



# **FINALISATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)**

**PROPOSED UMSOBOMVU INFRASTRUCTURE PROJECT,  
EASTERN CAPE AND NORTHERN CAPE PROVINCES.**

**DFFE REFERENCE NUMBER: 14/12/16/3/3/1/2040**

**MAY 2023**

<b>UMSOBOMVU INFRASTRUCTURE PROJECT, EASTERN CAPE AND NORTHERN CAPE PROVINCES.</b>	
<b><i>DFFE Reference Number: 14/12/16/3/3/1/2040</i></b>	
<b>PROPOSED FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)</b>	
<b>PREPARED FOR:</b>	
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<b>MAY 2023</b>	
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## DEFINITIONS

For the purposes of this Environmental Management Programme report (EMPr), the following terms, abbreviations and descriptions apply:

TERMS	DESCRIPTION
<b>Alien Vegetation</b>	Alien vegetation is defined as undesirable plant growth which shall include, but not be limited to all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable. This includes plant species identified as Alien and invasive species in the National Environmental Management Biodiversity Act of 2004, Alien and Invasive Species Regulations, 2014.
<b>Cement-laden water</b>	Cement laden water refers to water containing cement or concrete arising from the Contractor's activities.
<b>Contaminated water</b>	Contaminate water refers to water that has been contaminated by the Contractor's activities such as with hazardous substances, hydrocarbons, paints, solvents and runoff from plant, workshop or personnel wash areas but excludes water containing cement/ concrete or silt.
<b>Construction Camp</b>	Construction camp (site camps) refers to all storage and stockpile sites, site offices, container sites, workshops and testing facilities and other areas required to undertake construction activities.
<b>Environment</b>	Environment refers to the surroundings within which humans exist and that could be made up of:- <ul style="list-style-type: none"> <li>(i) The land, water and atmosphere of the earth;</li> <li>(ii) Micro-organisms, plant and animal life;</li> <li>(iii) Any part or combination of (i) and (ii) and the interrelationships among and between them; and</li> <li>(iv) The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.</li> </ul>
<b>Environmental Aspect</b>	An environmental aspect is any component of a Contractor's construction activity that is likely to interact with the environment.
<b>Environmental Authorisation (EA)</b>	An Environmental Authorisation (EA) refers to a written statement from the relevant environmental authority, with or without conditions, that records the approval (partial approval or refusal) of a proposed project and the mitigating measures required to prevent or reduce the effects of environmental impacts during the lifespan of a contract.
<b>Environmental Control Officer (ECO)</b>	An Environmental Control Officer (ECO) refers to a suitably qualified and experienced person or entity appointed for the construction and/or operation of works, to perform the obligations specified in the EA.
<b>Environmental Impact</b>	An impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.
<b>Environmental Management Plan/Programme (EMP/EMPr)</b>	An Environmental Management Plan (EMP) or Programme (EMPr) is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning specific to a project are prevented; and that the positive benefits of the project are enhanced.

TERMS	DESCRIPTION
<b>Environmental Management System (EMS)</b>	The internationally accepted and recognized environmental management system (EMS) which enables companies, organizations and operations to systematically manage, prevent and reduce environmental problems and associated costs. In terms of ISO 14001 an EMS is defined as, <i>“that part of the overall management system that includes organizational structure, planning activities, responsibilities, procedures, processes and resources for developing, implementing, reviewing and maintaining the environmental policy.”</i>
<b>Environmental Policy</b>	Environmental Policy is a statement (or statements) by the organisation of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets.
<b>Environmental Site Officer (ESO)</b>	An Environmental Site Officer (ESO) refers to the site-based designated person responsible for implementing the environmental provisions of the construction contract and is appointed by the service provider that carries out construction activities.
<b>External Auditor</b>	An External Auditor is a suitably qualified and experienced independent expert as per the required auditor qualifications (ISO 14012).
<b>Independent Environmental Consultant (IEC)</b>	An Independent Environmental Consultant (IEC) is a suitably qualified and IEC appointed by the Engineer to perform the obligations specified in the Contract. The IEC must provide reports to the regulatory authority, the Engineer and any other parties as specified by the regulatory authority.
<b>Interested and/or Affected Party (I&amp;AP)</b>	An Interested and/or Affected Party (I&AP) is contemplated in Section 24(4)(d) of the NEMA (1998, Act No. 107) and which, in terms of that section, includes – <i>(i) Any person, groups of persons, organisation interested in or affected by an activity, and;</i> <i>(ii) Any organ of state that may have jurisdiction over any aspect of the activity.</i>
<b>ISO 14001 Environmental Management System (ISO 14001)</b>	The internationally accepted and recognised Environmental Management System as reflected in the document SABS ISO 14001: 1996; the most recent being the ISO 14001:2015.
<b>Method Statement (MS)</b>	A Method Statement (MS) is a written submission by the Contractor to the ECO in response to the EMPr or to a request by the ECO, setting out the plant (construction equipment), materials, labour and method the Contractor proposes to carry out an activity, identified by the relevant specification or the ECO when requesting the Method Statement. The MS must be in such detail that the ECO is able to assess whether the Contractor's proposal is in accordance with the EMPr and/or will produce results in accordance with the EMPr.
<b>Mitigate/Mitigation</b>	Mitigate (or mitigation) refers to the implementation of practical measures to reduce the adverse impacts, or to enhance beneficial impacts of a particular action.
<b>No-Go Area</b>	A no-go area refers to an area in which construction activities are prohibited.
<b>Pollution</b>	According to the NEMA (Act No. 107 of 1998), pollution can be defined as, <i>“Any change in the environment caused by (i) substances; (ii) radioactive or other waves; or (iii) noise, odours, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future”.</i>
<b>Potentially hazardous substance</b>	A potentially hazardous substance refers to a substance, which, in the reasonable opinion of the ECO, can have a harmful effect on the environment. Hazardous Chemical Substances are defined in the Regulations for Hazardous Chemical Substances published in terms of the Occupational Health and Safety Act.
<b>Reasonable</b>	Reasonable means reasonable in the opinion of the ECO, after consultation with the ESO - unless the context indicates otherwise.
<b>Rehabilitation</b>	Rehabilitation refers to re-establishing or restoring something to its original state or to a healthy, sustainable capacity or state.

TERMS	DESCRIPTION
<b>Site</b>	A site, in this context, refers to the area in which construction is taking place.
<b>Solid waste</b>	Solid waste refers to all solid waste materials, including construction debris, chemical waste, excess cement/concrete, wrapping materials, timber, tins, cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).
<b>Species of Conservation Concern (SCC)</b>	Species of Conservation Concern (SCC) refers to species listed in the rare, indeterminate, or monitoring categories of the South African Red Data Books, and/or species listed in globally near-threatened, nationally threatened or nationally near threatened categories (Barnes, 1998).
<b>Threatened species</b>	Threatened species are defined as: a) species listed in the endangered or vulnerable categories in the revised South African Red Data Books or listed in the globally threatened category; b) species of special conservation concern (i.e. taxa described since the relevant South African Red Data Books, or whose conservation status has been highlighted subsequent to 1984); c) species which are included in other international lists; or d) species included in Appendix 1 or 2 of the Convention of International Trade in Endangered Species (CITES).
<b>Topsoil</b>	Topsoil refers to the top 100 mm of soil and may include top material, e.g. vegetation and leaf litter.

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## 1 INTRODUCTION

Umsobomvu Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (Pty) Ltd (the Applicant), is proposing the construction of an Infrastructure Development project, near Noupoot and Middelburg in the Pixley Ka Seme District Municipality (Northern Cape Province) and the Chris Hani District Municipality (Eastern Cape Province). The Infrastructure Development is being proposed as ancillary infrastructure to the authorised Umsobomvu Wind Energy Facility (WEF).

Table 1-1 below lists the proposed properties which will be affected by the proposed Umsobomvu Infrastructure Development.

**Table 1-1: 21-Digit Surveyor General (SG) Codes of the affected properties.**

FARM NAME	21 DIGIT SG NUMBER	PORTION AND FARM NUMBER
<b>Uitzicht</b>	C0480000000000300008	Portion 8 of Farm 3
<b>Elands Kloof</b>	C03000000000013500000	Remaining Extent of Farm 135
<b>Winterhoek</b>	C03000000000011800000	Remaining Extent of Farm 118

### 1.1 OBJECTIVES OF THE EMPr

This Environmental Management Programme report (EMPr) has been compiled to provide mitigation, monitoring and institutional measures to be taken during the various phases of the Umsobomvu Infrastructure Development, situated within the Northern Cape and Eastern Cape Provinces. These measures aim to eliminate, offset and/or reduce adverse environmental and social impacts.

This EMPr informs all relevant parties, in this case, the Project Coordinator, the Contractor, the Environmental Control Officer (ECO) and all other staff employed by Umsobomvu Wind Power (Pty) Ltd at the site, of their duties in the fulfilment of the legal requirements for the construction and operation of the Umsobomvu Infrastructure Development, with particular reference to the prevention and mitigation of anticipated potential environmental impacts.

All parties must note that obligations imposed by the EMPr are legally binding in terms of the Environmental Authorisation (EA) granted by the relevant environmental permitting authority, the national Department of Forestry, Fisheries and the Environment (DFFE).

The general objectives of the EMPr are to:

- Ensure compliance with the regulatory authority stipulations and guidelines which could be local, provincial, national and/or international;
- Ensure that there is sufficient allocation of resources on the project budget so that the scale of EMPr-related activities is consistent with the significance of project impacts;
- Verify environmental performance through information on impacts as they occur;
- Respond to unforeseen events;
- Provide feedback for continual improvement in environmental performance;
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels;
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project;
- Identify measures which could optimize beneficial impacts;
- Create management structures which address the concerns and complaints of I&APs with regards to the development;
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity;
- Ensure that safety recommendations are complied with; and



- Specify time periods within which the measures contemplated in the final EMPr must be implemented, where appropriate.

