



ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN:

FOR THE ALIGNMENT AND CONSTRUCTION OF PUBLIC ROADS AND THE
CONSTRUCTION OF INFRASTRUCTURE AS A RESULT OF TOWNSHIP
ESTABLISHMENT WITHIN ONGWEDIVA

PROPONENT:	CONSULTANT:
DEVELOPMENT WORKSHOP NAMIBIA PO Box 40723 AUSSPANNPLATZ WINDHOEK NAMIBIA	URBAN DYNAMICS AFRICA P O Box 20837 WINDHOEK NAMIBIA
	Reference: 1308 Enquiries: Heidri Bindemann-Nel TEL: +264-61-240300 FAX: +264-61-240309

Title	Environmental, Social Management Plan for the Construction Of Public Roads, Infrastructure And Activities of the Township Establishment at Ongwediva
Client	Development Workshop Namibia
Project Manager	Erastus KASHUUPULWA
Project Manager Email	e.kashuupulwa@dw-namibia.org
Author	Jade de Klerk
Reviewer	Heidri Bindemann-Nel
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EXECUTIVE SUMMARY

The Oshinyadhila Proper development project in Ongwediva aims to address housing needs, stimulate local economic development, and improve municipal service delivery. The project includes the construction of roads, bulk infrastructure and service installations within defined township. The Environmental, Social Management Plan (ESMP) was developed to ensure that potential environmental and social impacts are effectively identified, mitigated and monitored throughout planning, and construction phases.

Key environmental and social risks include dust generation, noise and vibration, waste management, biodiversity disturbance and community health and safety concerns. The ESMP provides mitigation measures for each risk area, ensuring compliance with national legislation and international standards, including the Namibian Environmental Management Act, the KfW Sustainability Guideline, and World Bank ESS.

The project also emphasises stakeholder engagement, local employment and fair recruitment, supported by a grievance mechanism to address any community concerns. Detailed roles and responsibilities are defined for the Ongwediva Town Council, Development Workshop Namibia (DWN), contractors and other project partners.

Overall, the ESMP aims to facilitate sustainable development while maximising socio-economic benefits for the Ongwediva community.

ABBREVIATIONS

AoI –	Area of Influence
C1 –	Component 1 (Land Delivery Programme)
DWN –	Development Workshop Namibia
ECC –	Environmental Clearance Certificate
EHS –	Environmental, Health and Safety
ESF –	Environmental and Social Framework
ESHS –	Environmental, Social, Health and Safety
ESIA –	Environmental and Social Impact Assessment
ESMP –	Environmental and Social Management Plan
ESS –	Environmental and Social Standard
ILO –	International Labour Organization
KP –	Knight Piésold Consulting (Pty) Ltd
KfW –	Kreditanstalt für Wiederaufbau
MEFT –	Ministry of Environment, Forestry and Tourism
MURD –	Ministry of Urban and Rural Development
NORED –	Northern Regional Electricity Distributor
OHS –	Occupational Health and Safety
PPE –	Personal Protective Equipment
UDA –	Urban Dynamics Africa (Pty) Ltd
WRMA –	Water Resources Management Act

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1 INTRODUCTION

Development Workshop Namibia (DWN), in partnership with the Ongwediva Town Council, is implementing the Ongwediva Portion 65 Township Establishment Project, located in Ongwediva, Oshana Region, Namibia.

The Project involves the development of approximately 13.2 hectares of land for residential purposes, including the construction of internal roads and municipal service infrastructure such as water reticulation, sewer reticulation, electricity distribution, and stormwater management systems.

Construction activities will be executed by [insert name of Contractor], under the supervision of Knight Piésold Consulting (Pty) Ltd, appointed as the Implementation Consultant.

Urban Dynamics Africa (UDA) has been appointed as the Environmental Assessment Practitioner to prepare the Environmental and Social Management Plan (ESMP) and to support the Environmental Clearance Certificate (ECC) process.

The purpose of this ESMP is to provide a consolidated summary of all environmental and social commitments relevant to the construction phase of the Project. The ESMP outlines mitigation measures to manage environmental, social, occupational health and safety, and community-related risks associated with the Project.

This ESMP may be updated as the Project progresses to reflect changes in design, stakeholder engagement outcomes, or additional environmental and social requirements.

2 PROJECT DESCRIPTION

The Oshinyadhila Proper Infrastructure Project forms part of DWN's Component 1: Land Delivery Programme and is implemented in partnership with the Ongwediva Town Council. The project involves the installation of internal public roads and associated municipal bulk infrastructure required to service the approved township layout on Proposed Portion 65 of the Remainder of Farm Ongwediva Town and Townlands No. 881, located in the Oshana Region.

This section is informed by the approved township layout, engineering design documentation prepared by Knight Piésold Consulting, cadastral survey information, aerial imagery and a site inspection undertaken as part of the Environmental and Social Screening process. The description provides an overview of the site characteristics, surrounding land uses and the nature of the proposed intervention.

The Environmental Clearance application relates specifically to the construction and installation of infrastructure necessary to service the approved township layout. Construction of residential, commercial or institutional buildings does not form part of this Environmental and Social Management Plan (ESMP).

2.1 DESCRIPTION OF THE SITE

2.1.1 Location and Extent

The site constitutes a greenfield development area situated on the southern outskirts of Ongwediva within the Ongwediva Townlands, Oshana Region. The site is located adjacent to Efidi Extension 1 and forms part of the broader Oshakati–Ongwediva–Ondangwa urban corridor. The development footprint measures approximately 137,837 m² (13.78 hectares) and is located at approximately - 17.810768° South and 15.777035° East.

Figure 1 illustrates the local context of Proposed Portion 65 in relation to the C45 road and surrounding settlement areas.

