

**REPUBLIC OF NAMIBIA**  
**ENVIRONMENTAL MANAGEMENT ACT, 2007**  
**(SECTION 32)**

**APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE**

Revenue  
stamp or  
revenue  
franking  
machine  
impression

**PART A : DETAILS OF APPLICANT**

1.Name:

Ongwediva Town Council

2. Business Registration/Identity No.

(if applicable)

N/A

3.Correspondence Address:

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4.Name of Contact Person:

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5.Position of Contact Person:

Manager

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8.E-mail Address:

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## **PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE**

### **1. The environmental clearance certificate is for:**

Activity 10.1 (b) (Infrastructure) The construction of public road

Activity 10.2 (a) (Infrastructure) The route determination of roads and design of associated physical infrastructure where – it is a public road

Activity 10.1 (a) Infrastructure The construction of oil, water, gas and petrochemical and other bulk supply pipelines

### **2. Details of the activity(s) covered by the environmental clearance certificate:**

Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary:

#### **Title of Activity:**

- Environmental Clearance Certificate Renewal for the Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1

#### **Nature of Activity:**

The project involves the following:

- Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1.

#### **Location of Activity:**

Ongwediva, Oshana Region

#### **Scale and Scope of Activity:**

The scope of this project is limited to obtaining an Environmental Clearance Certificate for the following:

- Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1.

### **THE PROPOSED DEVELOPMENTS**

The Ongwediva Town Council applied for an Environmental Clearance Certificate (ECC) for the proposed development in 2021. The Environmental Assessment (EA) for the proposed development was conducted by Stubenrauch Planning Consultants in 2021. Following the submission of the final Environmental Assessment Report, the ECC was granted as per letter dated 10 February 2022. In accordance with the Environmental Management Act No 7 of 2007 and the Environmental Impact Assessment Regulations of 2012 the ECC is only valid for three years and as such the ECC is expiring on 25 February 2025. Stubenrauch Planning Consultants (SPC) has been appointed to apply to the Ministry of Environment, Forestry and Tourism (MEFT) for the renewal of the ECC. The EMP is herewith updated as part of the application to apply for the ECC renewal for the proposed activity.

The approved EMP which was initially submitted to MEFT was drafted in 2021. No construction has commenced on sites as such the environmental impacts assessed and mitigation measures outlined remain unchanged.

#### **OPINION WITH RESPECT TO THE ENVIRONMENTAL AUTHORISATION**

Based on these initial findings, SPC do not foresee any activity during the proposed development that may pose a significant environmental risk to the biophysical or social environment on these sites.

As a result, we are of the opinion that there is no need for a full Environmental Impact Assessment study to be conducted for the reason that the significant effects associated with the proposed developments are minimal.

**PART C: DECLARATION BY APPLICANT**

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended, or cancelled if any information given above is false, misleading, wrong, or incomplete.



Signature of Applicant

Elina SP Vakuwile

Full name in Block Letters

Environmental Consultant

Position

on behalf of Ongwediva Town Council

08/08/2024

Date

# *Environmental Management Plan for*

*Township Establishment, Creation  
of Street, and Installation of Bulk  
Services on Portion 89 of the  
Remainder of Ongwediva Town  
and Townlands No 881, consisting  
of 161 Erven and Remainder to be  
known as Oidiva Extension 1.*

August 2024

**APP- 004534**

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**PROJECT STATUS**

<b>Title</b>	Environmental Management Plan for the: Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1.		
<b>Report Status</b>	Final		
<b>SPC Reference</b>	Ong/061		
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<b>Report date</b>	August 2024		
	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Author</b>	Elina SP Vakuwile		August 2024

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**ABBREVIATIONS**

AIDS	Acquired Immuno-Deficiency Syndrome
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GG	Government Gazette
GIS	Geographic Information System
GN	Government Notice
GPS	Global Positioning System
HIV	Human Immuno-deficiency Virus
I&APs	Interested and Affected Parties
NHCN	National Heritage Council of Namibia
PR	Proponent's Representative
Reg.	Regulation
S	Section
SPC	Stubenrauch Planning Consultants
TB	Tuberculosis

## 1 INTRODUCTION

The Ongwediva Town Council (hereinafter known as the proponent) intends to formalise the existing area which is located to the east of Ongwediva Extensions 1 and 2 and within proximity of the Unam Engineering campus. The proponent thus intends to undertake the following activity:

- **Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1.**

The Ongwediva Town Council applied for an Environmental Clearance Certificate (ECC) for the proposed development in 2021. The Environmental Assessment (EA) for the proposed development was conducted by Stubenrauch Planning Consultants in 2021. Following the submission of the final Environmental Assessment Report, the ECC was granted as per letter dated 10 February 2022. In accordance with the Environmental Management Act No 7 of 2007 and the Environmental Impact Assessment Regulations of 2012 the ECC is only valid for three years and as such the ECC is expiring on 25 February 2025. Stubenrauch Planning Consultants (SPC) has been appointed to apply to the Ministry of Environment, Forestry and Tourism (MEFT) for the renewal of the ECC. The EMP is herewith updated as part of the application to apply for the ECC renewal for the proposed activity.

The approved EMP which was initially submitted to MEFT was drafted in 2021. No construction has commenced on sites as such the environmental impacts assessed and mitigation measures outlined remain unchanged.

The above development triggers listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012) which may not be undertaken without an Environmental Clearance Certificate (ECC).

An Environmental Management Plan (EMP) is one of the most important outputs of the EIA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the following phases of these developments:

- Planning and Design – the period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of erven, are made and engineering designs are carried out. The preparation of construction tender documents forms part of this phase;
- Construction – the period during which the proponent, having dealt with the necessary legislative and administrative arrangements, appoints a contractor for the development of services infrastructure for the proposed development as well as any other construction process(s) within the development areas;

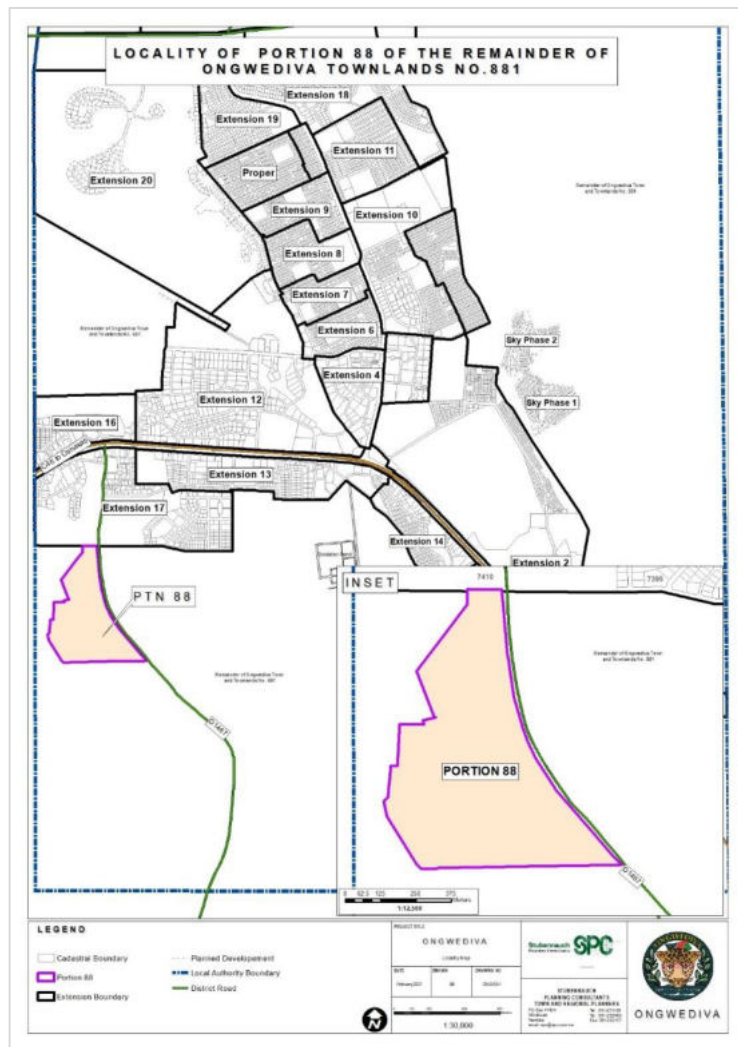
- Operation and Maintenance – the period during which the development will be fully functional and maintained.

The proposed development is a formalisation of an existing situation on the ground and as such construction is not anticipated to occur on the site. The construction phase mitigation measures are outlined and would be applicable once services infrastructure become installed in the area.

The decommissioning of these developments is not envisaged; however in the event that this should be considered some recommendations have been outlined in **Table 4-5**.

## 2 PROPOSED DEVELOPMENT

The township Oidiva Extension 1 is proposed to be located in the northeastern part of Ongwediva, to the south of Ongwediva Extension 10. Please refer to **Figure 2-1** below for the locality of the subject site.



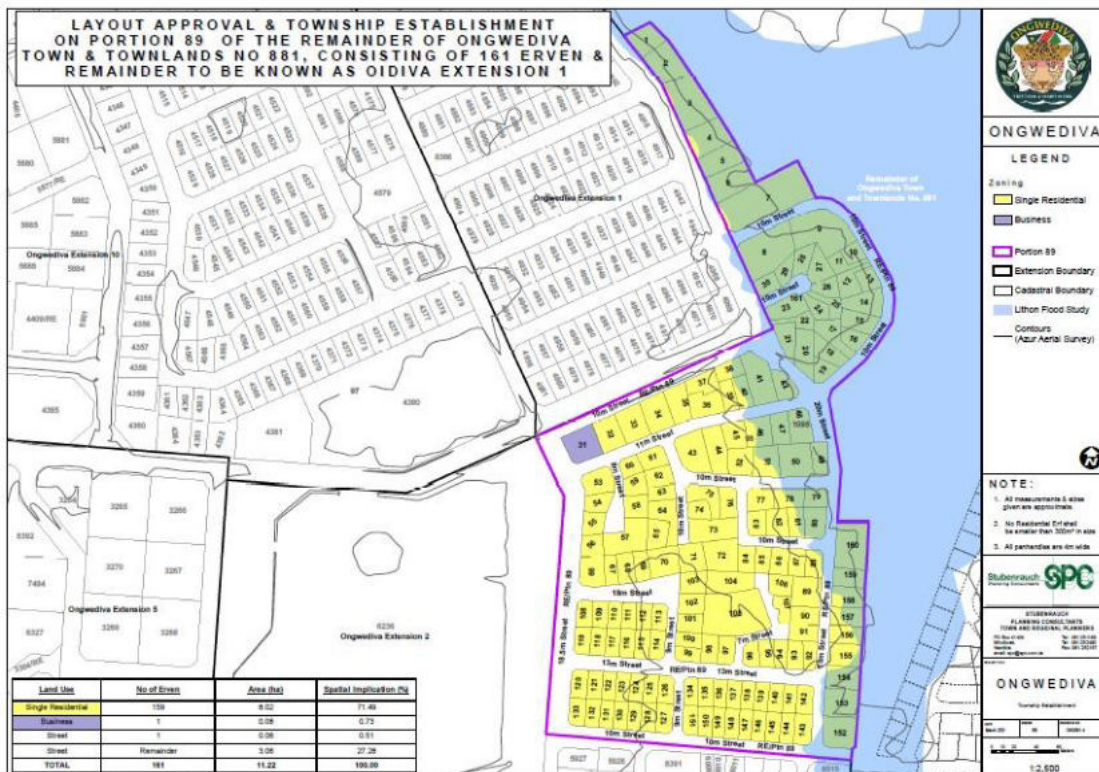
**Figure 2-1:** Locality of proposed development in Ongwediva

The subject area is an established and well-structured residential neighbourhood which has not been formalised through the normal planning, survey, and registration process. The area currently accommodates informal structures/homes and as such the proponent wishes to formalize the area to allow each structure to be located on an erf. The proponent thus intends to formalize the township Oidiva Extension 1 on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881. The township is proposed to consist of 161 Erven and Remainder.

The following statutory steps need to be undertaken in order to establish the proposed township:

- Subdivision of the Remainder of the Farm Ongwediva Townlands No 881 into Portion 89 and Remainder;
- Township Establishment on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1 (**Figure 2-2**).

The proposed township aims to provide mostly Single Residential erven supported by one Business zoned erf as depicted in **Figure 2-2**.



**Figure 2-2:** Layout of Proposed Oidiva Extension 1

**2.1 Engineering Services and Access Provision**

The subject area is provided with rudimentary municipal service. Once the new township becomes proclaimed the Town Council is to upgrade the municipal services network to meet the requirements of the general municipal service standards of the local authority.

The proponent should appoint an engineer to investigate the capacity of the bulk service network to determine if the development can be connected to the bulk municipal infrastructure network, or *if* the existing network requires upgrading.

