated as hazardous waste and disposed of by the end of each day in the appropriate hazardous waste containers. • All hazardous substances (e.g. fuel etc) or chemicals should be stored in a specific location on an impermeable surface. • Hazardous waste is to be removed from the site daily and taken to the construction camp where it will be stored in an enclosed and bunded area before being taken to the Kupferberg Waste Disposal Sit.
Sewage and grey water	<ul style="list-style-type: none"> • Do not allow the sewage (black water) to be discharged directly onto open soil. • All sewage must be removed regularly and disposed of at a recognised (municipal) sewage treatment facility. • The water collected from wash basins and showers, should not be left standing for long periods of time as this promotes mosquito breeding as well as parasite and bacterial proliferation. Grey water should be recycled: <ul style="list-style-type: none"> – Used for dust suppression; – Used to water a vegetable garden, or to support a small nursery; – Used to clean equipment. • If grey water will not be recycled it should be removed along with the black water on a regular basis.
General waste	<ul style="list-style-type: none"> • The construction site should be kept tidy at all times. All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. • There shall be no waste stockpiles on site that are older than one day. • No waste may be buried or burned.

	<ul style="list-style-type: none"> • Waste containers (bins) should be emptied regularly and removed from site to a recognised (municipal) waste disposal site. All recyclable waste needs to be taken to the nearest recycling depot. • A sufficient number of separate waste containers (bins) for hazardous and domestic/general waste must be provided on site. These should be clearly marked as such. • Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter. • Concrete bags, plastic bags, and other waste should be secured to prevent wind-blown litter. • No waste may remain on site after the completion of the project
<p>SPECIFIC MITIGATION DETAILS</p>	
	<ul style="list-style-type: none"> • Construction camps should be sited outside of the groundwater protection zone – Temporary laydown areas may be considered, but they should be free of activities or equipment that involve any kind of hazardous materials, hydrocarbons, or any other substances that could spill or leak on the ground. • Laydown areas should be on already disturbed sites that are removed from existing occupants along the road, particularly residences and tourism facilities and out of site of the main road. They should be removed from the existing riverbeds and areas with dense vegetation.
	<ul style="list-style-type: none"> • The storage of hazardous materials should be done at the construction camp, outside of the groundwater protection area.

SECTION B: BORROW PITS AND STOCKPILES

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Topsoil	The Contractor should adhere to prescribed measures emanating from the borrow-pit investigation and the design for excavations and disposal of spoil material.
Borrow pits	Material shall be obtained only from Borrow pits that have an up to date Environmental Clearance Certificate. Otherwise new Borrow pits to be made for this project shall require a separate Environmental Clearance Certificate and ESMP.
Stockpiles	No stockpiles will be allowed on the site unless pre-approved and only in areas where they will not cause dust.
SPECIFIC MITIGATION MEASURES	
No borrow pits in groundwater protection area	<ul style="list-style-type: none"> According to Section 29 of the Windhoek Town Planning Scheme, no borrow pits may be made within the Windhoek municipal area or the groundwater protection area.

APPENDIX C: HEALTH AND SAFETY

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION MEASURES	
HIV/AIDS, TB and other health training	The Contractor should approach the Ministry of Health and Social Services to co-opt a health officer to facilitate HIV/AIDS, TB and other health education programmes periodically on site during the construction phase.
Road Safety	<ul style="list-style-type: none"> • Implement Traffic Accommodation Plans • Demarcate work areas clearly. • Off-road driving should not be allowed. • All vehicles that transport materials to and from the site must be road worthy. • Drivers that transport materials should have a valid driver's license and should adhere to all traffic rules. • Loads upon vehicles should be properly secured to avoid items falling off the vehicle.
Safety Around Excavated and Work Areas	<ul style="list-style-type: none"> • Excavations should be left open for an absolute minimum time. • Excavate short lengths of trenches and box areas for services or foundations in such a way that the trench will not be left unattended for more than 24 hours. • Demarcate the following areas with danger tape: <ul style="list-style-type: none"> – All excavation works; – Soil and other building material stockpiles; and – Temporary waste stockpiles • Provide additional warning signage in areas of movement and in “no personnel” areas where workers are not active. • Work areas must be set out and isolated with danger tape on a daily basis. • Building materials are only to be stored within approved laydown areas. • Only construction personnel will be allowed within these areas. • Comply with all mitigation measures laid out in Section A (Waste Management mitigation details)
Ablutions	<ul style="list-style-type: none"> • Separate ablutions (toilet and wash basin) should be available for men and women and should clearly be indicated as such. • Portable toilets (i.e. easily transportable) should be available at every operational area (i.e. where there is active works), and should not be further than 100m from every worker: <ul style="list-style-type: none"> – 1 toilet for every 25 females. – 1 toilet for every 50 males. – Sewage waste needs to be removed on a regular basis to an approved (municipal) sewage disposal site. Alternatively, pump it into sealable containers and store it at the construction camp off-site until it can be removed.