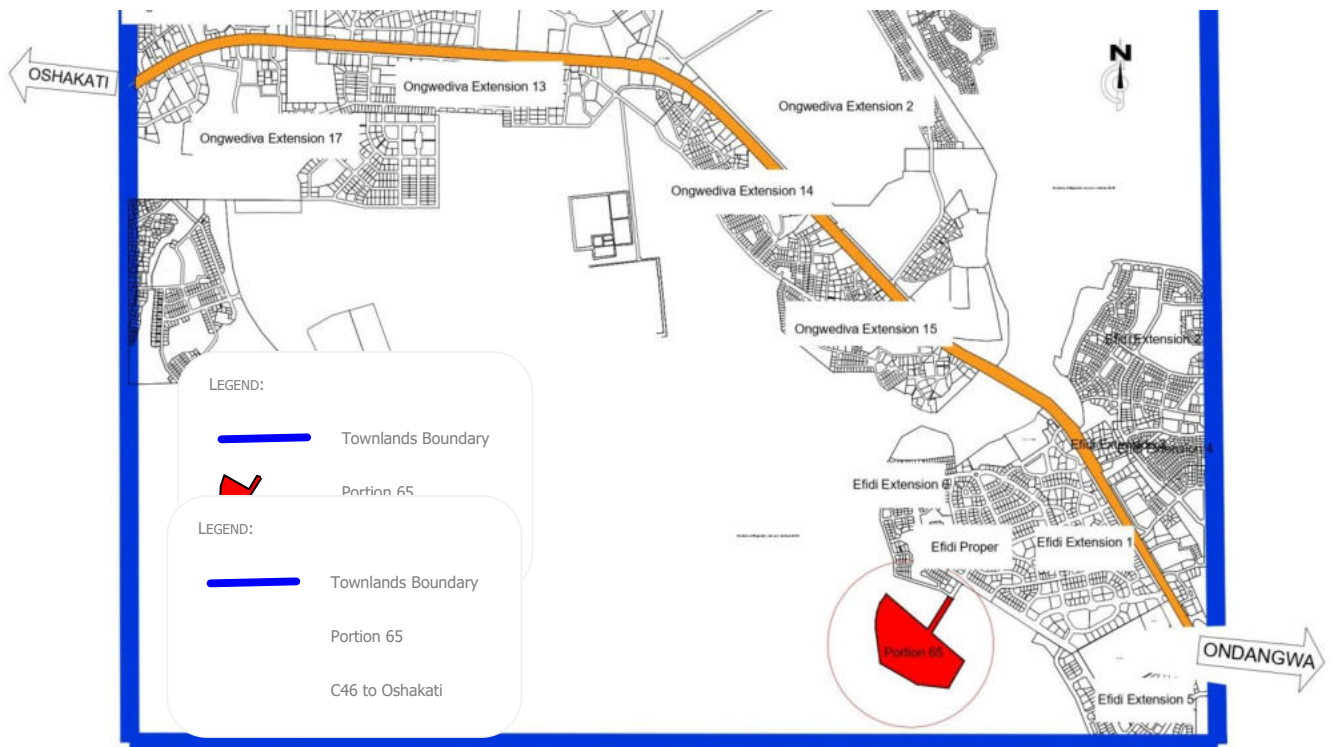


Figure 1: Locality of the Portion 65



Figure 2: Oshinyadhila Proper Layout

2.1.2 Environmental Baseline

Current land use activities include informal grazing, scattered subsistence activities and informal access tracks. One existing homestead is located within the broader development area. The approved township layout has been designed to accommodate the existing homestead, and no physical displacement or involuntary resettlement is required as a result of the Project.

Vegetation consists of scattered mature trees and patches of indigenous savanna vegetation typical of the northern Oshana Region. The ecological condition of the site is moderately modified due to previous grazing and informal land use.

Certain indigenous tree species occurring in the region, including Makalani Palm (*Hyphaene petersiana*) and other savanna species, may be protected under the Forest Act (Act No. 12 of 2001). The presence of such trees constitutes an environmental sensitivity within the project footprint. Any removal, trimming or disturbance of protected tree species will require the necessary permits from the Directorate of Forestry.

No known cultural heritage sites, graves or archaeological features were identified within the approved development footprint during site inspections. A Chance Finds Procedure will apply during construction in accordance with the National Heritage Act.

The nearest formal residential settlement is Efidi Proper and Extension 1, located directly east of the site boundary. These areas represent sensitive receptors in relation to construction-related impacts such as dust, noise and traffic.

2.1.3 Natural Features and Flood Risk

The project area is generally flat, underlain by sandy soils characteristic of Kalahari Sand formations. These soils are typically well-drained and moderately permeable, allowing infiltration of rainfall under normal conditions.

The topography is predominantly flat to gently sloping, with shallow depressions occurring in certain areas. Seasonal surface ponding is common in the broader region during periods of intense rainfall. A seasonal oshana drainage feature occurs along the northern boundary of the site and forms part of the regional drainage system.

There is documented evidence of localised flooding in the region during high-intensity rainfall events. Hydrological modelling undertaken by Knight Piésold (2024) identified low-lying portions of the site that may experience temporary surface inundation under extreme rainfall scenarios.

The climate of the area is semi-arid to subtropical, with average annual rainfall of approximately 500–600 mm, occurring mainly between November and April. Evaporation rates are high, and

prevailing winds are typically easterly. These climatic conditions influence both drainage patterns and dust generation potential during construction.

2.1.4 Adjacent Activities and Infrastructure

The surrounding area consists primarily of grazing land and small-scale subsistence activities, with formal residential development located directly east of the site (Efidi Proper and Extension 1).

A 15 m-wide NORED power line servitude traverses the western portion of the site and connects to a nearby substation as part of the regional electricity distribution network.

No internal council infrastructure currently exists within the development footprint.

2.1.5 Project Area of Influence

The Project Area of Influence (AoI) includes:

- The 13.78-hectare development footprint;
- Internal road reserves and service corridors;
- Bulk service connection points to municipal water, sewer and electricity networks;
- Adjacent residential areas, particularly Efidi Proper and Extension 1, which may experience indirect construction-related impacts such as dust, noise, vibration and increased traffic;
- Construction access routes and any areas where project-related environmental or social impacts may reasonably occur.