Access to the households is obtained from the informal but structured road system serving the area. The extension will be connected to the existing street/road network serving Ongwediva Extensions 1 and 2.

**3 ROLES AND RESPONSIBILITIES**

The proponent (Ongwediva Town Council) is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase (if these developments are in future decommissioned) of these developments. The proponent will delegate this responsibility as the project progresses through its life cycle. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals:

- Proponents’ Representative;
- Environmental Control Officer; and
- Contractor (Construction and Operations and Maintenance).

**3.1 DEVELOPER’S REPRESENTATIVE**

The Ongwediva Town Council should assign the responsibility of managing all aspects of these developments for all development phases (including all contracts for work outsourced) to a designated member of staff, referred to in this EMP as the Proponent’s representative (PR). The proponent may decide to assign this role to one person for the full duration of these developments, or may assign a different PR to each of the development phases – i.e. one for the planning and design phase, one for the construction phase and one for the operation and maintenance phase. The PR’s responsibilities are as follows:

**Table 3-1** Responsibilities of PR

Responsibility	Project Phase
Making sure that the necessary approvals and permissions laid out in <b>Table 4-1</b> are obtained/adhered to.	<ul style="list-style-type: none"> <li>• Throughout the lifecycle of these developments</li> </ul>

Responsibility	Project Phase
Making sure that the relevant provisions detailed in <b>Table 4-2</b> are addressed during planning and design phase.	<ul style="list-style-type: none"> <li>• Planning and design phase</li> </ul>
Monitoring the implementation of the EMP monthly.	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>
Suspending/evicting individuals and/or equipment not complying with the EMP	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>
Issuing fines for contravening EMP provisions	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>

### 3.2 ENVIRONMENTAL CONTROL OFFICER

The PR should assign the responsibility of overseeing the implementation of the whole EMP on the ground during the construction and operation and maintenance phases to an independent external consultant, referred to in this EMP as the Environmental Control Officer (ECO). The PR /Ongwediva Town Council may decide to assign this role to one person for both phases, or may assign a different ECO for each phase. The ECO will have the following responsibilities during the construction and operation and maintenance phases of these developments:

- Management and facilitation of communication between the Ongwediva Town Council, PR , the contractors, and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is monthly) of all construction and/or infrastructure maintenance areas with respect to the implementation of this EMP (audit the implementation of the EMP);
- Assisting the Contractor in finding solutions with respect to matters pertaining to the implementation of this EMP;
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP; and
- Undertaking an annual review and bi-annual audit of the EMP and recommending additions and/or changes to this document.

### 3.3 CONTRACTOR

Contractors appointed by the Ongwediva Town Council are automatically responsible for implementing all provisions contained within the relevant chapters of this EMP. Contractors will be responsible for the implementation of this EMP applicable to any work outsourced to subcontractors. **Table 4-3** applies to contractors appointed during the construction phase and **Table 4-4** to those appointed during the operation and maintenance phase. In order to ensure effective environmental management, the aforementioned chapters should be included in the applicable contracts for outsourced construction, operation and maintenance work.

The tables in the following chapter (**Chapter 4**) detail the management measures associated with the roles and responsibilities that have been laid out in this chapter.

## 4 MANAGEMENT ACTIONS

The aim of the management actions in this chapter of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

The following tables provide the management actions recommended to manage the potential impacts rated in the scoping-level EA conducted for these developments. These management actions have been organised temporally according to project phase:

- Applicable legislation (**Table 4-1**);
- Planning and design phase management actions (**Table 4-2**);
- Construction phase management actions (**Table 4-3**);
- Operation and maintenance phase management actions (**Table 4-4**); and
- Decommissioning phase management actions (**Table 4-5**).

The proponent should assess these **commitments** in detail and should acknowledge their commitment to the specific management actions detailed in the tables below.

As previously mentioned, the proposed development is a formalisation of an existing situation on the ground and as such construction is not anticipated to occur on the site. The construction phase mitigation measures (**Table 4-3**) are outlined and would be applicable once services infrastructure are installed in the area.

### 4.1 ASSUMPTIONS AND LIMITATIONS

This EMP has been drafted with the acknowledgment of the following assumptions and limitations:

- This EMP has been drafted based on the scoping-level Environmental Assessment (EA) conducted for the proposed Township Establishment of Oidiva Extension 1 in Ongwediva as outlined in **Section 4** of the Draft Environmental Scoping Report. SPC will not be held responsible for the potential consequences that may result from any alterations to the above-mentioned layout.
- It is assumed that construction labourers will be sourced mostly from the Ongwediva townlands area and that migrant labourers (if applicable) will be housed in established accommodation facilities within Ongwediva.



## 4.2 APPLICABLE LEGISLATION

Legal provisions that have relevance to various aspects of these developments are listed in **Table 4-1** below.

**Table 4-1:** Legislation applicable to proposed development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	<p>Article 91 (c) provides for duty to guard against “the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”</p> <p>Article 95(l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.</p>	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	<p>Section 2 outlines the objective of the Act and the means to achieve that.</p> <p>Section 3 details the principle of Environmental Management</p>	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	<p>GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate.</p> <p>GN 30 provides the regulations governing the environmental assessment (EA) process.</p>	<p>The following listed activity was triggered by the proposed development:</p> <p><b>Activity 10.1 (a) Infrastructure</b>  <b>Activity 10.1 (b) Infrastructure</b>  <b>Activity 10.2 (a) Infrastructure</b></p>
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor must adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when migrant construction workers interact with local communities.
Urban and Regional Planning Act 5 of 2018	The Act provides to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and	The subdivision and consolidation of land as well as the establishment of townships is to be done in accordance with the act.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	deletion of conditions relating to land; and to provide for incidental matters.	
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	The development must comply with provisions of the Local Authorities Act.
Labour Act no. 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
National Heritage Act No. 27 of 2004	The Act is aimed at protecting, conserving and registering places and objects of heritage significance.	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.
Roads Ordinance 17 of 1972	<ul style="list-style-type: none"> <li>• Section 3.1 deals with width of proclaimed roads and road reserve boundaries</li> <li>• Section 27.1 is concerned with the control of traffic on urban trunk and main roads</li> <li>• Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads</li> <li>• Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.</li> </ul>	Adhere to all applicable provisions of the Roads Ordinance.
Public and Environmental Health Act of 2015	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted infections; maternal, ante-natal and neo-natal care; water and food	Contractors and users of the proposed development are to comply with these legal requirements.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	supplies; infant nutrition; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979).	
Nature Conservation Ordinance no. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants must be managed within the legal confines.
Water Quality Guidelines for Drinking Water and Wastewater Treatment	Details specific quantities in terms of water quality determinants, which wastewater should be treated to before being discharged into the environment	These guidelines are to be applied when dealing with water and waste treatment.
Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	This EIA considers this term of Environment.
Water Resources Management Act No. 11 of 2013	Part 12 deals with the control and protection of groundwater  Part 13 deals with water pollution control	The pollution of water resources should be avoided during construction and operation of the development. Should water need to be abstracted, a water abstraction permit will be required from the Ministry of Water, Agriculture and Forestry.
Forest Act 12 of 2001 and Forest Regulations of 2015	To provide for the establishment of a Forestry Council and the appointment of certain officials; to consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may not be removed without a permit from the Ministry of Agriculture, Water and Forestry.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	<p>the control and management of forest fires; to repeal the Preservation of Bees and Honey Proclamation, 1923 (Proclamation No. 1 of 1923), Preservation of Trees and Forests Ordinance, 1952 (Ordinance No. 37 of 1952) and the Forest Act, 1968 (Act No. 72 of 1968); and to deal with incidental matters.</p>	
<p>Atmospheric Pollution Prevention Ordinance No 45 of 1965</p>	<p>Part II - control of noxious or offensive gases,                      Part III - atmospheric pollution by smoke,                      Part IV - dust control, and                      Part V - air pollution by fumes emitted by vehicles.</p>	<p>The development should consider the provisions outlined in the act. The proponent should apply for an Air Emissions permit from the Ministry of Health and Social Services (if needed).</p>
<p>Hazardous Substance Ordinance 14 of 1974</p>	<p>To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.</p>	<p>The handling, usage and storage of hazardous substances on site should be carefully controlled according to this Ordinance.</p>

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Soil Conservation Act No 76 of 1969	Act to consolidate and amend the law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources	The proposed activity should ensure that soil erosion and soil pollution is avoided during construction and operation.

**4.3 PLANNING AND DESIGN PHASE**

The PR should ensure that the management actions detailed below should be adhered to during the period before the proposed construction starts.

**Table 4-2:** Planning and design management actions

Aspect	Management Actions
Stormwater	<p>A Stormwater Management Plan should be developed by the Ongwediva Town Council for the township and should address the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Cumulative stormwater issues for the area</li> <li>• Areas which have previously been recognised for having stormwater issues</li> <li>• Areas which do not have formal stormwater drainage</li> <li>• Stormwater channels should be accommodated next to the road reserve as far as possible.</li> <li>• Stormwater run-off which could possibly be contaminated should be captured, drained and treated to sewage effluent standards.</li> </ul>

**4.4 CONSTRUCTION PHASE**

The management actions listed in **Table 4-3** apply during the construction phase. This table may be used as a guide when developing EMPs for other construction activities within these development areas.

**Table 4-3:** Construction phase management actions

Environmental Feature	Impact	Management Actions	Responsible Person
EMP training	Lack of EMP awareness and the implications thereof.	All construction workers are to undergo EMP training that should include as a minimum the following: <ul style="list-style-type: none"> <li>• Explanation of the importance of complying with the EMP.</li> <li>• Discussion of the potential environmental impacts of construction activities.</li> <li>• Employees’ roles and responsibilities, including emergency preparedness.</li> <li>• Explanation of the mitigation measures that must be implemented when particular work groups carry out their respective activities.</li> </ul>	Contractor
Conservation of vegetation	Loss of biodiversity	<ul style="list-style-type: none"> <li>• The layout and development design should incorporate existing trees<sup>1</sup>.</li> <li>• Trees protected under the Forestry Act 12 of 2001 should be protected within the development and may not be removed without a permit from the Department of Forestry.</li> <li>• Only a limited width +/- 5 m on the side of roads may be partially cleared of vegetation.</li> <li>• Workers are prohibited from collecting wood or other plant products on or near work sites.</li> <li>• No alien species may be planted on or near work areas.</li> </ul>	Contractor
Lay-down areas and materials camp	Loss of biodiversity	Suitable locations for the contractors lay-down areas and materials camp should be identified with the assistance of the PR and the following should be considered in selecting these sites: <ul style="list-style-type: none"> <li>• The areas designated for the services infrastructure should be used as far possible.</li> <li>• Second option should be degraded land.</li> </ul>	Contractor and PR

<sup>1</sup>a “tree” is defined as an indigenous woody perennial plant with a trunk diameter ≥150 mm.



Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Avoid sensitive areas (e.g. rivers/drainage lines).</li> </ul>	
Hazardous waste	Contamination of surface and groundwater sources.	<ul style="list-style-type: none"> <li>• All heavy construction vehicles and equipment on site should be provided with a drip tray.</li> <li>• All heavy construction vehicles should be maintained regularly to prevent oil leakages.</li> <li>• Maintenance and washing of construction vehicles should take place only at a designated workshop area.</li> </ul>	Contractor
Water, Sewage and grey water	Contamination of surface and groundwater sources and water wasting	<ul style="list-style-type: none"> <li>• The wash water (grey water) collected from the cleaning of equipment on-site should not be left standing for long periods of time as this promotes parasite and bacterial proliferation.</li> <li>• Grey water should be recycled:                             <ul style="list-style-type: none"> <li>○ Used for dust suppression;</li> <li>○ Used to water a vegetable garden, or to support a small nursery;</li> <li>○ Used (reused) to clean equipment.</li> </ul> </li> <li>• Grey water that is not recycled should be removed on a regular basis.</li> <li>• No dumping of waste products of any kind in or in close proximity to water bodies.</li> <li>• Heavy construction vehicles should be kept out of any water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks.</li> <li>• Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are immediately and appropriately dealt with.</li> <li>• Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> <li>• Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• All materials on the construction site should be properly stored.</li> <li>• Disposal of waste from the sites should be properly managed and taken to the designated landfill site in Ongwediva.</li> <li>• Construction workers should be given ablution facilities at the construction sites that are located at least 30 m away from any surface water and ground water resources and should be regularly serviced.</li> <li>• Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.</li> </ul>	
General waste	Visual impact and soil contamination	<ul style="list-style-type: none"> <li>• The construction site should be kept tidy at all times.</li> <li>• All domestic and general construction waste produced on a daily basis should be cleaned and contained daily.</li> <li>• No waste may be buried or burned.</li> <li>• Waste containers (bins) should be emptied regularly and removed from site to a recognised (municipal) waste disposal site.</li> <li>• All recyclable waste needs to be taken to the nearest recycling depot where practical.</li> <li>• A sufficient number of separate bins for hazardous and domestic/general waste must be provided on site. These should be clearly marked as such.</li> <li>• Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter.</li> <li>• No waste may remain on site after the completion of the project.</li> </ul>	Contractor
Topsoil	Loss of topsoil and associated opportunity costs	<ul style="list-style-type: none"> <li>• When excavations are carried out, topsoil<sup>2</sup> should be stockpiled in a demarcated area.</li> </ul>	Contractor

<sup>2</sup> Topsoil is defined here as the top 150mm of surface material, which accounts for the seedbank.