ASPECT	MITIGATION MEASURE
	<ul style="list-style-type: none"> – Workers responsible for cleaning the toilets should be provided with latex gloves and masks.
Open fires	<ul style="list-style-type: none"> • No open fires may be made anywhere on site. • No wood may be collected within or near the project area. The Contractor must supply wood (or other fuel) for cooking or heating purposes.
General	<ul style="list-style-type: none"> • Dust protection masks should be provided to workers if they complain about dust. • Potable water should be provided to workers. • No person should be allowed to smoke close to fuel storage facilities or portable toilets (if toilets are chemical toilets – the chemicals are flammable). • No worker should be allowed to drink alcohol during work hours. • No worker should be allowed on site if under the influence of alcohol.

SECTION D: DUST AND NOISE

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Dust	<p>The Contractor needs to make provision for dust suppressants and semi-purified water to wet down dust and work according to a pre-determined schedule which avoids works in areas upwind from prevailing wind directions.</p> <p>The Contractor is to use available seasonal prevailing wind direction, as described in the EIA, and plan and schedule a) activities and b) mitigation measures to avoid wind blown dust reaching sensitive receptors, particularly residences, offices, businesses, tourist activities and other outdoor facilities.</p> <p>Generally, the contractor is to be aware of the locality of sensitive receptors on site, and is to solicit constant feedback and open community with them regarding dust. This will be a constant management process to limit dust.</p> <p>No stockpiles shall be allowed on site, unless approved.</p> <p>All materials transported to site shall be covered.</p>
Noise	<p>The contractor shall work only within 08h00 to 17h00 daily, from Monday to Saturday. No work shall be performed on a Sunday.</p> <p>An application may be submitted for work beyond these hours, but will involve only activities which do not generate any noise, and will be subject to consultation with the applicable stakeholders close to the area of operation.</p>
SPECIFIC MITIGATION DETAILS	
Dust	<p>Due to the sensitive receptors on this road, continued dust suppression is compulsory. The contractor is to spray the exposed surfaces with semi-purified water and with a chemical dust surfactant (biodegradeable), as may be effective. The Contractor is to submit the product that will be used, for approval by the City of Windhoek and the environmental monitoring consultant. All relays are to be surfaced with bitumen.</p>

SECTION E: ENVIRONMENTAL TRAINING AND AWARENESS

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Environmental Induction (Training)	<p>All construction workers are to undergo environmental induction (training) which should include as a minimum the following:</p> <ul style="list-style-type: none"> • Explanation of the importance of complying with the ESMP. • Discussion of the potential environmental impacts of construction activities. • Employees' roles and responsibilities, including emergency preparedness. • Explanation of the mitigation measures that must be implemented when particular work groups carry out their respective activities. • Explanation of the specific mitigation measures within this EMP especially unfamiliar provisions. • This training must be undergone by all new workers before they may commence with work. • A signed copy is to be kept for every worker that this course was attended. Workers need to be made aware of disciplinary actions and/or penal measures and procedures in case of non-conformance.