In addition to temporary construction-related impacts, the Project is expected to generate positive socio-economic benefits within the AoI, including the provision of serviced land for housing development and short-term employment opportunities during construction. The development supports structured urban expansion within Ongwediva and contributes to broader regional development objectives.

2.2 PLANNED INFRASTRUCTURE

The development includes installation of bulk and internal infrastructure required to service all erven within the township layout. Infrastructure will be installed primarily within designated road reserves and in accordance with approved engineering designs. A summary of infrastructure components is included in Table 1.

Table 1: Summary of Infrastructure Components

COMPONENT	DESCRIPTION	CONNECTION
ROADS	Internal gravel roads including formation, compaction and side drains	Connection to council's road network
WATER	Extension of bulk supply and internal reticulation network	Connection to council's water network
SEWER	Gravity pipelines, manholes and possible pump station	Connection to council's sewer network
ELECTRICITY	Underground distribution cables and transformers	Integration with council's network
STORMWATER	Side drains, culverts and defined drainage channels	Integration with natural drainage

All services will connect to existing municipal bulk networks. No wastewater treatment plant forms part of the proposed development.

2.3 CONSTRUCTION ACTIVITIES

Construction activities will be undertaken in phases and confined to the approved development footprint. Works will be implemented in accordance with approved engineering designs and this ESMP. A summary of construction activities is within Table 2 below.

Table 2: Summary of Construction Activities

PHASE	KEY ACTIVITIES
SITE PREPARATION	Demarcation, vegetation clearing, stripping and stockpiling of topsoil
EARTHWORKS	Excavation, grading, trenching for services, compaction
FILLING WORKS	Controlled placement of engineered fill in low-lying areas
INFRASTRUCTURE INSTALLATION	Installation of pipelines, manholes, cables and transformers
ROAD CONSTRUCTION	Formation of road layers, surfacing, side drains and culverts
REHABILITATION	Backfilling, reinstatement of disturbed areas and site clean-up

Construction will be sequenced to maintain stormwater flow and minimise erosion. Temporary erosion and drainage control measures will be implemented where necessary.

2.4 SITE ESTABLISHMENT AND PREPARATION

Construction will commence with site establishment activities, including demarcation of work areas and setting out of infrastructure alignments.

Vegetation clearing will be limited to areas required for road reserves and service trenches. Topsoil will be stripped and stockpiled separately for later use in rehabilitation.

Temporary construction areas may include:

- Material stockpile areas;
- Equipment parking;
- Temporary storage areas;
- Site office (if required).

All temporary areas must remain within the approved footprint.

2.5 EARTHWORKS AND FILLING

Earthworks will include excavation, grading and trenching for service installation.

Controlled filling will be undertaken in identified low-lying areas to achieve approved platform levels in accordance with engineering requirements and flood mitigation measures.

Compaction will be carried out to meet engineering specifications. Excavated material suitable for reuse will be reused where possible. Unsuitable material will be removed to an approved disposal site.

2.6 REHABILITATION

Upon completion of works:

- Service trenches will be backfilled and compacted;
- Disturbed areas will be levelled;
- Stockpiled topsoil will be reused where appropriate;
- All construction waste will be removed;
- Temporary facilities will be dismantled.

The site will be left in a stable and safe condition.

2.7 FLOOD AND DRAINAGE CONTEXT

A hydrological and hydrodynamic assessment undertaken by Knight Piésold (2024) modelled rainfall events up to a 1:100-year recurrence interval. The study identified low-lying portions of the site that may

experience temporary surface inundation during extreme rainfall events. A seasonal oshana occurs along the northern boundary of the site.

The Contractor shall strictly implement all flood mitigation measures, drainage alignments and platform levels as per the signed engineering drawings. Any deviation requires written approval from the Consulting Engineer.

2.8 DEVELOPMENT STAKEHOLDERS AND INSTITUTIONAL ARRANGEMENTS

This section summarises the key institutions involved in the Oshinyadhila Proper Infrastructure Project and their respective roles.

Table 3: Institutional Roles and Responsibilities

STAKEHOLDER	ROLE	KEY RESPONSIBILITIES	PROJECT PHASE
Development Workshop Namibia (DWN)	Project Proponent	Overall project implementation; funding coordination; oversight of infrastructure delivery; ensuring ESMP compliance	Entire project lifecycle
Ongwediva Town Council	Land Owner & Local Authority Partner	Land ownership; statutory coordination; community liaison; acceptance and operation of infrastructure post-construction	Planning to operational phase
Urban Dynamics Africa (UDA)	Planning & Environmental Consultant	Preparation of township layout; environmental assessment; ECC application; facilitation of public consultation; statutory submissions	Planning & pre-construction
Knight Piésold Consulting (KP)	Consulting Engineer	Engineering design; flood risk assessment; preparation of construction drawings; supervision and technical approval of works	Design & construction
Ministry of Urban and Rural Development (MURD)	Statutory Authority	Township establishment approval and registration	Statutory approval phase
Ministry of Environment, Forestry and Tourism (MEFT)	Environmental Authority	Review and approval of Environmental Clearance Certificate; environmental compliance oversight	Pre-construction & monitoring
NORED	Electricity Service Provider	Integration of electrical infrastructure into regional network	Design & construction

STAKEHOLDER	ROLE	KEY RESPONSIBILITIES	PROJECT PHASE
Land Surveyor	Cadastral Surveyor	Surveying and pegging of layout; confirmation of boundaries	Planning & pre-construction
Conveyancer (To be appointed)	Legal Registration	Registration of township and individual erven at Deeds Office	Post-approval
Contractor (To be appointed)	Construction Entity	Execution of infrastructure works; implementation of ESMP; health and safety compliance	Construction phase
Local Communities & Residents	Affected and Beneficiary Stakeholders	Participation in consultation; use of grievance mechanism	Throughout project

3 ROLES AND RESPONSIBILITIES

This section defines the roles and responsibilities of key stakeholders responsible for implementing and monitoring this ESMP during the construction phase of the Oshinyadhila Proper Infrastructure Project.