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Stockpiled topsoil should be used to rehabilitate post-construction degraded areas and/or other nearby degraded areas if such an area is located a reasonable distance from the stockpile.</li> </ul>	
Rehabilitation	Visual impact	<ul style="list-style-type: none"> <li>• Upon completion of the construction phase consultations should be held with the local community/property owner(s) regarding the post-construction use of remaining excavated areas (if applicable).</li> <li>• In the event that no post-construction uses are requested, all excavated/degraded areas need to be rehabilitated as follows:                             <ul style="list-style-type: none"> <li>○ Excavated areas may only be backfilled with clean or inert fill. No material of hazardous nature (e.g. sand removed with an oil spill) may be dumped as backfill.</li> <li>○ Rehabilitated excavated areas need to match the contours of the existing landscape.</li> <li>○ The rehabilitated area should not be higher (or lower) than nearby drainage channels. This ensures the efficiency of revegetation and reduces the chances of potential erosion.</li> <li>○ Topsoil is to be spread across excavated areas evenly.</li> <li>○ Deep ripping of areas to be rehabilitated is required, not just simple scarification, so as to enable rip lines to hold water after heavy rainfall.</li> <li>○ Ripping should be done along slopes, not up and down a slope, which could lead to enhanced erosion.</li> </ul> </li> </ul>	Contractor, PR
Road safety	Injury or loss of life	<ul style="list-style-type: none"> <li>• Demarcate roads to be used by construction vehicles clearly.</li> <li>• Off-road driving should not be allowed.</li> <li>• All vehicles that transport materials to and from the site must be roadworthy.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Drivers that transport materials should have a valid driver’s license and should adhere to all traffic rules.</li> <li>• Loads upon vehicles should be properly secured to avoid items falling off the vehicle.</li> </ul>	
Safety around work sites	Injury or loss of life	<ul style="list-style-type: none"> <li>• Excavations should be left open for the shortest time possible.</li> <li>• Excavate short lengths of trenches and box areas for services or foundations in a manner that will not leave the trench unattended for more than 24 hours.</li> <li>• Demarcate excavated areas and topsoil stockpiles with danger tape.</li> <li>• All building materials and equipment are to be stored only within set out and demarcated work areas.</li> <li>• Only road construction personnel will be allowed within these work areas.</li> <li>• Comply with all waste related management actions stated above in this table.</li> </ul>	Contractor
Ablutions	Non-compliance with Health and Safety Regulations	<ul style="list-style-type: none"> <li>• Separate toilets should be available for men and women and should clearly be indicated as such.</li> <li>• Portable toilets (i.e. easily transportable) should be available at every construction site:                             <ul style="list-style-type: none"> <li>○ 1 toilet for every 15 females.</li> <li>○ 1 toilet for every 30 males.</li> <li>○ Sewage needs to be removed on a regular basis to an approved (municipal) sewage disposal site in Ongwediva.</li> <li>○ Alternatively, sewage may be pumped into sealable containers and stored until it can be removed.</li> <li>○ Workers responsible for cleaning the toilets should be provided with environmentally friendly detergents, latex gloves and masks.</li> </ul> </li> </ul>	Contractor
Open fires	Injury or loss of life	<ul style="list-style-type: none"> <li>• No open fires may be made anywhere on site.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
General health and safety	Injury or loss of life	<ul style="list-style-type: none"> <li>• A fully stocked first aid kit should permanently be available on-site as well as an adequately trained member of staff capable of administering first aid.</li> <li>• All workers should have access to and wear the relevant personal protective equipment (PPE).</li> <li>• Sufficient potable water reserves should be available to workers at all times.</li> <li>• No person should be allowed to smoke close to fuel storage facilities or portable toilets (if toilets are chemical toilets – the chemicals are flammable).</li> <li>• No workers should be allowed to drink alcohol during work hours.</li> <li>• No workers should be allowed on site if under the influence of alcohol.</li> <li>• Building rubble and domestic waste should be stored in skips.</li> <li>• Condoms should be accessible/available to all construction workers.</li> <li>• Access to Antiretroviral medication should be facilitated.</li> </ul>	Contractor
Dust	Nuisance and health impacts	<ul style="list-style-type: none"> <li>• A watering truck should be used on gravel roads with the heaviest vehicle movement especially during dry and windy conditions. However, due consideration should be given to water restrictions during times of drought.</li> <li>• The use of waterless dust suppression means (e.g. lignosulphonate products such as Dustex) should be considered.</li> <li>• Cover any stockpiles with plastic to minimise windblown dust.</li> <li>• Dust protection masks should be provided to workers if they complain about dust.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
Noise	Nuisance impacts	Work hours should be restricted to between 08h00 and 17h00 where construction involving the use of heavy equipment, power tools and the movement of heavy vehicles is less than 500 m from residential areas. If an exception to this provision is required, all residents within the 500 m radius should be given 1 week’s written notice.	Contractor
Recruitment of labourers	Negative conflict regarding recruitment	<p>The Contractor should adhere to the following provisions as a minimum:</p> <ul style="list-style-type: none"> <li>• 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.).</li> <li>• Recruitment should not take place at construction sites.</li> <li>• Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labour outside these agreed upon procedures.</li> <li>• Contractors should give preference in terms of recruitment of sub-contractors and individual labourers to those who are qualified and from the Ongwediva project area and only then look to surrounding towns.</li> <li>• Clearly explain to all jobseekers the terms and conditions of their respective employment contracts (e.g. period of employment etc.) – make use of interpreters where necessary.</li> </ul>	Contractor
Communication plan	Negative conflict with I&APs	<p>The Contractor or proponent should draft a Communication Plan, which should outline as a minimum the following:</p> <ul style="list-style-type: none"> <li>• How Interested and Affected Parties (I&amp;APs), who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records.</li> <li>• How these I&amp;APs will be consulted on an ongoing basis.</li> </ul>	Contractor, Proponent

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Make provision for grievance mechanisms – i.e. how concerns can be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event that feedback is deemed unsatisfactory.</li> </ul>	
General communication	Negative conflict with I&APs	<ul style="list-style-type: none"> <li>• The PR must appoint an ECO to liaise between the Contractor, I&amp;APs, Developer.</li> <li>• The Contractor shall at every monthly site meeting report on the status of the implementation of all provisions of the EMP.</li> <li>• The Contractor should implement the EMP awareness training as stipulated above in this table.</li> <li>• The Contractor must list I&amp;APs of the project and their contact details with whom ongoing communication would be required for the duration of the contract. This list, together with the Communication Plan must be agreed upon and given to the PR before construction commences.</li> <li>• The Communication Plan, once agreed upon by the Developer, shall be legally binding.</li> <li>• All communication with I&amp;APs must take place through the ECO.</li> <li>• A copy of the EMP must be available at the site office and should be accessible to all I&amp;APs.</li> <li>• 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.</li> <li>• The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences.</li> <li>• A procedure should be put in place to ensure that concerns raised have been followed-up and addressed.</li> </ul>	Contractor, ECO, PR

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• All people on the I&amp;APs list should be informed about the availability of the complaints register and associated grievance mechanisms in writing by the PR prior to the commencement of construction activities.</li> </ul>	
Archaeology	Loss of heritage resources	<ul style="list-style-type: none"> <li>• 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"> <li>○ If operating machinery or equipment, stop work;</li> <li>○ Demarcate the site with danger tape;</li> <li>○ Determine GPS position if possible;</li> <li>○ Report findings to the construction foreman;</li> <li>○ Report findings, site location and actions taken to superintendent;</li> <li>○ Cease any works in immediate vicinity;</li> <li>○ Visit site and determine whether work can proceed without damage to findings;</li> <li>○ Determine and demarcate exclusion boundary;</li> <li>○ Site location and details to be added to the project’s Geographic Information System (GIS) for field confirmation by archaeologist;</li> <li>○ Inspect site and confirm addition to project GIS;</li> <li>○ Advise the National Heritage Council of Namibia (NHCN) and request written permission to remove findings from work area; and</li> <li>○ Recovery, packaging and labelling of findings for transfer to National Museum.</li> </ul> </li> <li>• Should human remains be found, the following actions will be required:                             <ul style="list-style-type: none"> <li>○ Apply the chance find procedure as described above;</li> </ul> </li> </ul>	Contractor



Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>○ Schedule a field inspection with an archaeologist to confirm that remains are human;</li> <li>○ Advise and liaise with the NHCN and Police; and</li> <li>○ Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.</li> </ul>	

**4.5 OPERATION AND MAINTENANCE PHASE**

The management actions included in **Table 4-4** below apply during the operation and maintenance phase of these developments.

**Table 4-4: Operation and maintenance management actions**

Environmental Feature	Impact	Management Actions	Person Responsible
EMP training	Lack of EMP awareness and the implications thereof	All contractors appointed for maintenance work on the development must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.	Contractor
Water	Surface and groundwater contamination	<ul style="list-style-type: none"> <li>• Ensure that all properties are connected to a professionally designed and constructed water and wastewater infrastructure.</li> <li>• A no-go buffer area of at least 15 m should be allocated to any water bodies in the area.</li> <li>• No dumping of waste products of any kind in or in close proximity to any surface water bodies.</li> <li>• Contaminated runoff from the various operational activities should be prevented from entering any surface or ground water bodies.</li> <li>• Ensure that surface water accumulating on-site are channeled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment.</li> </ul>	Proponent, Contractor,

Environmental Feature	Impact	Management Actions	Person Responsible
		<ul style="list-style-type: none"> <li>Disposal of waste from the various activities should be properly managed.</li> </ul>	
Waste	Pollution	<ul style="list-style-type: none"> <li>Solid waste generated by operational activities on site should be collected and disposed of at an approved landfill site within Ongwediva.</li> <li>Hazardous and Domestic waste should be collected and disposed of separately.</li> <li>Hazardous waste should be disposed of at a facility that is able to receive and appropriately treat such waste if required.</li> </ul>	
Noise	Noise nuisance impact	The proponent should consult with the view to incorporate the relevant local/national/international guidelines to manage the generation of traffic noise in the development area.	Proponent
Energy efficiency	Waste of scarce resources	<p>The proponent should consult, with the view to incorporate the relevant local/national/international development guidelines which addresses the following (where possible):</p> <ul style="list-style-type: none"> <li>The use of solar geysers and solar panels for the general lighting and heating of water for buildings.</li> <li>Use of designs and building materials, which reduce dependency on artificial heating and cooling.</li> </ul> <p>The incorporation of water saving initiatives within the development's design and plans in order to reduce water demands.</p>	Proponent
Stormwater	Stormwater management	Management systems for stormwater needs to be implemented for effective stormwater runoff as per the Stormwater Management Plan.	Proponent

#### 4.6 DECOMMISSIONING PHASE

The decommissioning of these developments is not foreseen as the intended development is envisaged to be permanent. In the event that this infrastructure development is decommissioned the following management actions should apply.

**Table 4-5: Decommissioning phase management actions**

Environmental Feature	Management Actions
Deconstruction activity	Many of the mitigation measures prescribed for construction activity for these developments ( <b>Table 4-3</b> above) would be applicable to some of the decommissioning activities. These should be adhered to where applicable.
Rehabilitation	In the event that decommissioning is deemed necessary, excavations need to be rehabilitated according to the management actions laid out in <b>Table 4-3</b> above.

#### 5 CONCLUSION

The management actions included in this report aim to assist in the avoidance, management and/or mitigation of potential impacts on the environment that may result from the proposed activities.

Should the measures recommended in this EMP be implemented and monitored, SPC is confident that the risks identified in the FESR can be reduced to acceptable levels.

## Appendix A – Water Quality Guidelines

### THE WATER ACT, 1956 (ACT 54 OF 1956 ) AND ITS REQUIREMENTS IN TERMS OF WATER SUPPLIES FOR DRINKING WATER AND FOR WASTE WATER TREATMENT AND DISCHARGE INTO THE ENVIRONMENT

#### 1. INTRODUCTION

The provisions of the Water Act are intended, amongst other things, to promote the maximum beneficial use of the country's water supplies and to safeguard water supplies from avoidable pollution.

The drinking water guidelines are not standards as no publication in the Government Gazette of Namibia exists to that effect. However the Cabinet of the Transitional Government for National Unity adopted the existing South African Guidelines (461/85) and the guidelines took effect from 1 April 1988 under the signature of the then Secretary for Water Affairs.