## 1.2 STRUCTURE AND FUNCTION OF THE EMPr

An EMPr is focused on sound environmental management practices, which will be undertaken to minimise adverse impacts on the environment through the lifetime of a development. In addition, an EMPr identifies measures which must be in place or will be actioned to manage any incidents and emergencies that could occur during the operation of the project.

As such, the EMPr provides specifications which must be adhered to in order to minimise adverse environmental impacts associated with the various phases of the Umsobomvu Infrastructure Development project. The contents of the EMPr are consistent with the requirements as set out in Appendix 4 of the National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014, as amended), as stipulated below.

### REQUIREMENTS OF AN ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT IN TERMS OF GN R. 982 (AS AMENDED) APPENDIX 4

- (1) An EMPr must comply with Section 24(N) of the Act and include -
  - (a) Details of –
    - (i) The EAP who prepared the EMPr; and
    - (ii) The expertise of the EAP to prepare an EMPr, including a curriculum vitae;
  - (b) A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;
  - (c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;
  - (d) A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including –
    - (i) Planning and design;
    - (ii) Pre-construction activities;
    - (iii) Construction activities;
    - (iv) Rehabilitation of the environment after construction and where applicable post closure; and
    - (v) Where relevant, operation activities;
  - (f) A description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) will be achieved, and must, where applicable include actions to –
    - (i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
    - (ii) Comply with any prescribed environmental management standards or practices;
    - (iii) Comply with any applicable provisions of the Act regarding closure, where applicable;
    - (iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;
  - (g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
  - (h) The frequency of monitoring the implementation of the impact management actions contemplated in (f);
  - (i) An indication of the persons who will be responsible for the implementation of the impact management actions;

- (j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
  - (k) The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);
  - (l) A program for reporting on compliance, taking into account the requirement as prescribed by the regulations;
  - (m) An environmental awareness plan describing the manner in which –
    - (i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and
    - (ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment; and
  - (n) Any specific information that may be required by the competent authority.
- (2) Where a government notice *gazetted* by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply.

### 1.3 LEGISLATIVE REQUIREMENTS

Construction must be according to the best industry practices, as identified in the project documents. This EMPr, which forms an integral part of the contract documents, informs the Contractor of their duties in the fulfilment of the project objectives, with particular reference to the prevention, mitigation and management of environmental impacts caused by the activities of the various phases associated with the Umsobomvu Infrastructure Development. The Contractor must note that obligations imposed by the approved EMPr are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract which pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications, then the latter must prevail.

The Contractor must identify and comply with all South African national and provincial environmental legislation, including associated regulations and all local by-laws relevant to the project. Key legislation currently applicable to the construction and operational phases of the project must be complied with. The list of applicable legislation provided below is intended to serve as a guideline only and is not exhaustive:-

TITLE OF LEGISLATION, POLICY OR GUIDELINE:	DATE:
National Environmental Management Act (NEMA) (Act No. 107 of 1998) and its subsequent amendments	1998
NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014, as amended)	2014
The Constitution Act (Act No. 108 of 1996)	1996
National Heritage Resources Act (NHRA) (Act No. 25 of 1999)	1999
National Water Act (NWA) (Act No. 36 of 1998, as amended)	1998
National Environmental Management: Waste Act (NEMWA) (Act No. 59 of 2008, as amended)	2008
National Environmental Management: Protected Areas Act (NEMPAA) (Act No. 57 of 2003)	2003
National Environmental Management: Protected Areas Amendment Act (Act No. 31 of 2004)	2004
National Environmental Management: Air Quality Act (NEMAQA) (Act No. 39 of 2004, as amended)	2004
Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983)	1983
National Environmental Management: Biodiversity Act (NEMBA) (Act No. 10 of 2004)	2004
National Forest Act (NFA) (Act No. 84 of 1998, as amended)	1998
National Environmental Management: Biodiversity Act, Alien and Invasive Species Regulations (2014)	2014
Occupational Health and Safety Act (OHSA) (Act No. 85 of 1993, as amended)	1993
Hazardous Substances Act (HSA) (Act No. 15 of 1973)	1973
Spatial Planning and Land Use Management Act (SPLUMA) (Act No. 16 of 2013)	2013
Electricity Regulation Act (Act No. 4 of 2006, as amended)	2006

TITLE OF LEGISLATION, POLICY OR GUIDELINE:	DATE:
Aviation Act (Act No. 74 of 1962): 13 <sup>th</sup> Amendment of the Civil Aviation Regulations 1997, dated 2008	1962, 1997 and 2008
Minerals and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002, as amended)	2002
Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974)	1974
Northern Cape Nature Conservation Act (Act No. 9 of 2009)	2009
National Road Traffic Act (NRTA) (Act No. 39 of 1996)	1996
National Veld and Forest Fire Act (Act No. 101 of 1998)	1998
South African Bureau of Standards (SABS)	
National Infrastructure Plan (NIP, 2012)	2012
Local Government: Municipal Systems Act (Act No. 32 of 2000)	2000
Pixley Ka Seme District Municipality (Northern Cape) Development Plans and Frameworks	Most recent
Umsobomvu Local Municipality (Northern Cape) Development Plans and Frameworks	
Chris Hani District Municipality (Eastern Cape) Development Plans and Frameworks	
Inxuba Yethemba Local Municipality (Eastern Cape) Development Plans and Frameworks	

#### 1.4 ENVIRONMENTAL AUTHORISATION

In accordance with the requirements of the NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014, as amended), the proposed Umsobomvu Infrastructure Development was subject to a Basic Assessment Process.

The proposed Umsobomvu Infrastructure Development (DFFE Ref No.:14/12/16/3/3/1/2040) was proposed in 2021 in order to add additional infrastructure required for the successful completion of the proposed Umsobomvu WEF project. This application received Environmental Authorisation (EA) on the 10<sup>th</sup> of November 2021. The associated Umsobomvu WEF received EA on the 17<sup>th</sup> of February 2017 (DFFE Ref. No.: 14/12/16/3/3/2/790). The Umsobomvu WEF was then amended, and the facility was split into three parts, namely Umsobomvu WEF (DFFE Ref No.: 14/12/16/3/3/2/790), Coleskop WEF (DFFE Ref No.: 14/12/16/3/3/2/790/1), and Eskom Infrastructure MTS (DFFE Ref No.: 14/12/16/3/3/2/790/2) on the 18<sup>th</sup> of November 2019.

This EMPr interprets the findings of the Umsobomvu Infrastructure Development Basic Assessment Report (BAR) and prescribes project-specific specifications to be achieved. The EMPr is a progressive working document which must be updated throughout the development phases, as required.

As per the SIPs letter attached to this EMPr the Umsobomvu Wind Power Project, the primary project linked to this Umsobomvu Infrastructure Project, falls under the “STRATEGIC INTEGRATED PROJECT (SIP) 20c EMBEDDED GENERATION NATIONAL PROGRAM” for Anglo American.

## 2 DETAILS OF THE EAP & SPECIALIST TEAM

### 2.1 EXPERTISE OF THE EAP

**EAP: Dr Alan Carter**, *Pri.Sci.Nat*, Registered EAP

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Dr Alan Carter is an Executive and the East London Branch Manager at CES. He has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years. He is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and a registered EAP through the Environmental Assessment Practitioners Association of South Africa (EAPASA).

### 2.2 DETAILS OF THE SPECIALIST TEAM

In addition to Section 2.1, the following specialists formed part of the Umsobomvu Infrastructure Development (2021) and ground truthing assessment for the full Umsobomvu WEF and Infrastructure Development (2022).

**Table 2-1: Specialist Team**

SPECIALIST ASSESSMENT	SPECIALIST
<b>BASIC ASSESSMENT PROCESS (2021)</b>	
Avifaunal Impact Assessment	Jon Smallie, WildSkies Ecological Services
Ecological Impact Assessment	Greer Hawley, CES
Heritage Impact Assessment	Gavin Anderson, Umlando: Archaeological surveys & Heritage Resources Management
Paleontological Impact Assessment	John Almond, Natura Viva
<b>GROUND TRUTHING PROCESS AND OPINION LETTERS (2022)</b>	
Avifaunal Letter	Jon Smallie, WildSkies Ecological Services
Ecological Ground Truthing	Nicole Wienand, CES
Heritage Ground Truthing	Gavin Anderson, Umlando Archaeological Consultancy

### 3 PROPOSED ACTIVITY

#### 3.1 PROJECT DESCRIPTION

Umsobomvu Wind Power (Pty) Ltd is planning the development of the Umsobomvu Infrastructure, associated with the Umsobomvu WEF, near Middelburg and Noupoort in the Inxuba Yethemba Local Municipality (Eastern Cape Province) and the Umsobomvu Local Municipality (Northern Cape Province). The planned development will include:

- The construction of new roads and upgrade of existing jeep tracks and farm roads, which will have a width of 12 m during the construction phase and will be rehabilitated to 6 m during the operational phase.
- The construction of one (1) concrete batching plant, temporary laydown area and construction area. This will consist of a concrete and/or steel batching plant of approximately 11 250 m<sup>2</sup>, a temporary laydown area of approximately 22 500 m<sup>2</sup> and a construction compound area of approximately 11 250 m<sup>2</sup>. The total area to be cleared will be 45 000 m<sup>2</sup> (4.5 ha).
- The construction of internal overhead lines with a 33 kV switching station of approximately 30 m x 30 m. The total area to be cleared for the switching station is approximately 900 m<sup>2</sup> (0.09 ha).
- The construction of a collector substation of up to 100 m x 100 m (1 ha).