Effective ESMP implementation requires clear allocation of responsibilities between the Proponent, Consulting Engineer, Contractor and Local Authority.

3.1 DEVELOPMENT WORKSHOP NAMIBIA (DWN) – PROJECT PROPONENT

DWN is the Project Proponent and holds overall responsibility for ensuring compliance with the Environmental Clearance Certificate and this ESMP.

DWN's responsibilities include:

- Ensuring that the ESMP forms part of the construction contract documentation;
- Ensuring that the appointed Contractor implements all ESMP requirements;
- Reviewing environmental monitoring reports;
- Coordinating communication with MEFT where required;
- Ensuring that environmental and social commitments are met.

The Programme Manager holds overall accountability for ESMP compliance. The Environmental / E&S Manager provides oversight and support to the Contractor.

3.2 CONSULTING ENGINEER – KNIGHT PIÉSOLD (KP)

The Consulting Engineer is responsible for technical oversight and ensuring that construction works comply with approved engineering designs and flood mitigation parameters.

Responsibilities include:

- Review and approval of construction method statements;
- Periodic site inspections;
- Verification that works align with approved design drawings;
- Sign-off on key construction milestones;
- Advising DWN on technical compliance matters.

3.3 CONTRACTOR (TO BE APPOINTED)

The Contractor is responsible for day-to-day implementation of this ESMP on site.

The Contractor shall:

- Implement all mitigation measures contained in this ESMP;
- Appoint a Site Environmental Officer (or designate a responsible person);
- Conduct regular site inspections and internal compliance checks;
- Maintain environmental records and monitoring logs;
- Report environmental incidents immediately to DWN and the Engineer;
- Implement corrective actions where non-compliance is identified;
- Ensure all subcontractors comply with ESMP requirements.

The Contractor remains fully responsible for compliance by all subcontractors.

3.4 ONGWEDIVA TOWN COUNCIL

As landowner and Local Authority partner, the Ongwediva Town Council will:

- Be kept informed of construction progress;
- Coordinate integration with municipal service networks;
- Participate in inspections where necessary;
- Accept infrastructure upon completion.

3.5 MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM (MEFT)

MEFT is the environmental regulatory authority responsible for:

- Issuing the Environmental Clearance Certificate;
- Conducting compliance monitoring inspections where required;
- Enforcing compliance with environmental legislation.

3.6 TRAINING AND AWARENESS

Environmental induction training shall be provided to all site personnel prior to commencement of works and to new personnel joining the project.

Training shall include:

- ESMP requirements and mitigation measures;
- Site environmental sensitivities;
- Occupational health and safety requirements;
- Grievance mechanism procedures;
- Code of conduct;
- Emergency response procedures.

The Contractor shall maintain training attendance records. Refresher training shall be provided where necessary.

4 PROJECT STANDARDS AND LEGAL FRAMEWORK

The project has undergone a Scoping Assessment to identify environmental and social risks associated with the construction of council infrastructure.

This development will comply with applicable Namibian legislation and regulatory requirements governing environmental protection, infrastructure development, occupational health and safety, land use planning, labour conditions and heritage conservation.

Compliance with this framework ensures that construction activities are undertaken in accordance with national legal requirements and recognised good practice.

4.1 NATIONAL AND LOCAL LEGISLATION

The project will comply with relevant Namibian legislation and the Ongwediva Town Planning Scheme. The Project has been designed to avoid physical displacement and land acquisition. The C1 Site Assessment confirmed that no resettlement is required. Key legislative instruments applicable to the construction phase are summarised below.

Table 4: Environmental and Planning Legislation

THEME	LEGISLATION	KEY PROVISION	PROJECT IMPLICATION
CONSTITUTIONAL	Constitution of the Republic of Namibia	Article 95(l): Sustainable use of natural resources	Project must promote environmental sustainability
ENVIRONMENTAL	Environmental Management Act, 7 of 2007	Requires environmental clearance for listed activities	Environmental Clearance Certificate (ECC) required prior to construction
ENVIRONMENTAL	EIA Regulations GN 57 of 2007	Lists activities such as road construction and pipelines	Infrastructure installation requires ECC compliance
WATER	Water Resources Management Act, No. 11 of 2013 and Water Resources Management Regulations, 2023	Regulates protection, use, pollution control and sustainable management of surface and groundwater resources. Prohibits discharge of untreated effluent into water resources without authorisation	Construction activities must prevent pollution of groundwater and surface drainage (oshana). No untreated effluent or contaminated runoff may be discharged. Spill prevention and wastewater containment measures required
PLANNING	Township and Division of Land Ordinance, 11 of 1963	Regulates township establishment	Layout subject to statutory approval

Table 5: Infrastructure and Hazardous Materials

THEME	LEGISLATION	KEY PROVISION	PROJECT IMPLICATION
INFRASTRUCTURE	EIA Regulations GN 57/2007	Road and pipeline construction listed activities	Environmental compliance required
HAZARDOUS SUBSTANCES	Hazardous Substances Ordinance 14 of 1974	Regulates storage and handling of hazardous materials	Safe storage of fuel and chemicals
WASTE	Waste Management and Pollution Control Act, 2007	Regulates solid and hazardous waste disposal	Approved waste disposal required

Table 6: Health, Safety and Labour

THEME	LEGISLATION	KEY PROVISION	PROJECT IMPLICATION
LABOUR	Labour Act, 11 of 2007	Regulates employment conditions and prohibits child labour	Contractor must comply with labour standards
HEALTH & SAFETY	Regulations Relating to the Health and Safety of Employees at Work (2011)	Workplace safety requirements	PPE, safe working conditions, incident reporting
PUBLIC HEALTH	Public and Environmental Health Act, 2015	Sanitation and health standards	Proper waste handling and site hygiene

Table 7: Natural and Cultural Resources

THEME	LEGISLATION	KEY PROVISION	PROJECT IMPLICATION
FORESTRY	Forestry Act, 12 of 2001	Protection of certain tree species	Permit required for removal of protected trees
SOIL CONSERVATION	Soil Conservation Act, 76 of 1969	Prevents erosion and land degradation	Implement erosion control measures
HERITAGE	National Heritage Act, 27 of 2004	Protection of heritage resources and graves	Chance-find procedure must be followed

4.2 INTERNATIONAL STANDARDS AND GOOD PRACTICE

In addition to national legislation, the project aligns with recognised international environmental and social standards applicable to infrastructure development projects.