The sections of the Water Act that relate to the discharge of industrial effluents are: - Section 21(1) which states that

- The purification of waste water shall form an integral part of water usage and
- that purified effluents shall comply with the General Standard Quality restrictions as laid out in Government Gazette R553 of 5 April 1962 and
- Section 21(2) which further stipulate that this purified effluent be returned as close as possible to the point of abstraction of the original water.

Where a local authority has undertaken the duty of disposing of all effluents from an industrial process the provisions of Section 21(1) and 21(2) apply to the local authority and not the producer of the effluents. If there is difficulty in complying with these provisions then the applicant may apply for an exemption from the conditions in terms of Section 21(5) and 22(2) of the Water Act. The Permanent Secretary after consultation with the Minister may grant the issuance of a Waste Water Discharge Permit under Sections 21(5) and 22(2) subject to such conditions as he may deem fit to impose.

After independence, the Government of the Republic of Namibia decided that for the interim the existing guidelines will continue to be valid and to remain in use until a proper study has been conducted and new standards have been formulated (Article 140 of Act 1 of 1990).

## **2. GUIDELINES FOR THE EVALUATION OF DRINKING-WATER QUALITY FOR HUMAN CONSUMPTION WITH REGARD TO CHEMICAL, PHYSICAL AND BACTERIOLOGICAL QUALITY**

Water supplied for human consumption must comply with the officially approved guidelines for drinking-water quality. For practical reasons the approved guidelines have been divided into three basic groups of determinants, namely:

- Determinants with aesthetic / physical implications: TABLE 1.
- Inorganic determinants: TABLE 2.
- Bacteriological determinants: TABLE 3.

### **2.1 CLASSIFICATION OF WATER QUALITY**

The concentration of and limits for the aesthetic, physical and inorganic determinants define the group into which water will be classified. See TABLES 1 and 2 for these limits. The water quality has been grouped into 4 quality classes:

- Group A: Water with an excellent quality
- Group B: Water with acceptable quality
- Group C: Water with low health risk
- Group D: Water with a high health risk, or water unsuitable for human consumption.

Water should ideally be of excellent quality (Group A) or acceptable quality (Group B), however in practice many of the determinants may fall outside the limits for these groups.

If water is classified as having a low health risk (Group C), attention should be given to this problem, although the situation is often not critical as yet.

If water is classified as having a higher health risk (Group D), urgent and immediate attention should be given to this matter.

Since the limits are defined on the basis of average lifelong consumption, short-term exposure to determinants exceeding their limits is not necessarily critical, but in the case of toxic substances, such as cyanide, remedial measures should immediately be taken.

The overall quality group, into which water is classified, is determined by the determinant that complies the least with the guidelines for the quality of drinking water.

**TABLE 1: DETERMINANTS WITH AESTHETIC / PHYSICAL IMPLICATIONS**

DETERMINANTS	UNITS*	LIMITS FOR GROUPS			
		A	B	C	D**
Colour	mg/l Pt***	20			
Conductivity	mS/m !at 25 °C	150	300	400	400
Total hardness	mg/l CaCO <sub>3</sub>	300	650	1300	1300
Turbidity	N.T.U****	1	5	10	10
Chloride	mg/l Cl	250	600	1200	1200
Chlorine (free)	mg/l Cl	0,1- 5,0	0,1 – 5,0	0,1 – 5,0	5,0
Fluoride	mg/l F	1,5	2,0	3,0	3,0
Sulphate	mg/l SO <sub>4</sub>	200	600	1200	1200
Copper	µg/l Cu	500	1000	2000	2000
Nitrate	mg/l N	10	20	40	40
Hydrogen Sulphide	µg/l H <sub>2</sub> S	100	300	600	600
Iron	µg/l Fe	100	1000	2000	2000
Manganese	µg/l Mn	50	1000	2000	2000
Zink	mg/l Zn	1	5	10	10
pH****	pH-unit	6,0 – 9,0	5,5 – 9,5	4,0 – 11,0	4,0 – 11,0

\* In this and all following tables “l” (lower case L in ARIAL) is used to denote dm<sup>3</sup> or litre  
 \*\* All values greater than the figure indicated.  
 \*\*\* Pt = Platinum Units  
 \*\*\*\* Nephelometric Turbidity Units  
 \*\*\*\*\* The pH limits of each group exclude the limits of the previous group

**TABLE 2: INORGANIC DETERMINANTS**

DETERMINANTS	UNITS	LIMITS FOR GROUPS			
		A	B	C	D*
Aluminium	µg/l Al	150	500	1000	1000
Ammonia	mg/l N	1	2	4	4
Antimonia	µg/l Sb	50	100	200	200
Arsenic	µg/l As	100	300	600	600
Barium	µg/l Ba	500	1000	2000	2000
Beryllium	µg/l Be	2	5	10	10
Bismuth	µg/l Bi	250	500	1000	1000
Boron	µg/l B	500	2000	4000	4000
Bromine	µg/l Br	1000	3000	6000	6000
Cadmium	µg/l Cd	10	20	40	40
Calcium	mg/l Ca	150	200	400	400
Calcium	mg/l CaCO <sub>3</sub>	375	500	1000	1000
Cerium	µg/l Ce	1000	2000	4000	4000
Chromium	µg/l Cr	100	200	400	400
Cobalt	µg/l Co	250	500	1000	1000
Cyanide (free)	µg/l CN	200	300	600	600
Gold	µg/l Au	2	5	10	10
Iodine	µg/l I	500	1000	2000	2000
Lead	µg/l Pb	50	100	200	200
Lithium	µg/l Li	2500	5000	10000	10000
Magnesium	mg/l Mg	70	100	200	200
Magnesium	mg/l CaCO <sub>3</sub>	290	420	840	840
Mercury	µg/l Hg	5	10	20	20
Molybdenum	µg/l Mo	50	100	200	200
Nickel	µg/l Ni	250	500	1000	1000
Phosphate	mg/l P	1	See below note	See note below	See note below
Potassium	mg/l K	200	400	800	800
Selenium	µg/l Se	20	50	100	100
Silver	µg/l Ag	20	50	100	100
Sodium	mg/l Na	100	400	800	800
Tellurium	µg/l Te	2	5	10	10
Thallium	µg/l Tl	5	10	20	20
Tin	µg/l Sn	100	200	400	400
Titanium	µg/l Ti	100	500	1000	1000
Tungsten	µg/l W	100	500	1000	1000
Uranium	µg/l U	1000	4000	8000	8000
Vanadium	µg/l V	250	500	1000	1000

\* All values greater than the figure indicated.

Note FOR Table 2 on phosphate: Phosphates are not toxic and essential for all life-forms. Natural water will, however, seldom contain phosphate; it is generally seen as an indicator of pollution and is usually accompanied by other pollutants. Wherever drinking water is combined with or consists wholly of reclaimed or recycled water, it may be expected to contain phosphate. The general guideline for a concentration level to be aimed at is 1 mg/l as P. But in many cases this may be difficult to achieve technically. For this reason the Department will allow a phosphate concentration level of up to 5 mg/l as P in water intended for human consumption. Please refer also to the "Note on Phosphate" under Section 3: General Standards for Waste/Effluent.

## 2.2 BACTERIOLOGICAL DETERMINANTS

The bacteriological quality of drinking water is also divided into four groups, namely:

- Group A: Water which is bacteriological very safe;
- Group B: Water which is bacteriological still suitable for human consumption;
- Group C: Water which is bacteriological risk for human consumption, which requires immediate action for rectification;
- Group D: Water, which is bacteriological unsuitable for human consumption.

**TABLE 3: BACTERIOLOGICAL DETERMINANTS**

DETERMINANTS	LIMITS FOR GROUPS			
	A**	B**	C	D*
Standard plate counts per 1 ml	100	1000	10000	10000
Total coliform counts per 100 ml	0	10	100	100
Faecal coliform counts per 100 ml	0	5	50	50
E. coli counts per 100 ml	0	0	10	10

\* All values greater than the figure indicated.

\*\* In 95% of the samples.

NB If the guidelines in group A are exceeded, a follow-up sample should be analysed as soon as possible.

## 2.3 FREQUENCY FOR BACTERIOLOGICAL ANALYSIS OF DRINKING-WATER SUPPLIES

The recommended frequency for bacteriological analysis of drinking water is given in Table 4.

**TABLE 4: FREQUENCY FOR BACTERIOLOGICAL ANALYSIS**

POPULATION SERVED	MINIMUM FREQUENCY OF SAMPLING
More than 100 000	Twice a week
50 000 – 100 000	Once a week
10 000 – 50 000	Once a month
Minimum analysis	Once every three months



### 3 GENERAL STANDARDS FOR WASTE / EFFLUENT WATER DISCHARGE INTO THE ENVIRONMENT

All applications in terms of Section 21(5) and 22(2), for compliance with the requirements of Section 21(1) and 21(2) of the Water Act (Act 54 of 1956) that purified water shall comply with the General Standard as laid out in Government Gazette Regulation R553 of 5 April 1962.

**TABLE 5 GENERAL STANDARDS FOR ARTICLE 21 PERMITS (EFFLUENTS)**

DETERMINANTS	MAXIMUM ALLOWABLE LEVELS
Arsenic	0,5 mg/l as As
Biological Oxygen Demand (BOD)	no value given
Boron	1,0 mg/l as B
Chemical Oxygen Demand (COD)	75 mg / l as O
Chlorine, residual	0,1 mg/l as Cl <sub>2</sub>
Chromium, hexavalent	50 Ng/l as Cr(VI)
Chromium, total	500 Ng/l as Cr
Copper	1,0 mg/l as Cu
Cyanide	500 Ng/l as CN
Oxygen, Dissolved (DO)	at least 75% saturation**
Detergents, Surfactants, Tensides	0,5 mg/l as MBAS – See also Note 2
Fats, Oil & Grease (FOG)	2,5 mg/l (!gravimetric method)
Fluoride	1,0 mg/l as F
Free & Saline Ammonia	10 mg/l as N
Lead	1,0 mg/l as Pb
Oxygen, Absorbed (OA)	10 mg / l as O*
pH	5,5 – 9,5
Phenolic Compounds	100 Ng/l as phenol
Phosphate	1,0 mg/l as P - See also Note 1
Sodium	not more than 90 mg/l Na more than influent
Sulphide	1,0 mg/l as S
Temperature	35°C
Total Dissolved Solids (TDS)	not more than 500 mg /l more than influent
Total Suspended Solids (TSS)	25 mg/l
Typical faecal Coli.	no typical coli should be counted per 100 ml
Zinc	5,0 mg/l as Zn

\* Also known as Permanganate Value (or PV).

\*\* In Windhoek the saturation level is at approx. 9 mg/l O<sub>2</sub>.

*Note (1) on phosphate: Phosphates are not toxic and essential for all life forms. Natural water will seldom contain phosphate; it is generally seen as an indicator of pollution and is usually accompanied by other pollutants. Wherever drinking water is combined with or consists wholly of reclaimed or recycled water, it may be expected to contain phosphate. There is no general guideline for phosphate contained in the Regulation 553. But generally it is assumed that eutrophication or algal bloom in dams is promoted by nutrient concentrations as low as 0,01 mg/l as P; generally a phosphate concentration limit for dams of 0,1 mg/l is recommended. All water that is consumed and subsequently discharged, will eventually end up in rivers, dams or groundwater – that is why for potable water, a concentration level of 1 mg/l as P is aimed at. But, again, in many cases of waste and effluent treatment, this may be difficult to achieve technically, or the required waste and effluent treatment infrastructure is not available; as the required infrastructure is sophisticated and expensive. The current situation calls for a compromise and for this reason, this Department will judge each application individually on its merits and allow, in*

*certain cases, a phosphate concentration level of up to 15 mg/l as P in any effluent or waste stream to be discharged into the environment. This regulation is subject to be reviewed every two years, calculated from the date of approval of this document.*

*Note (2) on detergents, surfactants and ten sides: The MBAS (or methylene blue active substances) – test does not encompass all surface active compounds currently, commercially available. The limit given is therefore only a guideline. Many of the cleaning agents are toxic to biological life-forms in rivers and dams.*

*It should be taken into consideration that some commercial products interfere with the effective removal of oil, fat and grease by grease and fat traps, by breaking up such long-chain molecules into shorter ones. These cleaning agents thus effectively allow such components to pass through the traps and land into sections of a treatment plant further down the line and interfere with the process there.*

*Many cleaning agents contain very powerful disinfectants, and/or biocides. Such substances may interact with biological treatment processes. They may reduce the effectiveness of such treatment or 'kill' it completely, if they land in septic tanks, biofilters or even activate-sludge plants. Their activity may be attenuated by dilution.*

#### **4. AUTHORIZATION**

Herewith, the Guidelines for the Evaluation of Drinking Water for Human Consumption with regard to Chemical, Physical and Bacteriological Quality, as well as the General Standards for Article 21\* Permits, amended for detergents, surfactants, ten sides, as well as phosphates, are confirmed and remain in force until further notice.