Figure 3-1 below contains the proposed Umsobomvu Infrastructure Development layout, and Figure 3-2 on the following page contains the proposed Umsobomvu Infrastructure Development layout in relation to the approved Umsobomvu WEF layout.

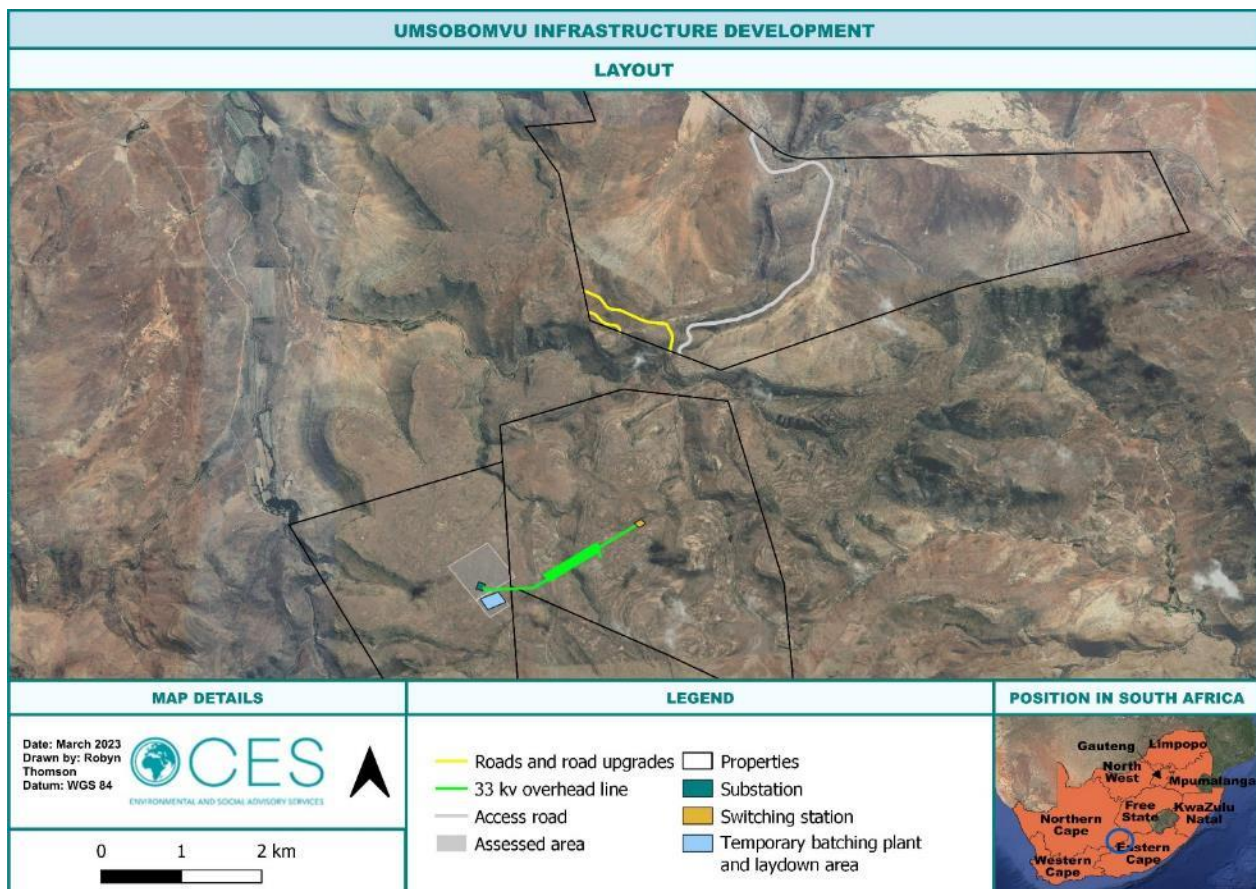


Figure 3-1: Layout Map of the Proposed Umsobomvu Infrastructure Development.



### 3.2 PROJECT LOCALITY

The proposed Umsobomvu Infrastructure Development will be situated near Middelburg and Noupoort in the Eastern Cape and Northern Cape Provinces of South Africa. The proposed Umsobomvu Infrastructure Development is located on the following farm portions:

- Farm 135 (Elands Kloof), Remaining Extent (RE);
- Farm 3 (Uitzicht), Portion 8;
- Farm 118 (Winterhoek), Remaining Extent (RE);

These properties are situated within the Inxuba Yethemba Local Municipality in the Eastern Cape Province and the Umsobomvu Local Municipality in the Northern Cape Province.

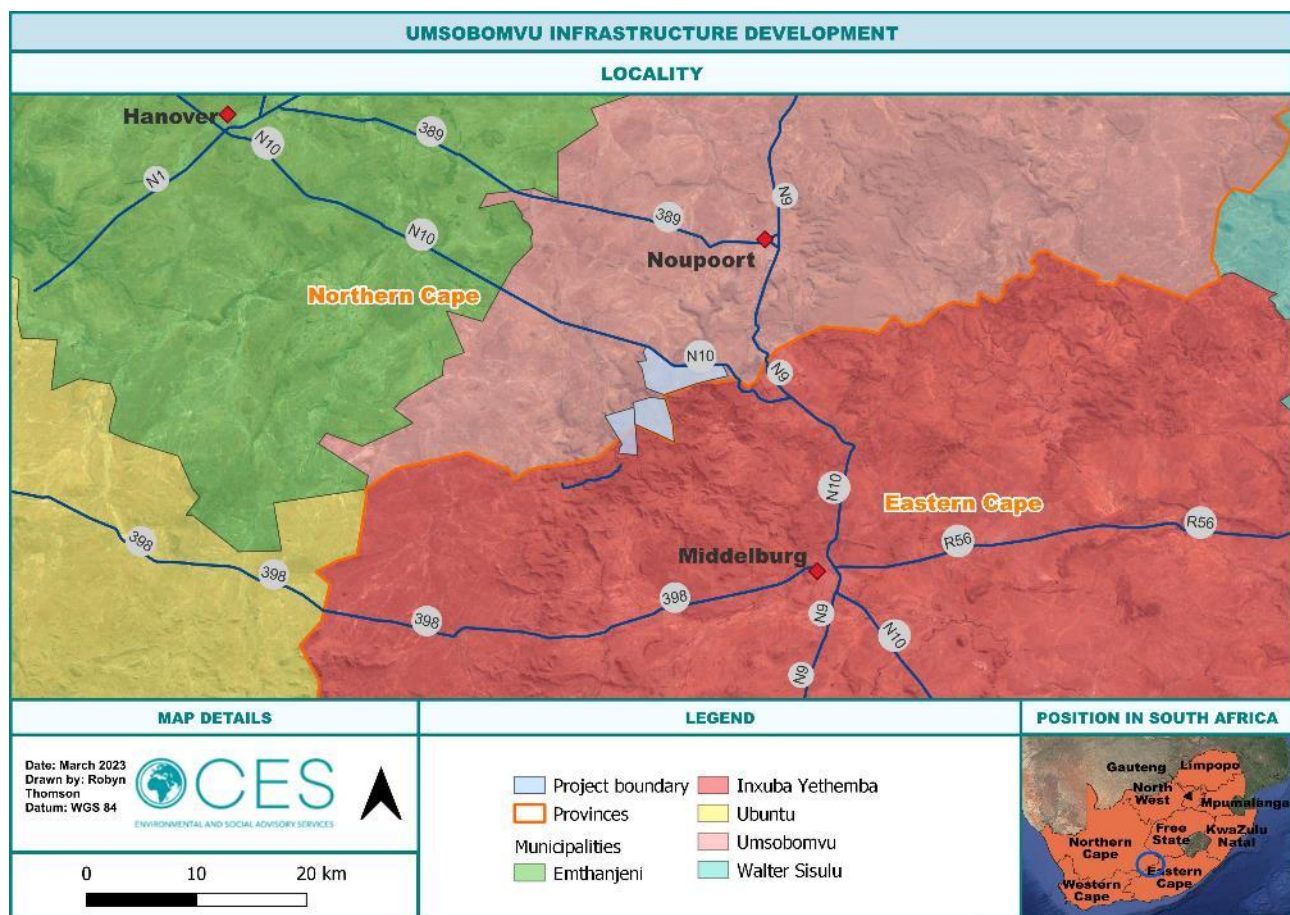


Figure 3-2: Locality Map of the Proposed Umsobomvu Infrastructure Development.

### 3.3 CONSTRUCTION SITE: HOURS OF OPERATION

Due to the rural nature and on-going agricultural activities within the area, the Ecological Specialist stipulated that no construction activities must occur between dusk and dawn. In certain cases, owing to the nature of the construction activity, it may be necessary to extend the working hours to allow for completion of tasks. Table 3-1 summarises the construction activities anticipated to take place on the site. Those activities underlined in Table 3-1 may take place during working hours AND between dusk and dawn if necessary. Kindly note that these recommended exclusions to the daytime only construction relate to both the Umsobomvu Infrastructure and Umsobomvu WEF developments which will take place concurrently.