The following World Bank Environmental and Social Standards (ESS) are considered relevant to the construction phase:

- **ESS1 – Assessment and Management of Environmental and Social Risks and Impacts**
Risk identification and implementation of mitigation measures through this ESMP.
- **ESS2 – Labour and Working Conditions**
Fair labour practices, worker health and safety, prohibition of child and forced labour.
- **ESS3 – Resource Efficiency and Pollution Prevention and Management**
Waste management, dust suppression, fuel handling and pollution control.
- **ESS4 – Community Health and Safety**
Traffic management, public safety, emergency response planning.
- **ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources**
Protection of vegetation and drainage features.
- **ESS8 – Cultural Heritage**
Chance-find procedures in the event of archaeological discoveries.
- **ESS10 – Stakeholder Engagement and Information Disclosure**
Ongoing engagement and grievance management during construction.

Where applicable, the project will also adhere to International Labour Organization (ILO) conventions relating to:

- Forced labour (Convention 29)
- Freedom of association (Convention 87)
- Collective bargaining (Convention 98)
- Equal remuneration (Convention 100)
- Non-discrimination (Convention 111)

5 STAKEHOLDER ENGAGEMENT AND GRIEVANCE MECHANISM

Stakeholder engagement is an integral component of the Oshinyadhila Proper Infrastructure Project and supports transparent communication, responsible implementation and effective management of environmental and social risks.

Engagement activities were undertaken during the Scoping Assessment phase in accordance with statutory requirements. Engagement will continue throughout the construction phase to ensure that affected parties are informed and that concerns are addressed in a timely manner.

5.1 STAKEHOLDER ENGAGEMENT STRUCTURE

DWN, in partnership with the Ongwediva Town Council, is responsible for stakeholder engagement for the project.

DWN maintains a stakeholder register which includes:

- Adjacent landowners;
- Interested and affected parties;
- Intended beneficiaries registered for erven allocation;
- Relevant authorities and service providers.

A Community Liaison Representative is designated to:

- Maintain communication with local residents and stakeholders;
- Receive and record feedback and concerns;
- Facilitate coordination between the Contractor, DWN and the Town Council;
- Support resolution of community-related issues during construction.

Stakeholder communication will include advance notice of major construction activities, traffic disruptions and service interruptions where applicable.

5.2 CONSTRUCTION-PHASE ENGAGEMENT

During construction, the Contractor shall support stakeholder engagement by:

- Providing advance notice of works that may affect surrounding residents;
- Displaying site contact details at the site entrance;
- Coordinating with the Community Liaison Representative regarding public enquiries;
- Ensuring respectful conduct of workers in line with the Code of Conduct.

Regular updates may be provided through the Town Council or DWN communication channels where required.

5.3 GRIEVANCE MECHANISM

A formal grievance mechanism shall operate for the duration of the construction phase.

Grievances may be submitted through:

- The DWN Community Liaison Representative;
- The Ongwediva Town Council office;
- The Contractor's site office.

All grievances shall:

- Be recorded in a grievance register;
- Be acknowledged within 48 hours;
- Receive a response within 7 working days;
- Be escalated to DWN and the Consulting Engineer if unresolved.

Serious environmental, safety or social incidents shall be reported immediately to DWN and the Consulting Engineer.

A grievance register template is provided in **Annexure E**.

A summary of grievances and corrective actions shall be included in monthly environmental monitoring reports.

6 REGISTER OF ENVIRONMENTAL AND SOCIAL ASPECTS (E&S ASPECTS)

This section summarises the key environmental and social aspects identified for the Oshinyadhila Proper Infrastructure Project and outlines the management approach adopted to minimise potential impacts during implementation.

The aspects identified are informed by the Environmental Scoping Assessment and further refined through engineering design and flood risk assessment findings.

This register provides the basis for the mitigation and monitoring measures detailed in Section 9 (ESMP Action Tables).

6.1 PLANNING AND DESIGN PHASE CONSIDERATIONS

During the planning and design phase, environmental and social risks were identified and addressed through the following measures:

- Flood risk and stormwater management, informed by hydrological assessment to ensure infrastructure resilience and appropriate drainage integration;

- Cadastral and aerial surveys to optimise the township layout and avoid sensitive natural and community areas;
- Compliance with applicable national legislation and relevant international standards;
- Integration of stakeholder feedback into infrastructure planning and service alignment;
- Provision of public open space and defined service corridors to support long-term accessibility and community use.

These measures were incorporated into the proposed layout and detailed engineering design to reduce construction and long-term risks.

6.2 CONSTRUCTION PHASE ENVIRONMENTAL AND SOCIAL ASPECTS

The primary environmental and social risks during construction include:

- Dust emissions from earthworks and vehicle movement;
- Noise and vibration from construction equipment;
- Solid and hazardous waste generation;
- Risk of fuel and oil spills;
- Vegetation disturbance within the approved development footprint;
- Occupational health and safety risks;
- Community health and safety risks;
- Traffic-related impacts.

Mitigation and management measures for these aspects are detailed in Section 9.