Issued under my hand with the authority vested in my office, within the Ministry for Agriculture, Water and Rural Development,

PERMANENT SECRETARY  
Dr V Shivute

WINDHOEK,

DATE STAMP

**Appendix B: EMP Compliance checklist**

**CONSTRUCTION PHASE**

Issues/Aspects	EMP Conditions	Compliance Rating	Comments
General	<ul style="list-style-type: none"> <li>• A copy of the EMP available on site at all times</li> <li>• Contractors provided with suitable lay-down and materials camp areas</li> <li>• Construction site to be kept tidy at all times</li> <li>• Ablution facilities provided to construction workers (30 m from any surface or groundwater) separate for men (1 toilet for every 30 men) and women (1 toilet for every 15 females)</li> <li>• Recruitment to be done in accordance with Labour Act</li> </ul>		
Vegetation Management	<ul style="list-style-type: none"> <li>• Compilation of Tree Management Plan</li> <li>• Removal of trees should be limited and not to include protected species</li> <li>• Approval to be obtained from the Directorate of Forestry for removal of trees</li> <li>• Clearing of vegetation to be limited to the subject site only</li> </ul>		
Waste Management	<ul style="list-style-type: none"> <li>• Waste from construction vehicles – construction vehicles provided with drip trays, regular inspection and maintenance of vehicles</li> <li>• Waste containers/bins regularly removed from site</li> <li>• Waste regularly taken to nearest landfill</li> <li>• Separate bins for hazardous and domestic/general waste</li> </ul>		

Issues/Aspects	EMP Conditions	Compliance Rating	Comments
Water Management	<ul style="list-style-type: none"> <li>Recycling of grey water</li> </ul>		
Borrow pit Management	<ul style="list-style-type: none"> <li>During excavations – topsoil stockpiled in demarcated area</li> <li>Topsoil used to rehabilitate post-construction degraded areas</li> </ul>		
General Health and Safety	<ul style="list-style-type: none"> <li>HIV/AIDS and TB education programmes provided to contract workers</li> <li>Road safety ensured – driving on demarcated roads only, all vehicles on site roadworthy, drivers to have valid driver’s licence, loads upon vehicles properly secured</li> <li>Excavated areas- demarcated, not left open for long periods</li> </ul>		
Dust	<ul style="list-style-type: none"> <li>Dust suppression means utilised</li> <li>Stockpiles covered with plastic</li> <li>Dust protection masks provided to workers (if complain about dust)</li> </ul>		
Noise	<ul style="list-style-type: none"> <li>Work hours 08h00 to 17h00</li> </ul>		
Communication	<ul style="list-style-type: none"> <li>Communication Plan drafted</li> </ul>		
Archaeology	<ul style="list-style-type: none"> <li>Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, a “chance find” procedure to be applied</li> </ul>		

**Table 5-1:** Compliance rating checklist

Rating (1-5)	Compliance Rating	Description
1	No compliance	0% conditions met
2	Partial compliance	25% conditions met
3	Broad compliance	50% conditions met
4	Substantial compliance	70% conditions met
5	Full compliance	100% All activities conditions met

.....  
**Environmental Control Officer (ECO)**

.....  
**Date**

.....  
**Contractor**

.....  
**Date**

.....  
**Developer’s Representative (DR)**

.....  
**Date**

**Appendix C: Environmental Clearance Certificate**



**REPUBLIC OF NAMIBIA  
MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM**

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

**ENVIRONMENTAL CLEARANCE CERTIFICATE**

**ISSUED**

In accordance with Section 37(2) of the Environmental Management Act (Act No. 7 of 2007)

**TO**

Ongwediva Town Council  
P. O. Box 5549, Ongwediva

**TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY**

Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1 in Oshana Region.



Issued on the date: 2022-02-10

Expires on this date: 2025-02-10

(See conditions printed over leaf)

Reduce  
Reuse  
Recycle



**CONDITIONS OF APPROVAL**

1. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office
2. This certificate does not in any way hold the Ministry of Environment, Forestry and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants
3. This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project
4. All applicable and required permits are obtained and mitigation measures stipulated in the EMP are applied particularly with respect to management of ecological impacts.
5. Strict compliance with national heritage guidelines and regulations is expected throughout the life-span of the proposed activity, therefore any new archaeological finds must be reported to the National Heritage Council for appropriate handling of such.





REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

Tel: (00 264) 61 284 2111  
Fax: (00 264) 61 232 057

Cnr Robert Mugabe &  
Dr Kenneth Kaunda Street  
Private Bag 13306  
Windhoek  
Namibia

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

NOTIFICATION OF DECISION

REF NUMBER: ECC 01968

DATE OF ISSUE: 10 FEBRUARY 2022

**DETAILS OF PROPONENT:**

Ongwediva Town Council  
P. O. Box 5549  
Ongwediva  
Namibia

Dear Sir/ Madam

**SUBJECT: NOTIFICATION ON APPLICATION FOR ENVIRONMENTAL CLEARANCE TO UNDERTAKE THE PROPOSED LISTED ACTIVITY:** Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1 in Oshana Region.

**Notice is herewith given** in accordance with section 37(2) of the Environmental Management Act, Act 7 of 2007 and Environmental Impact Assessment Regulations of 2012 (GG 4878): that a decision in respect to your application No. **APP 3333** for Environmental Clearance Certificate to undertake a listed activity has been reached.

**DECISION**

An Environmental Clearance Certificate (ECC) to undertake the listed activities specified in the environmental assessment report and draft management plan dated December 2021, is granted (**ECC 01968**). The applicant / proponent is therefore advised to comply with conditions of approval set out in **Section C** of this notification.

**A. DETAILS OF THE PROPOSED ACTIVITY**

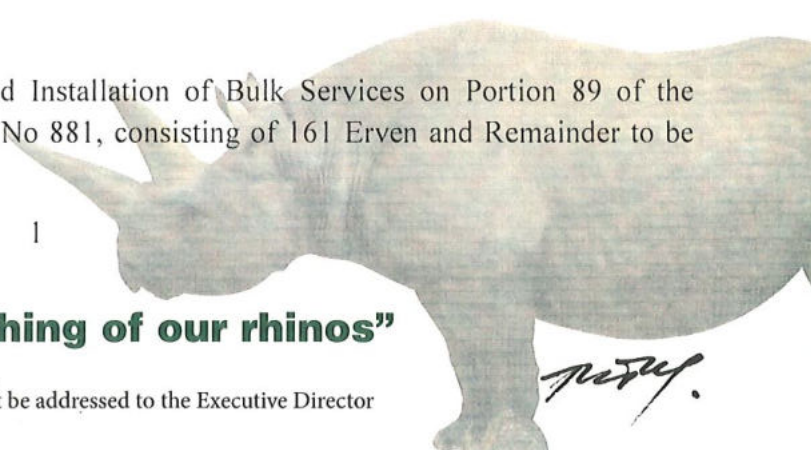
**A1: TITLE OF THE PROPOSED ACTIVITY**

Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1 in Oshana Region.

1

**“Stop the poaching of our rhinos”**

All official correspondence must be addressed to the Executive Director



**A2: DETAILS OF ASSESSMENT PRACTITIONER**

**Stubenrauch Planning Consultants**

P.O. Box 41404, Windhoek

Contact Person: Bronwynn Basson

Contact Number: +264 (61) 25 11 89

Fax Number: +264 (61) 25 11 89

Email: [bronwynn@spc.com.n](mailto:bronwynn@spc.com.n)

**A3: LOCATION OF PROPOSED ACTIVITY**

(Annexure A – proposed site map)

**B. RELEVANT LISTED ACTIVITIES**

Legislation	Description of Listed Activity	Relevance to Proposed Activity
Regulation 29(sub-regulation 5) of Government Notice No. 29 of 2012	LAND USE AND DEVELOPMENT ACTIVITIES. The rezoning of land from - (a) residential use to industrial or commercial use; (b) light industrial use to heavy industrial use; (c) agricultural use to industrial use; and (d) use for nature conservation or zoned open space to any other land use. The establishment of land resettlement schemes. Construction of veterinary protected area or game proof and international boundary fences.	Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1 in Oshana Region.

**C. CONDITIONS**

**C1: Conditions of Approval**

1. This certificate does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants.
2. This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.



3. Regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.
4. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.

**C2: Clearance Certificate Validity**


1. On expiry of the ECC, the proponent is required to submit within a period not exceeding one month, and in the prescribed form and manner an application to the Office of the Environmental Commissioner for the renewal of the ECC.
2. Failure to renew an expired environmental clearance certificate shall result in permanent termination of the environmental clearance certificate.
3. In terms of Section 3 (2)C of the Environmental Impact Assessment, you are instructed to, within 14 days of this notice issuance date, ensure that all registered interested and affected parties (“ I&APs”) are notified that an environmental clearance certificate has been issued in respect to your application and of their right to appeal

**C3: Compliance with authorization under other laws**

4. All other applicable and required permits or authorization from relevant competent authorities must be obtained prior to commencing the proposed activities and accordingly adhered to.

**C4: Implementation and Monitoring**

5. The granting of the Environmental Clearance Certificate (ECC) constitute, an approval for the implementation of mitigation measures proposed in your approved Environmental Management Plan (EMP), hence making the approved EMP legally binding document.
6. The proponent shall appoint a suitably experienced environmental control officer, or site agent where appropriate, before the commencement of any listed activities to ensure compliance with the conditions of approval and mitigation stipulated in the approved EMP
7. A copy of the Environmental Clearance Certificate (ECC), EMP, Environmental Audit and monitoring reports must be kept at the site of the authorized activity and readily available for inspection by officials of the Ministry and registered Interested and affected Parties (I&APs) on request.
8. Officials of the environmental commissioner’s office may from time-to-time conduct spot-inspection (non-auditing) without prior notice and or Auditing Inspection (dates to be agreed prior to arrival to the site), hence access to the site and the aforementioned documentation must be granted to any authorized official representing the Office of the Environmental Commissioner and Registered Interested and Affected Parties (I&APs)
9. Officials representing the Office of the Environmental Commissioner must be, in possession and or by request and for the purpose of inspection referred to in C4(8) present their staff identification card in order to gain entry to the premises



10. The proponent is required, from the date of commencing implementation of project activities, to compile and submit environmental monitoring reports (on project progress and the environmental management profile) on a bi-annual basis to Office of Environmental Commissioner
11. Any changes to, or deviations from the scope of project activities approved in respect to the assessment received and reviewed for the purpose or granting this ECC Number (**ECC 01968**) are subject to an amendment application and approval by the Environmental Commissioner prior to adopting / implementing any such changes / deviations.
12. For the purpose of amending and or transferring the ECC, the proponent submit in the prescribed form and manner an application to the Office of the Environmental Commissioner, clearly indicating the need for amendment and or transfer of the ECC
13. Non-compliance with a condition of this Environmental Clearance Certificate or EMP may render the Proponent liable to criminal prosecution.

**D. DISCLAIMER**

1. The decision taken by the Office of Environmental Commissioner is based mainly on information provided by the proponent or their representative, therefore, it must be noted here that the proponent is accountable for any wrong and misleading information that may have been presented in the environmental assessment documents.