**Table 3-1: Summary of construction activities on site. Underlined activities may take place outside of regular working hours (i.e. between dusk and dawn).**

PHASE	DURATION	ACTIVITIES	TYPICAL PLANT & CONSTRUCTION EQUIPMENT
Site Establishment (low impact)	Dependent on the number of turbines. Generally, 1 – 2 years.	<ol style="list-style-type: none"> <li>1. Setting out of construction area</li> <li>2. Site camp establishment <ul style="list-style-type: none"> <li>o Levelling of camp area</li> <li>o Import and placement of aggregates to form a free draining platform</li> <li>o Delivery of office and welfare containers</li> <li>o Electricity, sanitation, and internet connections</li> </ul> </li> <li>3. Erection of temporary stock-proof fencing across the site to separate stock from the construction area</li> </ol>	<ol style="list-style-type: none"> <li>1. LDV (i.e. bakkie)</li> <li>2. Dump trucks, TLB, roller and possibly a grader or excavator</li> <li>3. LDV</li> </ol>
Civil and Electrical Works (high impact)		<ol style="list-style-type: none"> <li>1. Topsoil stripping and bulk earthworks (excavations and backfill) for roads, hardstandings and WTG foundations.</li> <li>2. <u>Concrete works</u></li> <li>3. <u>Fixing reinforcement</u></li> <li>4. Cable ducting, trenching and laying</li> <li>5. Road and hardstanding construction (placement of aggregate layers)</li> <li>6. Blasting (if hard rock present)</li> <li>7. Pylon erection and electrical cable stringing (where there is an overhead power line)</li> <li>8. <u>Above activities but within the substation and relevant to substation construction and including building construction works e.g. bricklaying, roofing, installation and testing of electrical equipment such as transformers and switchgear</u></li> </ol>	<ol style="list-style-type: none"> <li>1. Dozer, excavator, dump trucks, water trucks, vibratory roller</li> <li>2. Concrete pump and concrete delivery trucks</li> <li>3. Flat-bed delivery trucks, telehandler/ excavator</li> <li>4. Excavator/ TLB</li> <li>5. As item 1</li> <li>6. Specialist explosives sub-contractor with appropriate drilling equipment. Excavators and dump trucks.</li> <li>7. Flat-bed delivery trucks, telehandler/ excavator, LDVs</li> <li>8. As above</li> </ol>
Wind Turbine Erection (possible low impact)		<ol style="list-style-type: none"> <li>1. <u>Delivery of WTG components</u></li> <li>2. <u>Assembly/erection of WTG</u></li> <li>3. <u>Crane and assembling tools shifting</u></li> <li>4. <u>Crane disassembling, cranes, and site DEMOB</u></li> </ol>	<ol style="list-style-type: none"> <li>1. Flat-bed or clamp style delivery trucks with components of up to 10m height and 120m length, mobile crane (250 tonne capacity), telehandler</li> <li>2. Mobile crane, flat bed delivery trucks, telehandler</li> <li>3. Main crane (750 tonne capacity), mobile crane, telehandler</li> </ol>
Wind Turbine Testing and Commissioning (low impact)		<ol style="list-style-type: none"> <li>1. Internal fit-out of WTG</li> <li>2. Testing and commissioning</li> </ol>	<ol style="list-style-type: none"> <li>1. LDV, generator on a trailer towed by the LDV.</li> <li>2. As above.</li> </ol>
Overall Wind Farm Testing (low impact)		<ol style="list-style-type: none"> <li>1. Testing</li> </ol>	<ol style="list-style-type: none"> <li>1. LDV for staff transport</li> </ol>

By allowing selected construction activities to continue outside of the stipulated working hours the construction period will be reduced, thus minimising the environmental impacts of the construction period as a whole.



If it becomes necessary for additional activities to take place outside of daylight hours, this must be agreed to in writing by the ECO, and permission from the landowner must be obtained.

## 4 LAYOUT OF THE EMPr

In order to ensure a holistic approach to the management of environmental impacts during the planning and design, construction, operational and decommissioning phases of the proposed Umsobomvu Infrastructure Development, this EMPr sets out the methods by which proper environmental controls are to be implemented by the Contractor and all other parties involved. These phases of development are discussed in more detail below and has specific issues unique to that phase.

### 4.1 PLANNING AND DESIGN PHASE

The Planning and Design Phase is an integral component of the project life cycle and requires interaction between the design engineers and environmental consultants to ensure that the engineers are aware of the environmental constraints that must be considered and incorporated into the final design of the project.

The format of the Planning and Design Phase section is to ensure that all specifications are included in the design phase. It requires ongoing and in-depth discussions between the final design team and the appointed Environmental Control Officer (ECO). The engineer will have to cost for and be available for, ongoing discussions with the ECO at all stages of final design.

### 4.2 CONSTRUCTION PHASE

The Construction Phase section details the environmental management system/framework within which construction activities will be governed, and it consists of various actions, initiatives, and systems which the Contractor will have to ensure are in place and are undertaken. It consists of both a management system and environmental specifications which contain detailed specifications that will need to be undertaken or adhered to by the Contractor.

The Construction Phase section will need to be developed parallel to the final design stages, and constructive input must be invited from the selected Contractor. Sound environmental management is orientated around a pragmatic, unambiguous but enforceable set of guidelines and specifications, and for this reason it is imperative that the Contractor, while being bound by the EMPr, fully understands it, and has had input into its final development. For this reason, the final construction EMPr will need to be signed off after input from the selected Contractor prior to the initiation of construction activities. It must, however, be noted that the Contractor must tender on the existing document and that in areas of uncertainty, a precautionary approach to the environmental guidelines and specifications must be adopted.

### 4.3 OPERATIONAL PHASE

The Operational Phase section provides specific guidance related to operational activities associated with a particular development. By taking proactive measures during the Construction Phase, potential environmental impacts emanating during the Operational Phase will be minimised. Monitoring of certain issues, such as the success of vegetation re-establishment and erosion control, will be required to continue during operation. The final Operational Phase section must be developed in conjunction with any other relevant stakeholders prior to the adoption thereof.

### 4.4 DECOMMISSIONING PHASE

This section includes principles for the Decommissioning Phase of the Umsobomvu Infrastructure Development. This section will require revisiting and updates at the time of decommissioning.

## 5 IMPACT MANAGEMENT ACTIONS

### 5.1 GENERAL CONSTRUCTION PHASE MITIGATION AND MANAGEMENT MEASURES

In addition to the mitigation measures and impact management actions which were stipulated in the Umsobomvu Infrastructure BAR, and included in Section 5.2 of this report, the following general Construction Phase mitigation and management measures will apply.