SECTION F: ENVIRONMENTAL CONSERVATION

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION MEASURES	
Vegetation	See specific mitigation for the Tree Management Plan.
Laydown areas	<p>Laydown areas and materials camps should be avoided as far as possible. Necessary laydown areas should be identified with the assistance of the ER and the following should be considered in selecting these sites:</p> <ul style="list-style-type: none"> • Already damaged/denuded areas • Avoid sensitive areas (rivers or drainage lines). • Avoid areas close to residential areas/business areas/within sight from the road, near tourism facilities.
SPECIFIC MITIGATION DETAILS	
Water conservation	<ul style="list-style-type: none"> • According to the City of Windhoek Drought Response Plan, semi-purified water is to be used for construction purposes. (At the time of this report, a water crisis situation requires this, however, the situation needs to be re-assessed according to the time frame for construction).
Vegetation conservation	<ul style="list-style-type: none"> • The Contractor should compile a Tree Management Plan which should include the following as a minimum (See the diagram is Appendix A) : • Step 1: Appoint the environment control officer to implement and be responsible for the Tree Management Plan. • Step 2: Ensure the entire team is aware of the tree management plan and the value of the trees. Trees are only to be removed upon instruction. The objective is that trees must be handled with care, worked around, and not damaged. There will be a penalty of 10,000 for every tree removed without approval. • Step 3: The strategy is to physically mark Zones A, B and C with barriers. See diagram -Appendix A. Zone A: Vegetation on the road surface – all vegetation to be removed, with permits in place before construction starts. Zone B: Trees will be conserved as far as possible, especially large protected trees in the toe or walking/cycling lane, even if it is difficult. ECO, RE and Environmental Consultant to decide together which trees are to be removed. Tree removal may then only be on an individual basis under supervision, and not as clusters. Zone C: No vegetation whatsoever is to be removed from Zone C. • Compile a record of all marked trees in Zone A-C, with numbers, per trees 1) to be conserved 2) to be removed and 3) to be removed that are protected. • Step 4: Apply for permits for the trees in 3) above. Have MEFT attach the list to the permit, with coordinates. • Train the specific operator before any vegetation clearance starts according to the zones.

- | | |
|--|--|
| | <ul style="list-style-type: none">• Step 5: ECO to physically supervise when trees and vegetation is removed.• Step 6: Keep records and photographs of all trees that were removed.• Step 7: The vegetation that is removed: remove the waste to a designated site away from the road where pre-selected operators may collect same. |
|--|--|

SECTION G: EMPLOYMENT/RECRUITMENT

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Legislation	Adhere to the legal provisions in the Labour Act for the recruitment of labour, target percentages for gender balance, optimal use of local labour and SME's, etc) in the Contract.
Recruitment	<p>The Contractor should compile a formal recruitment process including the following provisions as a minimum:</p> <ul style="list-style-type: none"> • The local authority (town council, community development division) should assist with the recruitment process. • Recruitment should not take place at the construction site. • Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labour outside the agreed upon process. • Contractors should give preference in terms of recruitment of sub-contractors and individual labourers to those from the project area (Windhoek). • Clearly explain to all job-seekers the terms and conditions of their respective employment contract (e.g. period of employment etc.) – make use of interpreters when necessary.

SECTION H: STAKEHOLDER COMMUNICATION

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Communication plan and grievance	<p>The RE should draft a Communication Plan, which should outline as a minimum the following:</p> <ul style="list-style-type: none"> • How stakeholders, who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records; • How these stakeholders will be consulted on an ongoing basis; • Make provision for grievance mechanisms – i.e. how concerns can/ will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event feedback is deemed unsatisfactory. This should be a tiered approach – a contact person on site receives all grievances, they are addressed timeously and feedback is given, repeated grievances or more complicated matters are dealt with by the RE and the ECO, and still more complicated matters are taken to the monthly site meeting. • A community committee should also be set up where feedback and information may be shared.
General communication matters	<ul style="list-style-type: none"> • The RE must appoint an ECO to liaise between the Contractor, stakeholders, Developer, and consultants. The appointed Contractor shall appoint a person from the construction team to take responsibility for the implementation for all provisions of this ESMP. • The Contractor shall at every site meeting report on the status of the implementation of all provisions of the EMP. • The Contractor should implement the environmental awareness training as stipulated in Section E. • The Contractor must list the stakeholders of the project and their contact details with whom ongoing communication would be required for duration of the contract. This list, together with the Communication Plan must be agreed upon and given to the ER before construction commences. • The Communication Plan, once agreed upon, shall be binding. • All communication with the stakeholders must take place through the ECO. • A copy of the ESMP must be available at the site office and should be accessible to all stakeholders • Key representatives from the above mentioned list need to be invited to attend monthly site meetings to raise any concerns and issues regarding project progress. • The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences. • A procedure should be put in place to ensure that concerns raised have been followed-up and addressed.