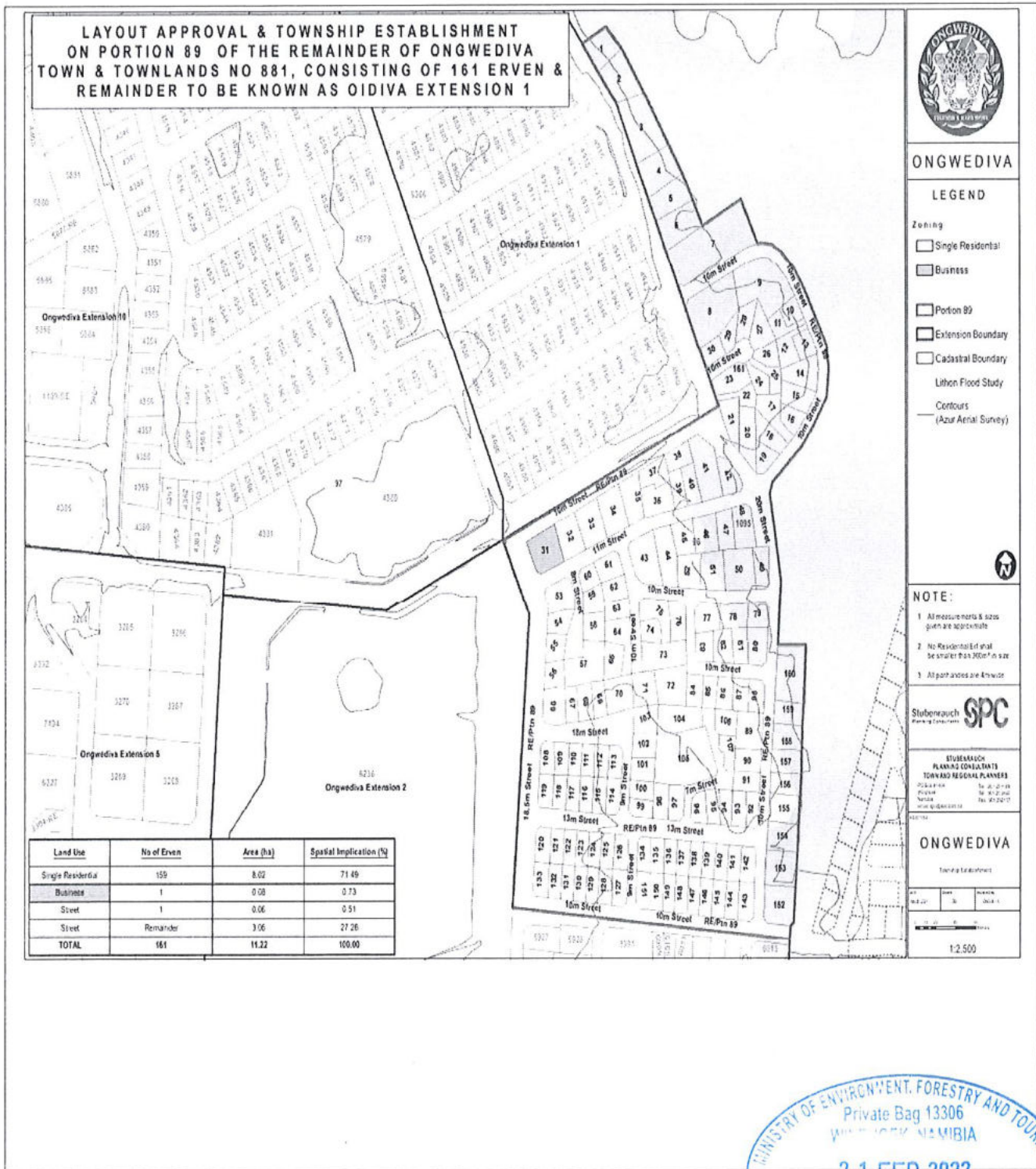
Yours sincerely,



Timoteus Mufeti  
ENVIRONMENTAL COMMISSIONER



ANNEXURE A: SITEMAP / SITE LAYOUT





Form 2

APP- 004534

**REPUBLIC OF NAMIBIA**  
**ENVIRONMENTAL MANAGEMENT ACT, 2007**

**(Section 39)**

APPLICATION FOR AMENDMENT OF CONDITIONS OF ENVIRONMENTAL  
CLEARANCE CERTIFICATE

Revenue  
stamp or  
revenue  
franking  
machine  
impression

**A. PARTICULARS OF APPLICANT**

Name of Applicant: Ongwediva Town Council

Address: PO Box 5549, Ongwediva

Telephone Number: +264 (65) 233 742

Cell phone Number: N/A

Fax Number: N/A

E-mail Address: [mnahambo@otc.com.na](mailto:mnahambo@otc.com.na)

Name of Contact Person: Bronwynn Basson

Telephone Number: +264 (61) 25 11 89

Cell phone Number: +264 81 303 4747

E-mail Address: [bronwynn@spc.com.na](mailto:bronwynn@spc.com.na)

## **B. PARTICULARS OF CURRENT ENVIRONMENTAL CLEARANCE CERTIFICATE**

- 1. Name of current holder of Environmental Clearance Certificate:** Ongwediva Town Council
- 2. Date of Issue of current Environmental Clearance Certificate:** 10 February 2022



**PART C PROPOSED AMENDMENTS TO THE CONDITIONS IN CURRENT**

1. **Condition(s) on the Current Environmental Clearance Certificate:** The current environmental clearance certificate includes the following activities:
  - Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Extension 1.
2. **Proposed Amendment(s):**

It is proposed that the following activities be included in the ECC:

  - **Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Proper.**
3. **Reason for Amendment(s):**

The Urban Planning Board will not grant approval for Oidiva Extension 1 as there is no Oidiva Proper, therefore we need to amend the certificate to read Oidiva Proper.
4. **Describe the environmental changes arising from the proposed amendment(s):**

No construction has commenced on the site and thus the environmental conditions remain the same.
5. **Describe how the environment and the community might be affected by the proposed amendment(s):**

The community was consulted during the scoping assessment conducted for which the ECC was granted in February 2022 for the proposed development.
6. **Describe how and to what extent the environmental performance requirements set out in the assessment report previously approved, or activity profile previously submitted for this activity may be affected:**

An updated Environmental Management Plan is attached to this submission and authorisation is to be granted on condition of the implementation of the EMP to ensure that regular environmental monitoring and compliance is ensured.
7. **Describe any additional measures proposed to eliminate, reduce, or control any adverse environmental effect arising from the proposed amendment(s):** These are outlined within the attached EMP.

**PART D DECLARATION BY APPLICANT**

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended, or cancelled if any information given above is false, misleading, wrong, or incomplete.



Elina SP Vakuwile

Environmental Consultant

Signature of Applicant

Full name in Block Letters

Position

on behalf of Ongwediva Town Council

08/08/2024  
Date

---

ANNEXURE 2  
FEES

1. The fees set out in this Annexure are payable in terms of the Act.
2. Payments must be made as prescribed in regulation 29.

FEES

<b>Item</b>	<b>Fee payable for</b>	<b>Fees Payable N\$</b>
1	Issue of environmental clearance certificate	300
2	Application for amendment of environmental clearance certificate	300
3	Application for transfer of environmental clearance certificate	1000
4	Appeal application	1000



# *Environmental Management Plan for*

*Township Establishment, Creation  
of Street, and Installation of Bulk  
Services on Portion 89 of the  
Remainder of Ongwediva Town  
and Townlands No 881, consisting  
of 161 Erven and Remainder to be  
known as Oidiva Proper.*

August 2024

**APP- 004534**

Prepared for: Ongwediva Town Council  
PO Box 5549, Ongwediva  
Contact Number: +264 (65) 233 742  
Contact Person: Mirjam Nahambo  
Email: [mnahambo@otc.com.na](mailto:mnahambo@otc.com.na)






Prepared by: Stubenrauch Planning  
Consultants  
P.O. Box 41404, Windhoek  
Contact Person: Bronwynn Basson  
Contact Number: +264 (61) 25 11 89  
Fax Number: +264 (61) 25 11 89  
Email: [bronwynn@spc.com.na](mailto:bronwynn@spc.com.na)





**PROJECT STATUS**

<b>Title</b>	Environmental Management Plan for the: Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Proper.		
<b>Report Status</b>	Final		
<b>SPC Reference</b>	Ong/061		
<b>Proponent</b>	Ongwediva Town Council Po Box: PO Box 5549, Ongwediva Contact Number: +265 233 742 Contact Person: Mirjam Nahambo Email: mnahambo@otc.com.na		
<b>Environmental Assessment Practitioner</b>	Stubenrauch Planning Consultants P.O. Box 41404, Windhoek Contact Person: Bronwynn Basson Contact Number: +264 (61) 25 11 89 Fax Number: +264 (61) 25 11 89 Email: <a href="mailto:bronwynn@spc.com.na">bronwynn@spc.com.na</a>		
<b>Report date</b>	August 2024		
	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Author</b>	Elina SP Vakuwile		August 2024

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**ABBREVIATIONS**

AIDS	Acquired Immuno-Deficiency Syndrome
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GG	Government Gazette
GIS	Geographic Information System
GN	Government Notice
GPS	Global Positioning System
HIV	Human Immuno-deficiency Virus
I&APs	Interested and Affected Parties
NHCN	National Heritage Council of Namibia
PR	Proponent's Representative
Reg.	Regulation
S	Section
SPC	Stubenrauch Planning Consultants
TB	Tuberculosis

## 1 INTRODUCTION

The Ongwediva Town Council (hereinafter known as the proponent) intends to formalise the existing area which is located to the east of Ongwediva Extensions 1 and 2 and within proximity of the Unam Engineering campus. The proponent thus intends to undertake the following activity:

- **Township Establishment, Creation of Street, and Installation of Bulk Services on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Proper.**

The above development triggers listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012) which may not be undertaken without an Environmental Clearance Certificate (ECC).

An Environmental Management Plan (EMP) is one of the most important outputs of the EIA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the following phases of these developments:

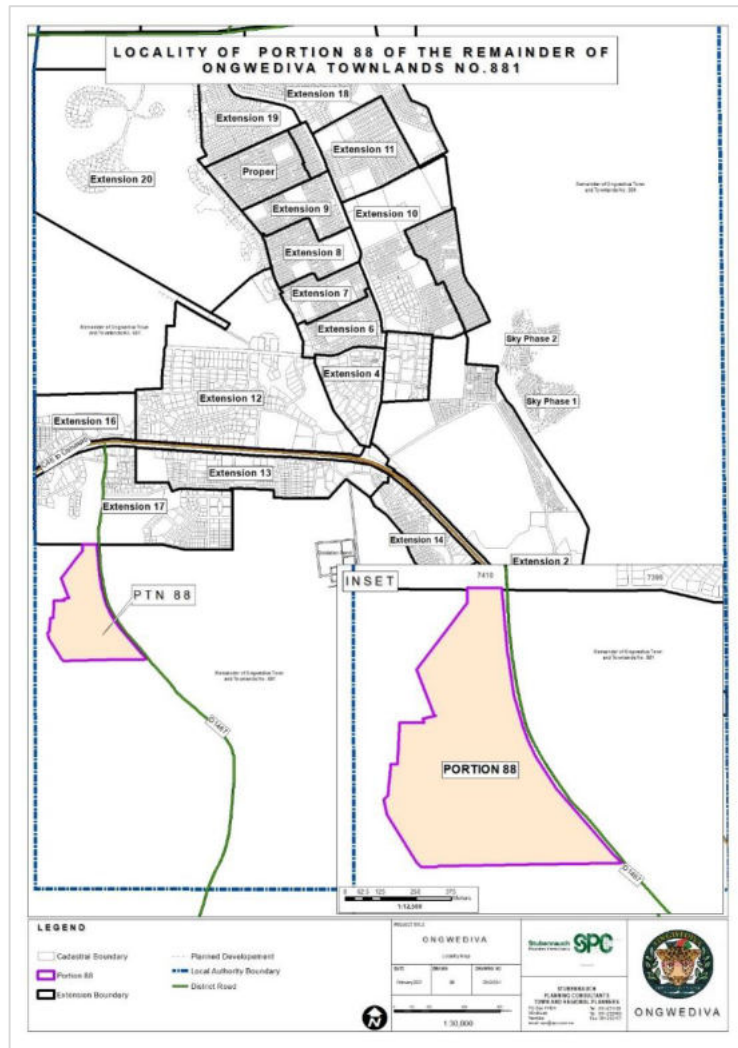
- Planning and Design – the period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of erven, are made and engineering designs are carried out. The preparation of construction tender documents forms part of this phase;
- Construction – the period during which the proponent, having dealt with the necessary legislative and administrative arrangements, appoints a contractor for the development of services infrastructure for the proposed development as well as any other construction process(s) within the development areas;
- Operation and Maintenance – the period during which the development will be fully functional and maintained.

The proposed development is a formalisation of an existing situation on the ground and as such construction is not anticipated to occur on the site. The construction phase mitigation measures are outlined and would be applicable once services infrastructure become installed in the area.

The decommissioning of these developments is not envisaged; however in the event that this should be considered some recommendations have been outlined in **Table 4-5**.

## 2 PROPOSED DEVELOPMENT

The township Oidiva Proper is proposed to be located in the northeastern part of Ongwediva, to the south of Ongwediva Extension 10. Please refer to **Figure 2-1** below for the locality of the subject site.



**Figure 2-1:** Locality of proposed development in Ongwediva

The subject area is an established and well-structured residential neighbourhood which has not been formalised through the normal planning, survey, and registration process. The area currently accommodates informal structures/homes and as such the proponent wishes to formalize the area to allow each structure to be located on an erf. The proponent thus intends to formalize the township Oidiva Proper on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881. The township is proposed to consist of 161 Erven and Remainder.

The following statutory steps need to be undertaken in order to establish the proposed township:

- Subdivision of the Remainder of the Farm Ongwediva Townlands No 881 into Portion 89 and Remainder;
- Township Establishment on Portion 89 of the Remainder of Ongwediva Town and Townlands No 881, consisting of 161 Erven and Remainder to be known as Oidiva Proper (**Figure 2-2**).

The proposed township aims to provide mostly Single Residential erven supported by one Business zoned erf as depicted in **Figure 2-2**.