Supporting implementation tools, including the Code of Conduct, Grievance Register Template, Incident Reporting Form and Health and Safety requirements, are provided in the Annexures.

7 ESMP MONITORING

Monitoring is essential to ensure compliance with mitigation measures and continuous improvement. Contractors and DWN will conduct ongoing monitoring and report to the Ongwediva Town Council and funding partners

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.1 A. GENERAL REQUIREMENTS FOR ESHS MANAGEMENT				
<u>A1. Responsibilities and Liabilities</u>	Ensure that all workers, suppliers and possible subcontractors are familiar and comply with the ESHS requirements and specifications of this EMP.	Induction training performed and recorded. Contracts with subcontractors and suppliers	Contractor (implementation) DWN (oversight)	Review of induction training records – Prior to mobilization and Monthly. Review of contracts for ESHS clauses – Prior to contract finalization,
	Adjust this ESMP template to be project specific, define the frequency of the monitoring procedure and share it with DWN and KfW. Identify if further Management Plans are required and prepare these.	Final Project-specific ESMP Requisite Management Plans	Contractor (preparation); DWN (review and approval)	Review and approval of final ESMP and Management Plans – Prior to commencement of works
<u>A2. Resources allocated to ESHS Management</u>	Assign ESHS responsible staff ¹ and define the requirements and responsibilities. Define person(s) responsible for contact with stakeholders (Relations officer or Community Liaison officer)	Document assigned responsibilities. Inform the relevant authorities/stakeholders about the ESHS responsible staff.	Contractor (appointment); DWN (verification)	Verification of appointments – Prior to mobilization. Review of ESHS staffing and contact records – Monthly

¹ Note: in many legislations an ESHS manager is required on sites employing 50 workers or more

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.1 A. GENERAL REQUIREMENTS FOR ESHS MANAGEMENT				
A3. Reporting	Reporting of progress and incidents, accidents, observations, near misses.	Final Project-specific ESMP (note monitoring and reporting requirements) Records of ESHS and incident reporting	Contractor (preparation); DWN (review)	Review of incident register – Monthly Review of ESHS monitoring reports – Monthly Immediate review of serious incidents – As they occur ESHS audits – Quarterly or as required
A4. Code of Conduct	Establish a Code of Conduct taking into consideration legislation, safety rules, substance abuse, environmental sensitivity, communicable diseases, gender issues (sexual harassment), respect for local beliefs and customs, community interactions etc.	Code of Conduct in place and rules shared with personnel (see Annex A)	Contractor (implementation) DWN (oversight)	Review of incident register – Monthly Review of ESHS monitoring reports – Monthly Immediate review of serious incidents – As they occur ESHS audits – Quarterly or as required
A5. ESHS Training	Provide induction, training, and awareness to the workforce regarding ESHS risks and mitigation measures (including indirect workers) tailored to Project scope.	Training performed and recorded	Contractor (implementation) DWN (verification)	Verification of induction training prior to site access – Once per employee Review of training records – Monthly Toolbox talks – Weekly

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.2 B. PROTECTION OF THE ENVIRONMENT:				
B1. Protection of adjacent areas	Ensure to keep the buffer distances from sensitive urban services and buildings (school, water supply for populations (borehole)); any housing.	Marking the borders of works site boundaries in line with given limits and usage of warning signs	Contractor (implementation) DWN (oversight)	Site inspection prior to commencement of activities.
	Ensure that work site boundaries and limits are in accordance with plans agreed upon in advance. All construction activities should be carried out within boundaries.	Marking the borders of works site boundaries and usage of warning signs	Contractor (implementation) DWN (oversight)	Site inspection prior to commencement of activities.
	Ensure that means of protection are in place to avoid or minimise adverse effects on vegetation, soils, groundwater and surface water, biodiversity, natural drainage and the water quality in areas within the works area. Construction methods to minimise impacts to the extent possible.	No impacts identified in the adjacent environment	Contractor (implementation) DWN (oversight)	Site assessment prior to site selection. Site inspection prior to commencement of activities. Regular monitoring of adjacent natural resources.
	Protect excavation works with cut off ditches to prevent water from entering excavations.	No water entering excavations	Contractor (implementation) DWN (oversight)	Site inspection
	Minimise visual impacts by good house-keeping and erecting screens if required.	Visual inspection and comparison with adjacent undisturbed areas.	Contractor (implementation) DWN (oversight)	Site inspection Review of grievance records
	After construction, form reshaped land so that it is inherently stable, adequately drained and suitable for the desired long-term land use and allows natural regeneration of vegetation.	Visual inspection and comparison with adjacent undisturbed areas.	Contractor /DWN	Site inspection at completion