	<ul style="list-style-type: none">• All people on the stakeholders list should be informed about the availability of the complaints register in writing by the ER prior to the commencement of construction activities.
SPECIFIC MITIGATION DETAILS	
	<ul style="list-style-type: none">• The stakeholders list shall at least include all those identified during the ESIA and shall be updated with new stakeholders by the ECO.

SECTION I: SOCIO-ECONOMIC AND MISCELLANEOUS

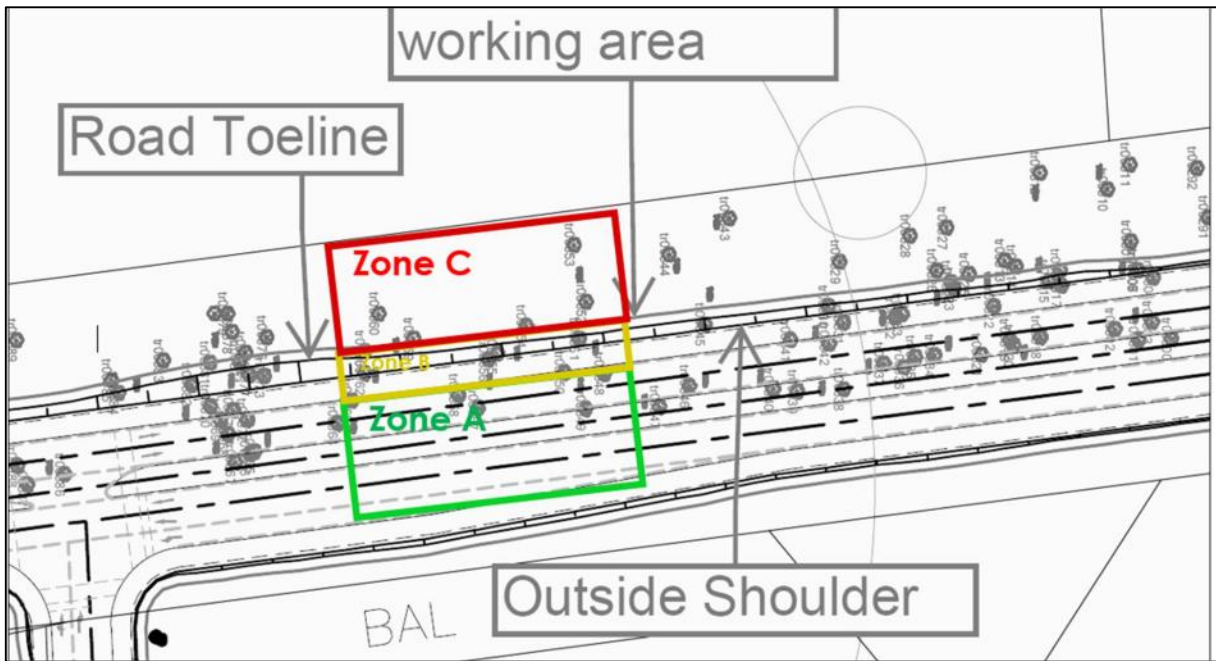
ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Archaeology	<ul style="list-style-type: none"> • Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, a "chance find" procedure should be applied in the order they appear below: <ul style="list-style-type: none"> – If operating machinery or equipment stop work; – Demarcate the site with danger tape; – Determine GPS position if possible; – Report findings to foreman; – Report findings, site location and actions taken to superintendent; – Cease any works in immediate vicinity; – Visit site and determine whether work can proceed without damage to findings; – Determine and demarcate exclusion boundary; – Site location and details to be added to the project's Geographic Information System (GIS) for field confirmation by archaeologist; – Inspect site and confirm addition to project GIS; – Advise the National Heritage Council (NHC) and request written permission to remove findings from work area; and – Recovery, packaging and labelling of findings for transfer to National Museum. • Should human remains be found, the following actions will be required: <ul style="list-style-type: none"> – Apply the chance find procedure as described above; – Schedule a field inspection with an archaeologist to confirm that remains are human; – Advise and liaise with the NHC and Police; and – Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.

5 OPERATION AND MAINTENANCE PHASE

Table 5: Operation and maintenance phase mitigation measures

ASPECT	MITIGATION MEASURE
ESMP implementation	If any construction is to be conducted as part of maintenance works for the services infrastructure within the project area please refer to the construction mitigation measures of this EMP (Section 8).
Post-construction usage	Borrow pits to be utilised post-construction should either have an ECC in place or a separate ECC shall be acquired for their use.
Post-construction environmental training and awareness	All contractors appointed for maintenance work on the respective services infrastructure must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.