**Table 5-1: General Construction Phase Mitigation Measures**

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
1.	<b>SITE DEMARCATION</b>	<p>The location, layout, and method of establishment of the construction camp, including the following, must be clearly indicated, and demarcated prior to the commencement of construction:</p> <ul style="list-style-type: none"> <li>→ All Contractors' offices;</li> <li>→ Lay down areas;</li> <li>→ Vehicle wash areas (if any);</li> <li>→ Workshops and drip trays;</li> <li>→ Fuel storage areas (including filling and dispensing from storage tanks);</li> <li>→ Cement/concrete mixing areas (including the methods employed for the mixing of concrete and particularly the containment of runoff water from such areas and the method of transportation of concrete); and</li> <li>→ Other infrastructure required for the running of the project.</li> </ul> <ul style="list-style-type: none"> <li>→ The Contractor must erect and maintain permanent and/or temporary fences in the locations directed by the ECO. Such fences must, if so specified, be erected before undertaking designated activities;</li> <li>→ All no-go areas in proximity to the construction camp must be clearly demarcated on-site by the ECO or botanical specialist; and</li> <li>→ The Contractor must ensure that, insofar as he/she has the authority, no person, construction equipment, or materials enter the "no-go" areas at any time.</li> </ul>
2.	<b>SITE ACCESS</b>	<ul style="list-style-type: none"> <li>→ Details, including a drawing, showing where and how the access points and routes will be located and managed must be submitted to the ECO. These must be supported by the following management requirements:</li> <li>→ On the site and within such distance of the site as may be stated, the Contractor must control the movement of all vehicles, including vehicles of suppliers so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic and that all relevant laws are complied with. In addition, such vehicles must be routed and operated in a manner that minimises the disruption to regular users of the routes;</li> <li>→ On gravel or earth roads onsite and within 500 m of the site, the Contractor's vehicles as well as the suppliers' must not exceed a speed of 40 km/h or as directed by the ECO; and</li> <li>→ The Contractor must supply the ECO with a Method Statement detailing the location and management of all access points and roads.</li> </ul>
3.	<b>MATERIALS HANDLING, USE AND STORAGE</b>	<ul style="list-style-type: none"> <li>→ The Contractor must ensure that any delivery drivers are informed of all procedures and restrictions (including identified "no-go" areas) required to comply with this EMPr;</li> <li>→ The Contractor must ensure that these delivery drivers are supervised during offloading, by someone with an adequate understanding of the requirements of the EMPr;</li> <li>→ Materials must be appropriately secured to ensure safe passage between destinations. Loads including, but not limited to, sand, stone chip, fine vegetation, refuse, paper and cement, must have appropriate cover to prevent them spilling from the vehicle during transit;</li> </ul>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
		<ul style="list-style-type: none"> <li>→ The Contractor will be responsible for any clean up resulting from the failure by their employees or suppliers to properly secure transported materials;</li> <li>→ All manufactured and/or imported material must be stored within the Contractor's camp, and, if required by the EMP, out of the rain;</li> <li>→ All laydown areas outside of the construction camp will be subject to the ECO's approval; and</li> <li>→ Imported gravel, fill, soil, and sand materials must be free of weeds, alien invasive seed matter, plant material, litter and contaminants and must be obtained from sources approved by the ECO.</li> </ul>
4.	STOCKPILING	<ul style="list-style-type: none"> <li>→ Any stockpiling of gravel, cut, fill or any other material including spoil must only be in areas that have been approved by the ECO within the defined working area;</li> <li>→ The Contractor must ensure that the material does not blow or wash away. If the stockpiled material is in danger of being washed or blown away, the Contractor must spray it with Dustex or cover it with a suitable material, such as hessian or plastic. Stockpiles of topsoil must not be covered with plastic; and</li> <li>→ No stockpiling of any material will be allowed within 20 m of any "no-go" areas.</li> </ul>
5.	SOLID WASTE MANAGEMENT	<ul style="list-style-type: none"> <li>→ Onsite burning, burying, or dumping of any waste materials, litter or refuse must not occur;</li> <li>→ The Contractor must provide vermin and weatherproof bins with lids of sufficient number and capacity to store the solid waste produced on a daily basis. The lids must be kept firmly on the bins at all times;</li> <li>→ Bins must not be allowed to become overfull and must be emptied daily;</li> <li>→ The waste from bins may be temporarily stored onsite in a central waste area that is weatherproof and scavenger proof, and which the ECO has approved;</li> <li>→ Recyclable waste must be disposed of into separate skips/bins and removed offsite for recycling;</li> <li>→ All solid waste must be disposed of offsite at an approved registered landfill site. The Contractor must supply the ECO with the appropriate disposal certificates; and</li> <li>→ The Contractor must submit a solid waste management plan, as part of the Pollution Control Method Statement, to the ECO.</li> </ul>
6.	WATER USE	<ul style="list-style-type: none"> <li>→ All sources of water for construction purposes must be approved by the ECO in writing before any such sources can be used to obtain water; and</li> <li>→ All wash water must be recycled for use as wash water again or for dust suppression, where applicable.</li> </ul>
7.	HAZARDOUS SUBSTANCES	<ul style="list-style-type: none"> <li>→ The transportation and handling of hazardous substances must comply with the provisions of the Hazardous Substances Act (Act No.187 of 1993) and associated regulations as well as SABS 0228 and SABS 0229;</li> <li>→ The Contractor must also comply with all other applicable regional and local legislation and regulations with regard to the transport, use and disposal of hazardous substances. Hazardous chemical substances (as defined in the Regulations for Hazardous Chemical Substances) used during construction must be stored in secondary containers. The relevant Material Safety Data Sheets (MSDS) must be available onsite;</li> <li>→ Procedures detailed in the MSDSs must be followed in the event of an emergency situation;</li> <li>→ The Contractor will be responsible for the training and education of all personnel onsite who will be handling hazardous materials about their proper use, handling and disposal; and</li> <li>→ If potentially hazardous substances are to be stored or used onsite, the Contractor must submit a Method Statement to the ECO detailing the substances/materials to be used, together with the transport, storage, handling, and disposal procedures for the substances.</li> </ul>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
8.	CEMENT AND MIXING OF CONCRETE	<ul style="list-style-type: none"> <li>→ The proposed location of cement mixing areas (including the location of cement stores and sand and aggregate stockpiles) must be indicated on the site layout plan and approved by the ECO;</li> <li>→ All wastewater generated from the operation and cleaning of concrete mixing equipment and other sources of concrete must be passed through a concrete wastewater settlement system;</li> <li>→ The Contractor must ensure that minimal water is used for washing of concrete and cement mixing equipment;</li> <li>→ Used cement bags must be disposed of in weatherproof bins onsite to prevent the generation of wind-blown cement dust and the bags from blowing away;</li> <li>→ The Contractor must ensure that concrete is mixed on mortar boards, all visible remains of concrete are removed and disposed of as waste and that all surplus aggregate is removed; and</li> <li>→ As part of the Pollution Control and Concrete Mixing Method Statement, a plan detailing all actions to be taken to comply with the requirements must be submitted by the Contractor to the ECO.</li> </ul>
9.	FUELS AND OIL	<p><u>Fuel Storage</u></p> <ul style="list-style-type: none"> <li>→ All construction materials including fuels and oil must be stored in demarcated areas that are contained within berms/bunds. Washing and cleaning of equipment must also be done in berms or bunds, in order to trap any cement and prevent excessive soil erosion;</li> <li>→ All necessary approvals with respect to fuel storage and dispensing must be obtained from the appropriate authorities. Symbolic safety signs depicting “No Smoking” and “Danger”, conforming to the requirement of SABS 1186, must be prominently displayed in and around the fuel storage area. There must be adequate fire-fighting equipment at the fuel storage area;</li> <li>→ The Contractor must ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly shut and under lock and key at all times. The capacity of the tank must be clearly displayed, and the product contained within the tank clearly identified using the emergency information system detailed in SABS 0232 part 1. Fuel storage tanks capacity must not exceed 9 000 litres and must be kept on-site only for as long as fuel is needed for construction activities, on completion of which they must be removed;</li> <li>→ Tanks onsite must not be linked or joined via any pipe work but must remain as separate entities. The tanks must be situated on a smooth impermeable base with a bund. The volume inside the bund must be 110% of the total capacity of the largest storage tank. The base may be constructed of concrete, or of plastic sheeting with impermeable joints with a layer of sand over to prevent perishing. The impermeable lining must extend to the crest of the bund. The floor of the bund must be sloped to enable any spilled fuel and/or fuel-contaminated water to be removed. Appropriate material, approved by the ECO that absorbs / breaks-down or encapsulates minor hydrocarbon spillage and which is effective in water must be installed in the sump;</li> <li>→ Adequate precautions must be provided to prevent spillage during the filling of any tank and during the dispensing of the contents. The dispensing mechanism for the fuel storage tanks must be stored in a waterproof container when not in use; and</li> <li>→ As part of the required site layout for the construction camp, a plan must be submitted to the ECO detailing the design, location and construction of the fuel storage area as well as for the filling and dispensing from storage tanks and for the type of absorbing / breaking-down or encapsulating material to be used.</li> </ul> <p><u>Refuelling</u></p> <ul style="list-style-type: none"> <li>→ Where reasonably practical, the plant must be refuelled at a designated re-fuelling area/depot or at a workshop as applicable. If this is not reasonably practical, then the</li> </ul>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
		<p>surface under the refuelling area must be protected and appropriately bunded against pollution to the reasonable satisfaction of the ECO prior to any refuelling activities;</p> <p>→ If fuel is dispensed from 200-litre drums, the proper dispensing equipment must be used, and the drum must not be tipped in order to dispense fuel. The Contractor must ensure that the appropriate fire-fighting equipment is present during refuelling operations;</p> <p>→ The Contractor must ensure that there is always a supply of absorbent material readily available to absorb / breakdown or where possible, be designed to encapsulate minor hydrocarbon spillages. The quantities of such materials must be able to handle a minimum of 200 ℓ of hydrocarbon liquid spill. Prior to any refuelling or maintenance activities, the ECO must approve this material;</p> <p><u>Used oil and hydrocarbon contaminated materials</u></p> <p>→ Used oil must be stored at a central location onsite prior to removal offsite for disposal at an approved disposal or recycling site; and</p> <p>→ Old oil filters and oil, petrol and diesel-soaked material must be treated as hazardous waste. The Contractor must remove all oil, petrol, and diesel-soaked sand immediately and must dispose of it as hazardous waste or treat it onsite with material that breaks down or encapsulates such spillages as approved by the ECO.</p>
10.	WORKSHOP, EQUIPMENT MAINTENANCE AND STORAGE	<p>→ The Contractor must ensure that in his workshop and other plant maintenance facilities, including those areas where, after obtaining the ECO's approval, the Contractor carries out emergency plant maintenance, there is no contamination of the soil or vegetation. The workshop must have a smooth impermeable (concrete or thick plastic covered with sand) floor;</p> <p>→ The floor must be bunded and sloped towards an oil trap or sump to contain any spillages. When servicing equipment, drip trays must be used to collect the waste oil and other lubricants. Drip trays must also be provided in construction areas for stationary plant (such as compressors) and for "parked" plant (such as scrapers, loaders, vehicles);</p> <p>→ All vehicles and equipment must be kept in good working order and serviced regularly. Leaking equipment must be repaired immediately or removed from the site;</p> <p>→ All vehicle and equipment washing must be undertaken in the workshop or maintenance areas, and these areas must be equipped with a suitable impermeable floor and sump/oil trap. The use of detergents for washing must be restricted to low phosphate and nitrate products and low sudsing-type detergents; and</p> <p>→ As part of the site layouts, a plan must be submitted to the ECO detailing the design of the bunding of the workshop and how run-off from the workshop will be managed as well as how drip trays used under plant will be managed.</p>
11.	ABLUTION FACILITIES	<p>→ Washing, whether of a person or of personal effects, and acts of excretion and urination are strictly prohibited other than at the facilities provided. The Contractor must provide the necessary ablution facilities for all their personnel prior to the commencement of work;</p> <p>→ Ablution facilities must be supplied by the Contractor for the workers at a ratio of at least 1 toilet per 20 workers in areas approved by the ECO. Toilets must be situated within 200 m of any area where work is taking place in numbers sufficient to meet the ratio depicted above for the workers in the area;</p> <p>→ The facilities must be maintained in a hygienic state and serviced regularly. Toilet paper must be provided. Temporary/portable toilets must be secured to the ground to prevent them toppling due to wind or any other cause, to the satisfaction of the ECO; and</p>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
		<ul style="list-style-type: none"> <li>→ Discharge into the environment and burial of waste is strictly prohibited. The Contractor must ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from the site. Toilets must be emptied before any temporary site closure.</li> </ul>
12.	EATING AREAS	<ul style="list-style-type: none"> <li>→ The Contractor must designate eating area(s), subject to the approval of the ECO. No cooking is allowed outside of the Contractor's camp area onsite;</li> <li>→ At mealtimes, all workers must eat in designated eating areas. These areas must have shade for the workers;</li> <li>→ Sufficient bins must be present in these areas. All disposable food packaging must be disposed of in the bins after every meal; and</li> <li>→ The feeding- or leaving of food for animals is strictly prohibited.</li> </ul>
13.	SITE STRUCTURES	<ul style="list-style-type: none"> <li>→ All site establishment components (as well as equipment) must be positioned to limit visual intrusion on neighbouring areas and the size of the land area disturbed. The type and colour of roofing and cladding materials of the Contractor's temporary structures must be selected to reduce reflection; and</li> <li>→ The Contractor must supply and maintain adequate and suitable sheds for the storage of materials. Sheds for the storage of materials that may deteriorate or corrode if exposed to the weather must be weatherproof, adequately ventilated and provided with raised floors.</li> </ul>
14.	LIGHTING	<ul style="list-style-type: none"> <li>→ The Contractor must ensure that any lighting installed on the site for their activities does not cause a reasonably avoidable disturbance to neighbouring residents or the naturally occurring fauna; and</li> <li>→ The installation of low UV emitting lights, such as most LEDs is recommended, as these cause less disturbance to insects and fauna.</li> </ul>
15.	NOISE	<ul style="list-style-type: none"> <li>→ The Contractor must take precautions to minimise noise generated on-site (e.g. install and maintain silencers on construction equipment where necessary);</li> <li>→ The Contractor must comply with the Noise Induced Hearing Loss Regulations published under the Occupational Health and Safety Act;</li> <li>→ Appropriate directional and intensity settings are to be maintained on all hooters and sirens;</li> <li>→ When possible and practical, work must be limited to daylight hours – between 06:00 and 18:00 (see Table 3-1). Permission to work outside these times will require approval from the ECO; and</li> <li>→ No amplified music must be allowed on site. The Contractor must not use sound amplification equipment on-site unless in emergency situations.</li> </ul>
16.	DUST CONTROL	<ul style="list-style-type: none"> <li>→ The Contractor will be responsible for the continued control of dust arising from their operations. The Contractor must take all reasonable measures to minimize the generation of dust as a result of construction activities to the satisfaction of the ECO. Appropriate dust suppression measures include spraying or dampening with water, using a commercial dust binder (such as Hydropam or Dustex), rotovating straw bales, planting of open cleared space and the scheduling of dust-generating activities. If the conditions are such that the Contractor cannot satisfactorily dampen the dust, then the ECO must halt operations until such time as the conditions are more suitable for lower dust-generating construction activities;</li> <li>→ Areas that are to have the topsoil stripped for construction purposes must be limited and only stripped when work is about to take place;</li> <li>→ Other activities and situations that may result in a dust nuisance include site clearance and other earth moving operations, open cleared space, stockpiles of topsoil or sand and activities associated with concrete mixing; and</li> <li>→ The appropriate health and safety equipment (e.g. dust masks) must be worn by workers during the phases of dust-producing construction activity.</li> </ul>



GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
17.	ENVIRONMENTAL AWARENESS TRAINING	<ul style="list-style-type: none"> <li>→ Environmental awareness training courses must be run for all personnel onsite (See Annexure A for a proposed Basic Environmental Education Course). Two courses must be run, one for the Contractor's and Subcontractor's management and one for all site staff and labourers. Courses must be run in the morning during normal working hours at a suitable venue provided by the Contractor. All attendees must remain for the duration of the course and sign an attendance register on completion, that clearly indicates participant's names, a copy of which must be handed to the ECO;</li> <li>→ The size of each session must be limited to thirty (30) people. The Contractor must allow for sufficient sessions to train all personnel. Subsequent sessions must be run for any new personnel coming onto site. A Method Statement with respect to the organisation of these courses must be submitted; and</li> <li>→ Notwithstanding the specific provisions of this clause it is incumbent upon the Contractor to convey the sentiments of the EMP to all personnel and Subcontractors involved with the Works.</li> </ul>
18.	FIRE CONTROL	<ul style="list-style-type: none"> <li>→ The Contractor must take all the necessary precautions to ensure that fires are not started as a result of site activities;</li> <li>→ No open fires must be permitted on the site;</li> <li>→ Smoking must not be permitted in areas where there is a fire hazard. Such areas include the workshop and fuel storage areas and any areas where the vegetation or other material is such as to support the rapid spreading of an initial flame;</li> <li>→ The Contractor must appoint a Fire Officer who will be responsible for ensuring immediate and appropriate actions in the event of a fire and will ensure that employees are aware of the procedures to be followed. The Contractor must forward the name of the Fire Officer to the ECO for approval within 7 days of being on-site;</li> <li>→ The Contractor must ensure that there is basic firefighting equipment available onsite at all times. This must include at least rubber beaters when working in urban open spaces and natural areas, and at least one fire extinguisher of the appropriate type when welding or other "hot" activities are undertaken; and</li> <li>→ The Contractor will be liable for any expenses incurred by any organisations called to assist with fighting fires that were started as a result of their activities or personnel, and for any cost relating to the rehabilitation of burnt areas, or consequential damages.</li> </ul>
19.	EMERGENCY PROCEDURES	<ul style="list-style-type: none"> <li>→ Emergency procedures, including the names and contact details of responsible personnel and emergency services must be made available to all staff and must be clearly displayed at relevant locations at the site. The Contractor must advise the ECO of any emergencies onsite, together with a record of action taken, within 24 hours of the emergency occurring; and</li> <li>→ The Contractor must submit a Method Statement covering the procedures for the following emergencies: <ul style="list-style-type: none"> <li><u>Fire</u> <ul style="list-style-type: none"> <li>→ The Contractor must advise the relevant authority of a fire as soon as one starts and must not wait until it is out of control; and</li> <li>→ The Contractor must ensure that all employees are aware of the procedures to be followed in the event of a fire.</li> </ul> </li> <li><u>Accidental leaks and spillages</u> <ul style="list-style-type: none"> <li>→ The Contractor must ensure that all employees are aware of the procedures to be followed for dealing with spills and leaks, which must include notifying the ECO and the relevant authorities. The Contractor must ensure that all the necessary materials and equipment for dealing with spills and leaks are available onsite at all times. Treatment and remediation of the spill areas must be undertaken to the reasonable satisfaction of the ECO;</li> </ul> </li> </ul> </li> </ul>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
		<ul style="list-style-type: none"> <li>→ In the event of a hydrocarbon spill, the source of the spillage must be isolated, and the spillage contained. The area must be cordoned off and secured. The Contractor must ensure that there is always a supply of absorbent material readily available to absorb / breakdown or where possible, be designed to encapsulate minor hydrocarbon spillages. The quantities of such materials must be able to handle a minimum of 200 ℓ of hydrocarbon liquid spill; and</li> <li>→ Any spills must be cleared, and the contaminated soil or sludge disposed of in an appropriate manner, approved by the ECO, or at a licensed hazardous waste disposal site.</li> </ul>
20.	PROTECTION OF NATURAL FEATURES	<ul style="list-style-type: none"> <li>→ The Contractor must not deface, paint, damage or mark any natural features (e.g. rock formations or trees) situated in or around the site for survey or other purposes unless agreed upon beforehand with the ECO. Any features affected by the Contractor in contravention of this clause must be restored/rehabilitated to the satisfaction of the ECO; and</li> <li>→ The Contractor and onsite staff must not at any stage enter dense, intact vegetation without written approval from the ECO.</li> </ul>
21.	PROTECTION OF FAUNA AND FLORA	<ul style="list-style-type: none"> <li>→ A Botanist has identified the need for plant search and rescue (done as part of the pre-submission process) to identify Species of Conservation Concern (SCC) to be relocated;</li> <li>→ Protected plant species must be removed from the designated construction footprint and relocated to adjacent areas of similar habitat that must not be affected by construction activities. The plants must be used in landscaping once construction is complete (if applicable);</li> <li>→ Except to the extent necessary for the carrying out of the works, flora must not be removed, damaged or disturbed;</li> <li>→ The removal and stockpiling of topsoil must also be carried out in accordance with this EMP; and</li> <li>→ Trapping, poisoning and/or shooting of animals is strictly forbidden. No domestic pets or livestock are permitted onsite;</li> <li>→ The use of chemicals of all forms must be carefully controlled and monitored to avoid contamination of surrounding areas; and</li> <li>→ Construction phases must allow for education of staff as to the significance of species of conservation concern.</li> </ul>
22.	PROTECTION OF HERITAGE FEATURES	<ul style="list-style-type: none"> <li>→ Construction managers and/or foremen must be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites;</li> <li>→ If concentrations of palaeontological and/or archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) and/or the South African Heritage Resources Agency (SAHRA) (021 642 4502) so that systematic and professional investigation/ excavation can be undertaken; and</li> <li>→ Any person who causes intentional damage to archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act (Act No. 25 of 1999).</li> </ul>
23.	VEGETATION CLEARANCE	<ul style="list-style-type: none"> <li>→ Vegetation clearing and trampling must be avoided in areas demarcated as “no-go” areas (if any);</li> <li>→ Temporary infrastructure such as the site camp, lay down areas and storage areas must not be placed in any other area than the area approved by the ECO;</li> <li>→ The Contractor must work according to a plan, which demarcates areas to be cleared. The plan must be part of the Project Layout Plan developed in the Site Design Phase;</li> <li>→ The minimum amount of vegetation clearance must take place; and</li> </ul>