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.2 B. PROTECTION OF THE ENVIRONMENT:				
B2. Selection of borrow areas, backfill material stockpile sites and access road	All sand, gravel and fill material must be sourced from council-approved or licensed borrow pits/quarries. No new borrow pits may be opened without prior approval and environmental authorization.	Delivery notes; Proof of licensed source	Contractor (implementation); DWN (verification)	Verification prior to first delivery; Review of delivery documentation – Monthly
	Locate stockpiles within the approved site footprint and away from drainage paths (oshana). Ensure stockpiles do not obstruct access roads or stormwater flow.	Approved stockpile area; No blocked drainage	Contractor	Inspection during site establishment; Monthly site inspection
	Use existing access roads where possible. Temporary access routes must be clearly defined and rehabilitated after construction.	Defined access routes; No unnecessary disturbance outside footprint	Contractor	Inspection during site establishment; Inspection at completion
B3. Pollution prevention	Store fuels, oils and chemicals in bunded areas. Refueling must take place in designated areas using drip trays. Spill kits must be available on site	Bunded storage area; Spill kits available; No visible contamination	Contractor (implementation); DWN (oversight)	Monthly site inspection; Review of incident register – Monthly
B4. Effluents	Ensure appropriate containment and storage of construction wastewater, including sanitary water. No untreated effluent is discharged.	No untreated wastewater discharge	Contractor/DWN	Regular site inspection Review of grievance records
B5. Emissions and dust	Best practice to ensure minimisation of dust emissions (e.g. proper stockpiling, watering etc.) during dry and windy conditions and transportation.	Watering conducted, no dust emissions are observed, no workers' grievances	Contractor /DWN	Regular site inspection Review of grievance records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.2 B. PROTECTION OF THE ENVIRONMENT:				
	Ensure speed limits on site and when passing local receptor areas. Sensitise drivers.	Speed signs installed Training performed and recorded Accident/incident reports	Contractor/DWN	Random site inspection Review of grievance records Review of accident/incident records Review of training records
B6. Noise	Construction activities shall take place between 08:00–17:00 (Monday–Friday) and 08:00–13:00 (Saturday). No work on Sundays or public holidays unless approved. Nearby residents must be informed in advance of any exceptional activities. Maintain equipment in good working condition.	Work schedule; Community notification records; No substantiated complaints	Contractor (implementation); DWN (oversight)	Random site inspection Review of grievance records Review of accident/incident records Review of training records
	Locate stationary equipment (such as power generators) as far as possible from nearby receptors (e.g. worker resting areas, populated areas and environmentally sensitive areas).	Distances between equipment and receptors are kept	Contractor/ DWN	Review of grievance records Monitor noise levels in case of complaints
B7. Waste Management	Identify waste management facilities and waste management contractors. Ensure disposal through waste contractors licensed for treatment/removal/recycling of each of the waste types.	Waste management through licensed contractors, if feasible Waste management contracts Waste transfer notes	Contractor/ DWN	Inspect waste management facilities Proof of contractors' certifications Review of waste transfer records
	Ensure that all wastes produced are properly collected, segregated, stored, transported and treated	Waste collection areas existent, waste inventories Waste transfer notes	Contractor/ DWN	Regular site inspection Review of waste inventories Review of waste transfer records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.2 B. PROTECTION OF THE ENVIRONMENT:				
	Minimise the waste production to the extent possible.	Records of waste production are kept Waste Management Plan Training performed and recorded	Contractor/ DWN	Monitor (e.g. monthly) the amount of waste produced Review of training records
	Document all waste related operations (type of wastes, quantities produced etc.).	Storage, transport and treatment of waste is documented Waste transfer notes Waste inventories	Contractor/ DWN	Review of waste transfer records Review of waste inventories
	Appropriate and safe storage of fuels, construction materials, wastes and any materials that can cause spills (e.g. batteries from energy generators).	Safe storage of materials Spill response procedure Spill response and remediation equipment in place.	Contractor/ DWN	Regular site inspection
B8. Vegetation clearing	Limit vegetation clearing to areas within the site boundary where it is strictly necessary.	Vegetation clearing minimal Marking the borders of works site boundaries	Contractor/ DWN	Site inspection prior to commencement of activities.

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.2 B. PROTECTION OF THE ENVIRONMENT:				
B9. Flood mitigation compliance (Engineering Design)	Construction must comply with approved flood mitigation measures and platform levels as per Knight Piésold engineering drawings, based on the 1:100-year flood modelling assessment. No deviation from approved drainage design without formal approval.	Approved engineering drawings; Site progress reports; Engineering sign-off	Contractor (implementation); Knight Piésold (design verification); DWN (oversight)	Engineering inspection at foundation and platform stage; Verification prior to road layer construction; Final sign-off at completion.

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.3 C. HEALTH AND SAFETY				
C1. Health and Safety Plan	Develop a Health and Safety Plan to provide for a safe and healthy work environment, taking into account the ESHS impacts and risks level of the works.	H&S Plan in place	Contractor/ DWN	Review of H&S Plan
C2. Accident reporting	Ensure all H&S related incidents (e.g. observations, accidents) on site are recorded and followed up properly. (See Annex 4 – Incident Reporting)	Incident recording process in place	Contractor/ DWN	Check incident/accident records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.3 C. HEALTH AND SAFETY				
C3. Personal protective equipment	Ensure the provision of Personal Protective Equipment (PPE) for workers (hardhats, masks, safety glasses, safety boots etc).	PPE used by everyone on-site Training performed and recorded	Contractor/Site Manager	Random site inspection Review training records
C4. Emergency scenarios prevention	Ensure immediate cleaning of any spills and remediation of contaminated areas after construction.	Workers trained Emergency Response Team (ERT) is in place	Contractor/ DWN	Random site inspection after spill events One-time inspection after construction Review of training records Review of ERT
	Provide necessary prevention equipment and teams on site in line with applicable regulations to respond to emergency scenarios e.g. fire, explosion, floods, natural hazards etc.	Prevention equipment and team is in place Training performed and recorded	Contractor/ DWN	Regular site inspection Review list of equipment Review of ERT Review of training records
	Maintain high standard in housekeeping on site. Construction materials and equipment should be stored properly.	Visual verification of good housekeeping on-site	Contractor/ DWN	Random site inspection
C5. First-aid	Ensure minimum first aid provisions on site (suitably stocked first-aid kits; a person, respectively an adequate number of first-aid helpers and ensure that staff and workers are informed about first-aid arrangements)	Suitable first aid kits on site Ensure the presence of first aid helpers in all shifts First aid certificates	Contractor/ DWN	Regular monitoring of first aid kits Review of first aider certificates Review of number of first aiders required by local legislation