**Figure 2-2:** Layout of Proposed Oidiva Proper

**2.1 Engineering Services and Access Provision**

The subject area is provided with rudimentary municipal service. Once the new township becomes proclaimed the Town Council is to upgrade the municipal services network to meet the requirements of the general municipal service standards of the local authority.

The proponent should appoint an engineer to investigate the capacity of the bulk service network to determine if the development can be connected to the bulk municipal infrastructure network, or *if* the existing network requires upgrading.

Access to the households is obtained from the informal but structured road system serving the area. The extension will be connected to the existing street/road network serving Ongwediva Extensions 1 and 2.

### 3 ROLES AND RESPONSIBILITIES

The proponent (Ongwediva Town Council) is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase (if these developments are in future decommissioned) of these developments. The proponent will delegate this responsibility as the project progresses through its life cycle. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals:

- Proponents’ Representative;
- Environmental Control Officer; and
- Contractor (Construction and Operations and Maintenance).

#### 3.1 DEVELOPER’S REPRESENTATIVE

The Ongwediva Town Council should assign the responsibility of managing all aspects of these developments for all development phases (including all contracts for work outsourced) to a designated member of staff, referred to in this EMP as the Proponent’s representative (PR). The proponent may decide to assign this role to one person for the full duration of these developments, or may assign a different PR to each of the development phases – i.e. one for the planning and design phase, one for the construction phase and one for the operation and maintenance phase. The PR’s responsibilities are as follows:

**Table 3-1** Responsibilities of PR

Responsibility	Project Phase
Making sure that the necessary approvals and permissions laid out in <b>Table 4-1</b> are obtained/adhered to.	<ul style="list-style-type: none"> <li>• Throughout the lifecycle of these developments</li> </ul>
Making sure that the relevant provisions detailed in <b>Table 4-2</b> are addressed during planning and design phase.	<ul style="list-style-type: none"> <li>• Planning and design phase</li> </ul>
Monitoring the implementation of the EMP monthly.	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>
Suspending/evicting individuals and/or equipment not complying with the EMP	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>
Issuing fines for contravening EMP provisions	<ul style="list-style-type: none"> <li>• Construction</li> </ul>

Responsibility	Project Phase
	<ul style="list-style-type: none"> <li>• Operation and maintenance</li> </ul>

**3.2 ENVIRONMENTAL CONTROL OFFICER**

The PR should assign the responsibility of overseeing the implementation of the whole EMP on the ground during the construction and operation and maintenance phases to an independent external consultant, referred to in this EMP as the Environmental Control Officer (ECO). The PR /Ongwediva Town Council may decide to assign this role to one person for both phases, or may assign a different ECO for each phase. The ECO will have the following responsibilities during the construction and operation and maintenance phases of these developments:

- Management and facilitation of communication between the Ongwediva Town Council, PR , the contractors, and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is monthly) of all construction and/or infrastructure maintenance areas with respect to the implementation of this EMP (audit the implementation of the EMP);
- Assisting the Contractor in finding solutions with respect to matters pertaining to the implementation of this EMP;
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP; and
- Undertaking an annual review and bi-annual audit of the EMP and recommending additions and/or changes to this document.

**3.3 CONTRACTOR**

Contractors appointed by the Ongwediva Town Council are automatically responsible for implementing all provisions contained within the relevant chapters of this EMP. Contractors will be responsible for the implementation of this EMP applicable to any work outsourced to subcontractors. **Table 4-3** applies to contractors appointed during the construction phase and **Table 4-4** to those appointed during the operation and maintenance phase. In order to ensure effective environmental management, the aforementioned chapters should be included in the applicable contracts for outsourced construction, operation and maintenance work.

The tables in the following chapter (**Chapter 4**) detail the management measures associated with the roles and responsibilities that have been laid out in this chapter.

## 4 MANAGEMENT ACTIONS

The aim of the management actions in this chapter of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

The following tables provide the management actions recommended to manage the potential impacts rated in the scoping-level EA conducted for these developments. These management actions have been organised temporally according to project phase:

- Applicable legislation (**Table 4-1**);
- Planning and design phase management actions (**Table 4-2**);
- Construction phase management actions (**Table 4-3**);
- Operation and maintenance phase management actions (**Table 4-4**); and
- Decommissioning phase management actions (**Table 4-5**).

The proponent should assess these **commitments** in detail and should acknowledge their commitment to the specific management actions detailed in the tables below.

As previously mentioned, the proposed development is a formalisation of an existing situation on the ground and as such construction is not anticipated to occur on the site. The construction phase mitigation measures (**Table 4-3**) are outlined and would be applicable once services infrastructure are installed in the area.

### 4.1 ASSUMPTIONS AND LIMITATIONS

This EMP has been drafted with the acknowledgment of the following assumptions and limitations:

- This EMP has been drafted based on the scoping-level Environmental Assessment (EA) conducted for the proposed Township Establishment of Oidiva Proper in Ongwediva as outlined in **Section 4** of the Draft Environmental Scoping Report. SPC will not be held responsible for the potential consequences that may result from any alterations to the above-mentioned layout.
- It is assumed that construction labourers will be sourced mostly from the Ongwediva townlands area and that migrant labourers (if applicable) will be housed in established accommodation facilities within Ongwediva.

## 4.2 APPLICABLE LEGISLATION

Legal provisions that have relevance to various aspects of these developments are listed in **Table 4-1** below.

**Table 4-1:** Legislation applicable to proposed development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	<p>Article 91 (c) provides for duty to guard against “the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”</p> <p>Article 95(l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.</p>	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	<p>Section 2 outlines the objective of the Act and the means to achieve that.</p> <p>Section 3 details the principle of Environmental Management</p>	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	<p>GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate.</p> <p>GN 30 provides the regulations governing the environmental assessment (EA) process.</p>	<p>The following listed activity was triggered by the proposed development:</p> <p><b>Activity 10.1 (a) Infrastructure</b>  <b>Activity 10.1 (b) Infrastructure</b>  <b>Activity 10.2 (a) Infrastructure</b></p>
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.



LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor must adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when migrant construction workers interact with local communities.
Urban and Regional Planning Act 5 of 2018	The Act provides to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and	The subdivision and consolidation of land as well as the establishment of townships is to be done in accordance with the act.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	deletion of conditions relating to land; and to provide for incidental matters.	
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	The development must comply with provisions of the Local Authorities Act.
Labour Act no. 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
National Heritage Act No. 27 of 2004	The Act is aimed at protecting, conserving and registering places and objects of heritage significance.	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.
Roads Ordinance 17 of 1972	<ul style="list-style-type: none"> <li>• Section 3.1 deals with width of proclaimed roads and road reserve boundaries</li> <li>• Section 27.1 is concerned with the control of traffic on urban trunk and main roads</li> <li>• Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads</li> <li>• Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.</li> </ul>	Adhere to all applicable provisions of the Roads Ordinance.
Public and Environmental Health Act of 2015	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted infections; maternal, ante-natal and neo-natal care; water and food	Contractors and users of the proposed development are to comply with these legal requirements.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	supplies; infant nutrition; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979).	
Nature Conservation Ordinance no. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants must be managed within the legal confines.
Water Quality Guidelines for Drinking Water and Wastewater Treatment	Details specific quantities in terms of water quality determinants, which wastewater should be treated to before being discharged into the environment	These guidelines are to be applied when dealing with water and waste treatment.
Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	This EIA considers this term of Environment.
Water Resources Management Act No. 11 of 2013	Part 12 deals with the control and protection of groundwater  Part 13 deals with water pollution control	The pollution of water resources should be avoided during construction and operation of the development. Should water need to be abstracted, a water abstraction permit will be required from the Ministry of Water, Agriculture and Forestry.
Forest Act 12 of 2001 and Forest Regulations of 2015	To provide for the establishment of a Forestry Council and the appointment of certain officials; to consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may not be removed without a permit from the Ministry of Agriculture, Water and Forestry.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	<p>the control and management of forest fires; to repeal the Preservation of Bees and Honey Proclamation, 1923 (Proclamation No. 1 of 1923), Preservation of Trees and Forests Ordinance, 1952 (Ordinance No. 37 of 1952) and the Forest Act, 1968 (Act No. 72 of 1968); and to deal with incidental matters.</p>	
<p>Atmospheric Pollution Prevention Ordinance No 45 of 1965</p>	<p>Part II - control of noxious or offensive gases,                      Part III - atmospheric pollution by smoke,                      Part IV - dust control, and                      Part V - air pollution by fumes emitted by vehicles.</p>	<p>The development should consider the provisions outlined in the act. The proponent should apply for an Air Emissions permit from the Ministry of Health and Social Services (if needed).</p>
<p>Hazardous Substance Ordinance 14 of 1974</p>	<p>To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.</p>	<p>The handling, usage and storage of hazardous substances on site should be carefully controlled according to this Ordinance.</p>

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Soil Conservation Act No 76 of 1969	Act to consolidate and amend the law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources	The proposed activity should ensure that soil erosion and soil pollution is avoided during construction and operation.

### 4.3 PLANNING AND DESIGN PHASE

The PR should ensure that the management actions detailed below should be adhered to during the period before the proposed construction starts.

**Table 4-2:** Planning and design management actions

Aspect	Management Actions
Stormwater	<p>A Stormwater Management Plan should be developed by the Ongwediva Town Council for the township and should address the following as a minimum:</p> <ul style="list-style-type: none"> <li>• Cumulative stormwater issues for the area</li> <li>• Areas which have previously been recognised for having stormwater issues</li> <li>• Areas which do not have formal stormwater drainage</li> <li>• Stormwater channels should be accommodated next to the road reserve as far as possible.</li> <li>• Stormwater run-off which could possibly be contaminated should be captured, drained and treated to sewage effluent standards.</li> </ul>

#### 4.4 CONSTRUCTION PHASE

The management actions listed in **Table 4-3** apply during the construction phase. This table may be used as a guide when developing EMPs for other construction activities within these development areas.

**Table 4-3:** Construction phase management actions

Environmental Feature	Impact	Management Actions	Responsible Person
EMP training	Lack of EMP awareness and the implications thereof.	All construction workers are to undergo EMP training that should include as a minimum the following: <ul style="list-style-type: none"> <li>• Explanation of the importance of complying with the EMP.</li> <li>• Discussion of the potential environmental impacts of construction activities.</li> <li>• Employees' roles and responsibilities, including emergency preparedness.</li> <li>• Explanation of the mitigation measures that must be implemented when particular work groups carry out their respective activities.</li> </ul>	Contractor
Conservation of vegetation	Loss of biodiversity	<ul style="list-style-type: none"> <li>• The layout and development design should incorporate existing trees<sup>1</sup>.</li> <li>• Trees protected under the Forestry Act 12 of 2001 should be protected within the development and may not be removed without a permit from the Department of Forestry.</li> <li>• Only a limited width +/- 5 m on the side of roads may be partially cleared of vegetation.</li> <li>• Workers are prohibited from collecting wood or other plant products on or near work sites.</li> <li>• No alien species may be planted on or near work areas.</li> </ul>	Contractor
Lay-down areas and materials camp	Loss of biodiversity	Suitable locations for the contractors lay-down areas and materials camp should be identified with the assistance of the PR and the following should be considered in selecting these sites: <ul style="list-style-type: none"> <li>• The areas designated for the services infrastructure should be used as far possible.</li> <li>• Second option should be degraded land.</li> </ul>	Contractor and PR

<sup>1</sup>a "tree" is defined as an indigenous woody perennial plant with a trunk diameter  $\geq 150$  mm.

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Avoid sensitive areas (e.g. rivers/drainage lines).</li> </ul>	
Hazardous waste	Contamination of surface and groundwater sources.	<ul style="list-style-type: none"> <li>• All heavy construction vehicles and equipment on site should be provided with a drip tray.</li> <li>• All heavy construction vehicles should be maintained regularly to prevent oil leakages.</li> <li>• Maintenance and washing of construction vehicles should take place only at a designated workshop area.</li> </ul>	Contractor
Water, Sewage and grey water	Contamination of surface and groundwater sources and water wasting	<ul style="list-style-type: none"> <li>• The wash water (grey water) collected from the cleaning of equipment on-site should not be left standing for long periods of time as this promotes parasite and bacterial proliferation.</li> <li>• Grey water should be recycled:               <ul style="list-style-type: none"> <li>○ Used for dust suppression;</li> <li>○ Used to water a vegetable garden, or to support a small nursery;</li> <li>○ Used (reused) to clean equipment.</li> </ul> </li> <li>• Grey water that is not recycled should be removed on a regular basis.</li> <li>• No dumping of waste products of any kind in or in close proximity to water bodies.</li> <li>• Heavy construction vehicles should be kept out of any water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks.</li> <li>• Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are immediately and appropriately dealt with.</li> <li>• Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> <li>• Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> </ul>	Contractor



Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• All materials on the construction site should be properly stored.</li> <li>• Disposal of waste from the sites should be properly managed and taken to the designated landfill site in Ongwediva.</li> <li>• Construction workers should be given ablution facilities at the construction sites that are located at least 30 m away from any surface water and ground water resources and should be regularly serviced.</li> <li>• Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.</li> </ul>	
General waste	Visual impact and soil contamination	<ul style="list-style-type: none"> <li>• The construction site should be kept tidy at all times.</li> <li>• All domestic and general construction waste produced on a daily basis should be cleaned and contained daily.</li> <li>• No waste may be buried or burned.</li> <li>• Waste containers (bins) should be emptied regularly and removed from site to a recognised (municipal) waste disposal site.</li> <li>• All recyclable waste needs to be taken to the nearest recycling depot where practical.</li> <li>• A sufficient number of separate bins for hazardous and domestic/general waste must be provided on site. These should be clearly marked as such.</li> <li>• Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter.</li> <li>• No waste may remain on site after the completion of the project.</li> </ul>	Contractor
Topsoil	Loss of topsoil and associated opportunity costs	<ul style="list-style-type: none"> <li>• When excavations are carried out, topsoil<sup>2</sup> should be stockpiled in a demarcated area.</li> </ul>	Contractor

<sup>2</sup> Topsoil is defined here as the top 150mm of surface material, which accounts for the seedbank.