GENERAL CONSTRUCTION PHASE		
ACTIVITY		MITIGATION AND MANAGEMENT MEASURES
		→ Collection of, or wilful damage to, any plants outside of the areas demarcated for clearing is not allowed.
24.	TOPSOIL	<ul style="list-style-type: none"> <li>→ Topsoil must only be stripped from the areas as indicated below:</li> <li>→ Any area which is to be used for temporary storage of materials;</li> <li>→ Areas which could be polluted by any aspect of the construction activity; and</li> <li>→ Areas designated for the dumping of soil.</li> <li>→ Stripping of topsoil must be undertaken in such a manner as to minimise erosion by wind or runoff;</li> <li>→ Outside of the development footprint, topsoil will be stripped to a depth not exceeding 150 mm from the original ground level;</li> <li>→ Areas from which the topsoil is to be removed must be cleared of any foreign material which could form part of the topsoil during removal including bricks, rubble, any waste material, litter, excess vegetation and any other material which could reduce the quality of the topsoil;</li> <li>→ The Contractor must ensure that subsoil and topsoil are not mixed during stripping, excavation, reinstatement and rehabilitation. If mixed with clay sub-soil, the usefulness of the topsoil for rehabilitation of the site will be lost;</li> <li>→ Soils must be exposed for the minimum time possible once cleared;</li> <li>→ Topsoil must be temporarily stockpiled, separately from (clay) subsoil and rocky materials;</li> <li>→ Topsoil must only be stockpiled in areas designated by the ECO;</li> <li>→ Stockpiles will either be vegetated with indigenous grasses or covered by a suitable fabric to prevent erosion and invasion of weeds; and</li> <li>→ Stockpiled topsoil must not be compacted.</li> </ul>
25.	STORMWATER MANAGEMENT	<ul style="list-style-type: none"> <li>→ Stormwater must be managed using suitable structures such as swales, gabions and rock rip-wrap so that any run-off from the development site is attenuated prior to discharge. Silt and sedimentation must be kept to a minimum, through the use of the above-mentioned structures by also ensuring that all structures don't create any form of erosion; and</li> <li>→ Natural run-off must be diverted to stormwater drains where these are available.</li> </ul>
26.	EROSION AND SEDIMENTATION CONTROL	<ul style="list-style-type: none"> <li>→ The Contractor must take all reasonable measures to limit erosion and sedimentation due to construction activities and must comply with such detailed measures as required by this EMP; and</li> <li>→ Revegetate areas that have been disturbed as soon as possible;</li> <li>→ Where erosion and/or sedimentation occur, whether on or off the site, despite the Contractor complying with the aforementioned, rectification must be carried out in accordance with details specified by the ECO. Where erosion and/or sedimentation occur due to the fault of the Contractor, rectification must be carried out to the reasonable requirements of the ECO and at the expense of the Contractor; and</li> <li>→ Actions must also be taken in the event of heavy rains and potential flooding, whereby diversion barriers must not cause excessive erosion.</li> </ul>
27.	AESTHETICS	→ The Contractor must take reasonable measures to ensure that construction activities do not have an unreasonable impact on the aesthetics of the area.
28.	COMMUNITY RELATIONS	<ul style="list-style-type: none"> <li>→ The Contractor must keep a "Complaints Register" onsite. The Register must contain all contact details of the person who made the complaint, and information regarding the complaint itself as well as the date and time that the complaint was resolved;</li> <li>→ The ESO will be responsible for responding to queries and/or complaints and may request assistance from the Contractor's Management Staff;</li> <li>→ The Complaints Register must be audited by the ECO; and</li> <li>→ Construction materials and other purchases relating to the project must be done, where possible, within the nearby community and at local shops.</li> </ul>
29.	TEMPORARY SITE CLOSURE	→ If the Site is closed for a period exceeding 5 days, the Contractor's Safety, Health and Environment (SHE) Officer in consultation with the ECO must carry out the following

GENERAL CONSTRUCTION PHASE	
ACTIVITY	MITIGATION AND MANAGEMENT MEASURES
	<p>checklist procedure and ensure that the following conditions pertain and report on compliance with this clause:</p> <p><u>Fuels / flammables / hazardous materials stores</u></p> <ul style="list-style-type: none"> <li>→ Fuel stores are as low in volume as practicable;</li> <li>→ There are no leaks;</li> <li>→ The outlet is secure and locked;</li> <li>→ The bund is empty;</li> <li>→ Fire extinguishers are serviced and accessible;</li> <li>→ The area is secure from accidental damage through vehicle collision and the like;</li> <li>→ Emergency and contact numbers are available and displayed; and</li> <li>→ There is adequate ventilation in enclosed spaces.</li> </ul> <p><u>Safety</u></p> <ul style="list-style-type: none"> <li>→ Check that site safety checks have been carried out in accordance with the Occupational Health and Safety Act (No. 85 of 1993) prior to site closure;</li> <li>→ An inspection schedule and log for use by security or contracts staff is developed;</li> <li>→ All trenches and manholes are secured;</li> <li>→ Applicable notice boards are in place and secured;</li> <li>→ Emergency and Management contact details are prominently displayed;</li> <li>→ Security personnel have been briefed and have the facilities to contact or be contacted by relevant management and emergency personnel;</li> <li>→ Night hazards such as reflectors, lighting, traffic signage etc. have been checked;</li> <li>→ Fire hazards identified and the local authority notified of any potential threats, e.g. large brush stockpiles, fuels etc.;</li> <li>→ Pipe stockpiles are wedged / secured;</li> <li>→ Scaffolds are secure; and</li> <li>→ Structures vulnerable to high winds are secure.</li> </ul> <p><u>Erosion</u></p> <ul style="list-style-type: none"> <li>→ Wind and dust mitigation measures such as straw, brush packs, irrigation etc. are in place;</li> <li>→ Excavated and filled slopes and stockpiles are at a stable angle;</li> <li>→ Re-vegetated areas have a watering schedule and the supply to such areas is secured; and</li> <li>→ There are sufficient detention ponds or channels in place.</li> </ul> <p><u>Water contamination and pollution</u></p> <ul style="list-style-type: none"> <li>→ Hazardous fuel stores are secure;</li> <li>→ Cement and materials stores are secure;</li> <li>→ Toilets are empty and secured;</li> <li>→ Refuse bins are empty and secured;</li> <li>→ Bunding is clean and treated with appropriate material that will absorb / breakdown and where possible be designed to encapsulate minor hydrocarbon spillage; and</li> <li>→ Drip trays are empty and secure.</li> </ul>

## 5.2 BAR, SPECIALIST AND STAKEHOLDER MITIGATION AND MANAGEMENT MEASURES

The EAP specialists and various stakeholders made the following additional mitigation and management measures which must be implemented during the relevant phases of development of the Umsobomvu Infrastructure Development.

Comprehensive ECO audits must be undertaken during the development of the Umsobomvu Infrastructure Development to verify compliance with the mitigation and management measures which are stipulated in the sections below. If compliance with any of these mitigation or management measures cannot be met, it will be the responsibility of the appointed Contractor to provide reasons/motivations for the non-compliance(s).

**Table 5-2: Planning and Design, Construction, Operations and Decommissioning Phase Mitigation Measures and Management Actions**

IMPACT		IMPACT DESCRIPTION	MITIGATION
<b>PLANNING &amp; DESIGN PHASE</b>			
1.	<b>COMPLIANCE WITH RELEVANT LEGISLATION</b>	During the planning and design phase, failure to obtain the necessary authorisations and/or permits, as well as failure to adhere to existing policies and legal obligations, could lead to the project conflicting with local, provincial and national policies and legislation. This could result in a lack of institutional support for the project, overall project failure and undue social and environmental impacts.	<ul style="list-style-type: none"> <li>→ Activities, which trigger listed activities in terms of the NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014 and subsequent 2017 amendments), must not commence prior to receipt of an EA from the national DFFE.</li> <li>→ All identified water uses in terms of Section 21 of the NWA must not commence prior to receipt of the necessary water use authorisation(s) from the DWS.</li> <li>→ All additional permitting and authorisation requirements, including plant removal permits, must be obtained prior to the commencement of any vegetation clearance and/or construction activities.</li> <li>→ A suitably qualified Environmental Control Officer (ECO) must be appointed prior to the commencement of the construction phase to monitor the Applicant's compliance with the conditions of all the relevant permits and authorisations.</li> <li>→ All phases of the Umsobomvu Infrastructure Development must comply with the relevant municipal by-laws and must consider the available best practice guidelines.</li> </ul>
2.	<b>IMPACT ON HERITAGE AND PALAEOLOGY RESOURCES</b>	SAHRA recommends these mitigation measures in accordance with section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA to reduce adverse impacts on sensitive heritage and palaeontology resources.	<ul style="list-style-type: none"> <li>→ The Final BAR and EMPr must be submitted to SAHRA for record purposes.</li> <li>→ The decision regarding the EA Application must be communicated to SAHRA and uploaded to the SAHRIS Case application.</li> <li>→ Should it not be possible to avoid the identified heritage site, a permit in terms of section 35 of the NHRA and Chapter II and IV of the NHRA regulations must be applied for from SAHRA prior to the construction phase. No mitigation may occur without a permit issued in this regard.</li> </ul>
3.	<b>IMPACT ON ESKOM INFRASTRUCTURE</b>	Eskom has the following requirements for work in or near Eskom servitudes.	<ul style="list-style-type: none"> <li>→ Eskom's rights and services must be acknowledged and respected at all times.</li> <li>→ Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>→ Eskom's consent does not relieve the developer from obtaining the necessary statutory, landowner or municipal approvals.</li> <li>→ Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> </ul>

IMPACT		IMPACT DESCRIPTION	MITIGATION
			<ul style="list-style-type: none"> <li>→ If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</li> <li>→ Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</li> <li>→ In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</li> <li>→ Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</li> <li>→ It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</li> <li>→ Any third-party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</li> </ul>
<b>CONSTRUCTION PHASE</b>			
4.	<b>INCREASE IN AIR EMISSIONS</b>	During the construction phase, the dust created as a result of the construction activities, such as vegetation clearance, grading and levelling of the exposed land and the transport of construction materials could be a nuisance during the construction phase.	<ul style="list-style-type: none"> <li>→ Exhaust emissions from construction vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.</li> <li>→ Vegetation clearance must be limited to approved and demarcated infrastructure development footprints.</li> <li>→ If fine building materials, such as sand, are to be transported on the back of trucks, they must be adequately covered.</li> <li>→ Excavations and other clearing activities must only be done during the agreed-upon working hours and days.</li> <li>→ A speed limit of 40 km per hour must not be exceeded on gravel roads.</li> </ul>
5.	<b>INCREASE IN NOISE LEVELS</b>	Noise will be created on the site during the construction phase due to the operation of construction equipment, noise generated by construction vehicles both on-site and during travel to and from the site as	<ul style="list-style-type: none"> <li>→ All construction vehicles must be in sound working order and meet the necessary noise level requirements.</li> <li>→ All relevant municipal by-laws, with regards to noise control, must apply.</li> <li>→ Construction workers must not make use of portable radios, vehicle radios, whistles, and</li> </ul>