6 APPENDIX A: TREE MANAGEMENT ZONES



7 APPENDIX B: POTENTIAL NON-COMPLIANCE ACTIONS

7.1 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, stating the nature and magnitude of the contravention. A copy shall be provided to the EHSCO.
- 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 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. A copy shall be provided to the ESHCO.
- In the case of the Contractor failing to remedy the situation within the predetermined time frame, the ER shall impose a monetary penalty based on the conditions of the contract.
- In the case of non-compliance giving rise to physical environmental damage or destruction, the ER shall be entitled to undertake 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 in regard to or arising out of interpretation of the conditions of the EMP, disagreement regarding the implementation or method of implementation of conditions of the EMP, etc. any party shall be entitled to require that the issue be referred to specialists for determination.
- The ER 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 remediation measures.

7.2 OFFENCES AND PENALTIES

Any avoidable non-compliance with the conditions of the EMP shall be considered sufficient ground for the imposition of a penalty.

Possible offences, which should result in the issuing of a contractual penalty, include, but are not limited to:

- Unauthorized entrance into no-go areas;
- Unauthorized damage to natural vegetation;
- Unauthorized camp establishment (including stockpiling, storage, etc.);
- Hydrocarbons/hazardous material: negligent spills/leaks and insufficient storage;
- Ablution facilities: non-use, insufficient facilities, insufficient maintenance;
- Insufficient solid waste management (including clean-up of litter, unauthorized dumping etc.);
- Erosion due to negligence/non-performance;
- Excessive cement/concrete spillage/contamination;
- Insufficient fire control and unauthorized fires;
- Preventable damage to water courses or pollution of water bodies; and
- Non-induction of staff.

7.3 FINES

Fines will be issued for the transgressions listed below. Fines may be issued per incident at the discretion of the ER. Such fines will be issued in addition to any remedial costs incurred as a result of noncompliance with the EMP. The ER will inform the Contractor of the contravention and the amount of the fine, and will deduct the amount from monies due under the Contract.

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

A. Any persons, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a "no-go" area.	N\$4,000.00
B. Any vehicle driving in excess of designated speed limits.	N\$1,000.00
C. Any vehicle being driven and items of plant or materials being parked or stored outside the demarcated boundaries of the site.	N\$2,000.00
D. Persons walking outside the demarcated boundaries of the site.	N\$500.00
E. Persistent and un-repaired oil leaks from machinery.	N\$3,000.00
F. Litter on site.	N\$1,000.00

G. Deliberate lighting of illegal fires on site.	N\$5,000.00
H. Individuals not making use of the site toilet facilities.	N\$1,000.00
I. Dust or excess noise on or emanating from site.	N\$1,000.00
J. Any person, vehicle, item of plant, or anything related to the Contractors operations causing a public nuisance.	N\$2,000.00
For each subsequent similar offence the fine may, at the discretion of the ER, be doubled in value to a maximum value of	N\$10,000.00

The Engineer shall be the judge as to what constitutes a transgression in terms of this document.

7.4 PENALTIES

1. 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.
2. 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 Engineer within a specific time; and
 - d. the Contractor fails to respond adequately to complaints from the public.
3. Payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.
4. The following penalties are suggested for transgressions:

Table 6: Penalties for transgressions

Transgression	Penalty
Erosion	A penalty equivalent in value to the cost of rehabilitation plus 20%.

Transgression	Penalty
Oil spills	A penalty equivalent in value to the cost of clean up operation plus 20%.
Damage to indigenous vegetation	A penalty equivalent in value to the cost of restoration plus 20%.
Damage to sensitive environments	A penalty equivalent in value to the cost of restoration plus 20%.
Damage to cultural sites	A penalty to a maximum of N\$100 000 shall be paid for any damage to any cultural/historical sites.
Damage to trees	A penalty to a maximum of N\$10,000 shall 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.
Damage to natural fauna	A penalty to a maximum of N\$5,000 for damages to any natural occurring animal.
Not responding to or addressing a grievance from the public.	A penalty of a maximum of N\$ 10,000.00 depending on the nature of the grievance.