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Stockpiled topsoil should be used to rehabilitate post-construction degraded areas and/or other nearby degraded areas if such an area is located a reasonable distance from the stockpile.</li> </ul>	
Rehabilitation	Visual impact	<ul style="list-style-type: none"> <li>• Upon completion of the construction phase consultations should be held with the local community/property owner(s) regarding the post-construction use of remaining excavated areas (if applicable).</li> <li>• In the event that no post-construction uses are requested, all excavated/degraded areas need to be rehabilitated as follows:                             <ul style="list-style-type: none"> <li>○ Excavated areas may only be backfilled with clean or inert fill. No material of hazardous nature (e.g. sand removed with an oil spill) may be dumped as backfill.</li> <li>○ Rehabilitated excavated areas need to match the contours of the existing landscape.</li> <li>○ The rehabilitated area should not be higher (or lower) than nearby drainage channels. This ensures the efficiency of revegetation and reduces the chances of potential erosion.</li> <li>○ Topsoil is to be spread across excavated areas evenly.</li> <li>○ Deep ripping of areas to be rehabilitated is required, not just simple scarification, so as to enable rip lines to hold water after heavy rainfall.</li> <li>○ Ripping should be done along slopes, not up and down a slope, which could lead to enhanced erosion.</li> </ul> </li> </ul>	Contractor, PR
Road safety	Injury or loss of life	<ul style="list-style-type: none"> <li>• Demarcate roads to be used by construction vehicles clearly.</li> <li>• Off-road driving should not be allowed.</li> <li>• All vehicles that transport materials to and from the site must be roadworthy.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Drivers that transport materials should have a valid driver’s license and should adhere to all traffic rules.</li> <li>• Loads upon vehicles should be properly secured to avoid items falling off the vehicle.</li> </ul>	
Safety around work sites	Injury or loss of life	<ul style="list-style-type: none"> <li>• Excavations should be left open for the shortest time possible.</li> <li>• Excavate short lengths of trenches and box areas for services or foundations in a manner that will not leave the trench unattended for more than 24 hours.</li> <li>• Demarcate excavated areas and topsoil stockpiles with danger tape.</li> <li>• All building materials and equipment are to be stored only within set out and demarcated work areas.</li> <li>• Only road construction personnel will be allowed within these work areas.</li> <li>• Comply with all waste related management actions stated above in this table.</li> </ul>	Contractor
Ablutions	Non-compliance with Health and Safety Regulations	<ul style="list-style-type: none"> <li>• Separate toilets should be available for men and women and should clearly be indicated as such.</li> <li>• Portable toilets (i.e. easily transportable) should be available at every construction site:                             <ul style="list-style-type: none"> <li>○ 1 toilet for every 15 females.</li> <li>○ 1 toilet for every 30 males.</li> <li>○ Sewage needs to be removed on a regular basis to an approved (municipal) sewage disposal site in Ongwediva.</li> <li>○ Alternatively, sewage may be pumped into sealable containers and stored until it can be removed.</li> <li>○ Workers responsible for cleaning the toilets should be provided with environmentally friendly detergents, latex gloves and masks.</li> </ul> </li> </ul>	Contractor
Open fires	Injury or loss of life	<ul style="list-style-type: none"> <li>• No open fires may be made anywhere on site.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
General health and safety	Injury or loss of life	<ul style="list-style-type: none"> <li>• A fully stocked first aid kit should permanently be available on-site as well as an adequately trained member of staff capable of administering first aid.</li> <li>• All workers should have access to and wear the relevant personal protective equipment (PPE).</li> <li>• Sufficient potable water reserves should be available to workers at all times.</li> <li>• No person should be allowed to smoke close to fuel storage facilities or portable toilets (if toilets are chemical toilets – the chemicals are flammable).</li> <li>• No workers should be allowed to drink alcohol during work hours.</li> <li>• No workers should be allowed on site if under the influence of alcohol.</li> <li>• Building rubble and domestic waste should be stored in skips.</li> <li>• Condoms should be accessible/available to all construction workers.</li> <li>• Access to Antiretroviral medication should be facilitated.</li> </ul>	Contractor
Dust	Nuisance and health impacts	<ul style="list-style-type: none"> <li>• A watering truck should be used on gravel roads with the heaviest vehicle movement especially during dry and windy conditions. However, due consideration should be given to water restrictions during times of drought.</li> <li>• The use of waterless dust suppression means (e.g. lignosulphonate products such as Dustex) should be considered.</li> <li>• Cover any stockpiles with plastic to minimise windblown dust.</li> <li>• Dust protection masks should be provided to workers if they complain about dust.</li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
Noise	Nuisance impacts	Work hours should be restricted to between 08h00 and 17h00 where construction involving the use of heavy equipment, power tools and the movement of heavy vehicles is less than 500 m from residential areas. If an exception to this provision is required, all residents within the 500 m radius should be given 1 week's written notice.	Contractor
Recruitment of labourers	Negative conflict regarding recruitment	<p>The Contractor should adhere to the following provisions as a minimum:</p> <ul style="list-style-type: none"> <li>• 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.).</li> <li>• Recruitment should not take place at construction sites.</li> <li>• Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labour outside these agreed upon procedures.</li> <li>• Contractors should give preference in terms of recruitment of sub-contractors and individual labourers to those who are qualified and from the Ongwediva project area and only then look to surrounding towns.</li> <li>• Clearly explain to all jobseekers the terms and conditions of their respective employment contracts (e.g. period of employment etc.) – make use of interpreters where necessary.</li> </ul>	Contractor
Communication plan	Negative conflict with I&APs	<p>The Contractor or proponent should draft a Communication Plan, which should outline as a minimum the following:</p> <ul style="list-style-type: none"> <li>• How Interested and Affected Parties (I&amp;APs), who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records.</li> <li>• How these I&amp;APs will be consulted on an ongoing basis.</li> </ul>	Contractor, Proponent

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• Make provision for grievance mechanisms – i.e. how concerns can be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event that feedback is deemed unsatisfactory.</li> </ul>	
General communication	Negative conflict with I&APs	<ul style="list-style-type: none"> <li>• The PR must appoint an ECO to liaise between the Contractor, I&amp;APs, Developer.</li> <li>• The Contractor shall at every monthly site meeting report on the status of the implementation of all provisions of the EMP.</li> <li>• The Contractor should implement the EMP awareness training as stipulated above in this table.</li> <li>• The Contractor must list I&amp;APs of the project and their contact details with whom ongoing communication would be required for the duration of the contract. This list, together with the Communication Plan must be agreed upon and given to the PR before construction commences.</li> <li>• The Communication Plan, once agreed upon by the Developer, shall be legally binding.</li> <li>• All communication with I&amp;APs must take place through the ECO.</li> <li>• A copy of the EMP must be available at the site office and should be accessible to all I&amp;APs.</li> <li>• 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.</li> <li>• The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences.</li> <li>• A procedure should be put in place to ensure that concerns raised have been followed-up and addressed.</li> </ul>	Contractor, ECO, PR

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>• All people on the I&amp;APs list should be informed about the availability of the complaints register and associated grievance mechanisms in writing by the PR prior to the commencement of construction activities.</li> </ul>	
Archaeology	Loss of heritage resources	<ul style="list-style-type: none"> <li>• 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"> <li>○ If operating machinery or equipment, stop work;</li> <li>○ Demarcate the site with danger tape;</li> <li>○ Determine GPS position if possible;</li> <li>○ Report findings to the construction foreman;</li> <li>○ Report findings, site location and actions taken to superintendent;</li> <li>○ Cease any works in immediate vicinity;</li> <li>○ Visit site and determine whether work can proceed without damage to findings;</li> <li>○ Determine and demarcate exclusion boundary;</li> <li>○ Site location and details to be added to the project’s Geographic Information System (GIS) for field confirmation by archaeologist;</li> <li>○ Inspect site and confirm addition to project GIS;</li> <li>○ Advise the National Heritage Council of Namibia (NHCN) and request written permission to remove findings from work area; and</li> <li>○ Recovery, packaging and labelling of findings for transfer to National Museum.</li> </ul> </li> <li>• Should human remains be found, the following actions will be required:                             <ul style="list-style-type: none"> <li>○ Apply the chance find procedure as described above;</li> </ul> </li> </ul>	Contractor

Environmental Feature	Impact	Management Actions	Responsible Person
		<ul style="list-style-type: none"> <li>○ Schedule a field inspection with an archaeologist to confirm that remains are human;</li> <li>○ Advise and liaise with the NHCN and Police; and</li> <li>○ Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.</li> </ul>	

**4.5 OPERATION AND MAINTENANCE PHASE**

The management actions included in **Table 4-4** below apply during the operation and maintenance phase of these developments.

**Table 4-4: Operation and maintenance management actions**

Environmental Feature	Impact	Management Actions	Person Responsible
EMP training	Lack of EMP awareness and the implications thereof	All contractors appointed for maintenance work on the development must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.	Contractor
Water	Surface and groundwater contamination	<ul style="list-style-type: none"> <li>• Ensure that all properties are connected to a professionally designed and constructed water and wastewater infrastructure.</li> <li>• A no-go buffer area of at least 15 m should be allocated to any water bodies in the area.</li> <li>• No dumping of waste products of any kind in or in close proximity to any surface water bodies.</li> <li>• Contaminated runoff from the various operational activities should be prevented from entering any surface or ground water bodies.</li> <li>• Ensure that surface water accumulating on-site are channeled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment.</li> </ul>	Proponent, Contractor,



Environmental Feature	Impact	Management Actions	Person Responsible
		<ul style="list-style-type: none"> <li>Disposal of waste from the various activities should be properly managed.</li> </ul>	
Waste	Pollution	<ul style="list-style-type: none"> <li>Solid waste generated by operational activities on site should be collected and disposed of at an approved landfill site within Ongwediva.</li> <li>Hazardous and Domestic waste should be collected and disposed of separately.</li> <li>Hazardous waste should be disposed of at a facility that is able to receive and appropriately treat such waste if required.</li> </ul>	
Noise	Noise nuisance impact	The proponent should consult with the view to incorporate the relevant local/national/international guidelines to manage the generation of traffic noise in the development area.	Proponent
Energy efficiency	Waste of scarce resources	<p>The proponent should consult, with the view to incorporate the relevant local/national/international development guidelines which addresses the following (where possible):</p> <ul style="list-style-type: none"> <li>The use of solar geysers and solar panels for the general lighting and heating of water for buildings.</li> <li>Use of designs and building materials, which reduce dependency on artificial heating and cooling.</li> </ul> <p>The incorporation of water saving initiatives within the development's design and plans in order to reduce water demands.</p>	Proponent
Stormwater	Stormwater management	Management systems for stormwater needs to be implemented for effective stormwater runoff as per the Stormwater Management Plan.	Proponent

#### 4.6 DECOMMISSIONING PHASE

The decommissioning of these developments is not foreseen as the intended development is envisaged to be permanent. In the event that this infrastructure development is decommissioned the following management actions should apply.

**Table 4-5: Decommissioning phase management actions**

Environmental Feature	Management Actions
Deconstruction activity	Many of the mitigation measures prescribed for construction activity for these developments ( <b>Table 4-3</b> above) would be applicable to some of the decommissioning activities. These should be adhered to where applicable.
Rehabilitation	In the event that decommissioning is deemed necessary, excavations need to be rehabilitated according to the management actions laid out in <b>Table 4-3</b> above.

#### 5 CONCLUSION

The management actions included in this report aim to assist in the avoidance, management and/or mitigation of potential impacts on the environment that may result from the proposed activities.

Should the measures recommended in this EMP be implemented and monitored, SPC is confident that the risks identified in the FESR can be reduced to acceptable levels.