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.3 C. HEALTH AND SAFETY				
C6. Access to health care	Ensure the workforce has access to primary healthcare services and emergency medical support.	Healthcare available on site Medical surveillance records	Contractor/ DWN	Random site inspection Review of grievance records Review of medical records (in case not confidential)
	In case more than 35 workers are present on site, ensure that a hospital, medical clinic or a health centre can be reached within a period of 45 minutes.	Medical centres in the proximity of the site.	Contractor/ DWN	Medical centres in the proximity of the site identified once prior the commencement of works
C7. Hygiene, accommodation and food	Ensure provision of Health and Safety (H&S) and hygienic and sanitary facilities at the site, including shaded welfare areas, bathrooms, changing rooms and potable water. Ensure toilets and changing rooms are separated between male and female employees.	Appropriate H&S and sanitary facilities provided at site	Contractor/ DWN	Campsite inspection prior to accommodation of the workers. Regular inspection Review of grievance records
	Ensure the provision of adequate space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, fire and disease-carrying animals, adequate sanitary and washing facilities, adequate lighting, and basic medical services, in accordance with all applicable health and safety regulations and norms.	Appropriate conditions for workers on site	Contractor/ DWN	Campsite inspection prior to accommodation of the workers. Regular inspection Review of grievance records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.3 C. HEALTH AND SAFETY				
	Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C). Sensitise workers.	Communicable Diseases Register Training performed and recorded	Contractor/ DWN	Review of diseases register and disease prevention programme if available. Review of training records

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.4 D. LABOUR AND RELATIONS WITH LOCAL COMMUNITIES				
D1. Labour conditions	Ensure minimum legal labour standards are met in accordance with Namibian labour legislation and ILO conventions. No child labour or forced labour permitted. Equal employment opportunities must be provided regardless of gender, disability, ethnicity, religion or background. Women and persons with disabilities shall not be discriminated against in recruitment, wages or working conditions.	Employment records; Non-discrimination policy; Grievance Mechanism records	Contractor (implementation); DWN (oversight)	Review of employment records – Quarterly; Review of grievance register – Monthly

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.4 D. LABOUR AND RELATIONS WITH LOCAL COMMUNITIES				
	<p>Ensure that all direct and indirect workers have access to and are aware about the Grievance Mechanism were they can raise workplace relevant complaints anonymously. (See Annex 2 – Grievance Mechanism)</p>	<p>Grievance Mechanism in place and grievances recorded Training performed and recorded</p>	<p>Contractor (implementation); DWN (oversight)</p>	<p>Review of grievance register Review of training records</p>
	<p>Ensure all workers have the same rights and are treated equally.</p>	<p>Non-discrimination policy in place</p>	<p>Contractor (implementation); DWN (oversight)</p>	<p>Random site inspection Review of grievance register</p>
D2. Local recruitment	<p>Local communities should be given preference for unskilled and semi-skilled labour where possible.</p>	<p>Local Procurement and Employment Records</p>	<p>Contractor/ DWN</p>	<p>Review procurement and employment rules and records Review of grievance register</p>
D3. Community interaction	<p>Engage/ communicate/inform communities. Obtain local knowledge regarding chance finds and land acquisition matters.</p>	<p>Minutes of Meetings Grievance Mechanism</p>	<p>Contractor/ DWN</p>	<p>Review of grievance register Minutes of consultation meetings</p>
	<p>Initiate an efficient Grievance Mechanism to allow potentially affected individuals to raise their concerns</p>	<p>Grievance Mechanism in place (See Annexe 2). Grievances recorded</p>	<p>Contractor/ DWN</p>	<p>Review of grievance register</p>

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.4 D. LABOUR AND RELATIONS WITH LOCAL COMMUNITIES				
D4. Damage to people and property	Ensure all contractors implement Codes of Conduct concerning employment and workforce behaviour (including but not limited to safety rules, zero tolerance for substance abuse, environmental sensitivity of the area, dangers of sexually transmissible diseases and HIV/AIDS, gender equality and sexual harassment, respect for the beliefs and customs of the populations and community relations in general).	Code of Conduct (See Annexe 1). Grievance Mechanism records	Contractor/ DWN	Worker interviews, Review of grievance register
	Ensure that site areas are provided with appropriate security, fencing, signage and lighting. Use hazard notices/signs/barriers to protect children and other vulnerable people from harm and prevent access to non-workers.	H&S planning of construction site done, items installed	Contractor/ DWN	Inspection prior to the activities. Regular site inspection Review of grievance register
D5. Traffic management	Ensure safe driving by Project personnel (e.g. through training or induction).	Driver Training Records as part of Induction training	Contractor/ DWN	Review of training records Review of grievance register

Item	Mitigation, Management and Enhancement Measures	Means of Verification	Responsibility	Monitoring Procedure
7.4 D. LABOUR AND RELATIONS WITH LOCAL COMMUNITIES				
	Target signage and outreach activities to improve public awareness of traffic changes and potential hazards for high-risk sections of public roads, including near the site and lay down areas.	Warning signs Minutes of Meetings	Contractor/ DWN	Inspection if traffic routes, Review of grievance register
D6 Fossils/ Archaeological Chance Finds	<p>Establish and implement a Chance Finds Procedure for the protection of archaeological, historical and cultural heritage resources.</p> <p>In the event that any cultural heritage material is discovered (including graves, human remains, pottery, artefacts, fossils, or structural remains), works in the immediate vicinity shall cease immediately. The area shall be secured and fenced off, and the find shall be reported without delay to the relevant authority. No further excavation or disturbance may occur until written clearance is provided by the competent authority.</p>	<p>Chance Finds Procedure</p> <p>Notification records to relevant authority</p> <p>Training records,</p> <p>Records about chance finds</p>	Contractor/ DWN	<p>Site inspection</p> <p>Review records of chance finds</p>

8 CONCLUSION:

This Environmental and Social Management Plan provides the framework for managing environmental and social risks associated with the Oshinyadhila Proper Infrastructure Project.

The ESMP integrates findings from the Environmental Scoping Assessment, flood risk analysis and stakeholder engagement processes into practical mitigation and monitoring measures.

The plan assigns clear responsibilities to the Contractor, DWN, the Consulting Engineer and the Ongwediva Town Council to ensure compliance with national legislation and applicable international standards.

Through structured monitoring, reporting and stakeholder engagement, the ESMP supports responsible infrastructure development while safeguarding environmental resources and promoting community wellbeing.