IMPACT	IMPACT DESCRIPTION	MITIGATION
		<p>well as noise generated by the construction workers which are all likely to result in an increase in noise levels and potentially be a nuisance to individuals in proximity to the site.</p>
6.	<p><b>STORMWATER MANAGEMENT</b></p>	<p>Sediment is likely to be created during the construction phase of the Umsobomvu Infrastructure Development. This could be carried into nearby watercourses during rainfall events due to runoff. In addition, inadequate stormwater management could result in increased soil erosion within the proposed site and surrounds.</p> <ul style="list-style-type: none"> <li>→ A Stormwater Management Plan must be compiled and implemented during the construction phase.</li> <li>→ Vegetation must be retained, where possible, to avoid soil erosion.</li> <li>→ If slopes are cleared during construction, they must be rehabilitated as soon as possible to minimise soil erosion losses.</li> <li>→ Construction activities must be demarcated and vegetation clearing and topsoil removal (if required) limited to these areas.</li> <li>→ Stockpiled materials must not be stored within 100 m of a watercourse.</li> <li>→ Stockpile areas must be suitably bunded to prevent waterborne erosion of exposed soils where there is a likelihood that the soils will be washed into nearby watercourses.</li> </ul>
7.	<p><b>CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES</b></p>	<p>During the construction phase, onsite maintenance of construction vehicles and/or machinery and equipment could result in oil, diesel and other hazardous chemicals contaminating surface and groundwater. Surface and groundwater pollution could arise from the spillage or leaking of diesel, lubricants and cement during the storage and handling of hazardous substances for construction activities.</p> <ul style="list-style-type: none"> <li>→ The storage of fuels and hazardous materials must be located away from all identified sensitive water resources.</li> <li>→ All hazardous substances, including fuel, oil and cement, must be stored in a bunded area.</li> <li>→ The recommendations of the Stormwater Management Plan must be implemented throughout the construction phase.</li> <li>→ Spill kits must be readily available on-site throughout the construction phase.</li> <li>→ Drip trays must be placed under all stationary plant.</li> <li>→ If a spill occurs on a permeable surface (e.g. soil), a spill kit must be used to reduce the potential spread of the spill immediately.</li> <li>→ If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.</li> <li>→ Contaminated remediation materials must be carefully removed from the area of the spill, to prevent the further release of hazardous chemicals to the environment and stored in adequate containers until appropriate disposal at a suitably licenced landfill site.</li> </ul>
8.	<p><b>LOSS OF RIPARIAN VEGETATION</b></p>	<p>During the construction phase, the upgrade of the existing roads could require the removal of riparian vegetation, which is likely to have adverse effects on the associated aquatic ecosystems.</p> <ul style="list-style-type: none"> <li>→ Should the removal of riparian vegetation be required, it must take place under the supervision of the ECO and must be demarcated prior to removal. The clearance of riparian vegetation must be restricted to the amount required for the upgrade of the existing roads.</li> <li>→ The removal of the alien invasive vegetation must be prioritised.</li> </ul>



IMPACT	IMPACT DESCRIPTION	MITIGATION
9.	<p><b>FIRE RISK</b></p> <p>The proposed construction of the Umsobomvu Infrastructure Development could increase the risk of fires, which could potentially result in the loss of crops, grazing and livestock during the construction phase. In addition, fires could result in injury to employees within the site and the potential damage to or loss of property.</p>	<ul style="list-style-type: none"> <li>→ Open fires must not be permitted within the proposed site during the construction phase.</li> <li>→ Smoking must be restricted to designated smoking areas which have easy access to fire-fighting equipment.</li> <li>→ The Contractor, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.</li> <li>→ The Contractor and/or the appointed fire marshal must ensure that there is always fire-fighting equipment available on-site during the construction phase.</li> <li>→ The Contractor and/or the appointed fire marshal must ensure that all site personnel are aware of the risk of fires, the procedure to be followed in the event of a fire and that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.</li> </ul>
10.	<p><b>SOCIO-ECONOMIC BENEFITS</b></p> <p>The construction of the Umsobomvu Infrastructure will create short-term employment opportunities. These employment opportunities will contribute to the skills development of individuals and a short-term income which will benefit individuals and their families.</p>	<ul style="list-style-type: none"> <li>→ Where suitable, preference must be given to the employment of individuals residing in the communities which are located close to the site.</li> <li>→ A Community Liaison Officer (CLO) must be appointed for the duration of the construction phase. This individual must have knowledge of the local communities and assist with the employment processes. The CLO must be available and accessible to the general public, the developer and all individuals employed by the developer during the construction phase.</li> </ul>
11.	<p><b>LOSS OF AGRICULTURAL LAND DUE TO DEVELOPMENT</b></p> <p>The vegetation clearing required for the construction of the Umsobomvu Infrastructure will result in the loss of grazing land, which is currently used for livestock and wildlife grazing.</p>	<ul style="list-style-type: none"> <li>→ Vegetation clearance must be limited to the demarcated development footprint.</li> </ul>
12.	<p><b>WASTE MANAGEMENT</b></p> <p>The inadequate management of waste which is produced during the construction phase is likely to result in the pollution of the study area and immediate surrounds.</p>	<ul style="list-style-type: none"> <li>→ All general waste, which is temporarily stored, on-site must be done so in windproof/sealable containers before being disposed of at a registered landfill site.</li> <li>→ Waste must not be burned on site.</li> <li>→ Construction workers must be informed that littering is prohibited within the construction site and surrounding areas.</li> <li>→ A Waste Management Plan must be compiled and implemented for the duration of the construction phase.</li> </ul>
13.	<p><b>VISUAL AND AESTHETIC IMPACTS</b></p> <p>The construction activities associated with the development of the Umsobomvu Infrastructure are likely to have an adverse impact on the visual and aesthetic quality of the study area and immediate surrounds. However, the construction site will only be</p>	<ul style="list-style-type: none"> <li>→ All general waste, which is temporarily stored, on-site must be done so in windproof/sealable containers before being disposed of at a registered landfill site.</li> <li>→ Vegetation clearance must be limited to the demarcated development footprint.</li> <li>→ Temporary disturbed areas must be rehabilitated as soon as practically possible.</li> </ul>

IMPACT	IMPACT DESCRIPTION	MITIGATION
		visible to a limited number of individuals due to the location of the development.
14.	<b>LOSS OF NATURAL VEGETATION DUE TO THE VEGETATION CLEARING</b>	<p>Vegetation clearance for the construction of the proposed Umsobomvu Infrastructure Development will result in the direct loss of indigenous vegetation, including Besemkaree Koppies Shrubland and Eastern Upper Karoo Vegetation.</p> <ul style="list-style-type: none"> <li>→ The clearance of vegetation at any given time must be kept to a minimum and vegetation clearance must be strictly limited to the development footprint.</li> <li>→ Employees must be prohibited from making fires and harvesting plants.</li> <li>→ As far as practically possible, existing access roads must be utilised.</li> <li>→ The development footprint/construction area must be demarcated to prevent encroachment of construction activities into surrounding areas.</li> <li>→ Ensure that roads on slopes incorporate stormwater diversion.</li> <li>→ Where possible, reserve and store natural vegetation for re-vegetation post-construction.</li> <li>→ Only indigenous plant species must be used for rehabilitation purposes.</li> <li>→ Topsoil must be carefully removed and used to rehabilitate the site.</li> </ul>
15.	<b>LOSS OF PLANT SPECIES OF CONSERVATION CONCERN (SCC)</b>	<p>The clearance of vegetation for the construction of the proposed Umsobomvu Infrastructure Development could result in the loss of plant Species of Conservation Concern (SCC).</p> <ul style="list-style-type: none"> <li>→ The proposed Umsobomvu Infrastructure development footprint must be surveyed by a qualified botanical specialist in peak flowering season, prior to construction. Where feasible, minor re-alignment should be considered to preserve the species in situ. Where this is not feasible, all identified SCC must be translocated to the nearest appropriate habitat, preferably a protected portion of the property.</li> <li>→ Permits for the removal/translocation of all SCC must be obtained prior to vegetation clearance for the construction phase.</li> <li>→ In the unlikely event that a protected tree species must be removed, a permit to do so must be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF).</li> </ul>
16.	<b>DISTURBANCE OF FAUNAL SPECIES AND LOSS OF FAUNAL HABITAT</b>	<p>During the construction phase, vegetation clearance and associated construction activities (including noise and vehicular movement) could result in the disturbance of faunal species and the subsequent movement of species out of the area. In addition, the loss of vegetation coincides with the loss of faunal habitat, reducing feeding, breeding and rearing locales. Faunal populations could become locally extinct or diminish in size.</p> <ul style="list-style-type: none"> <li>→ Search and clear the area directly prior to vegetation clearance.</li> <li>→ Vehicle speed must be limited to 40 km per hour to reduce faunal collision mortality.</li> <li>→ Construction activities must be restricted to the approved layout plans.</li> <li>→ Permit only limited construction activities before sunrise or after sunset. The ECO must be notified in these instances.</li> <li>→ No animal shall be killed or injured as a result of the construction of the Umsobomvu Infrastructure Development and presence of construction staff.</li> <li>→ No hunting, baiting, or trapping shall be allowed within the affected properties or surrounding properties by construction staff.</li> </ul>

IMPACT	IMPACT DESCRIPTION	MITIGATION
17.	<p><b>WILDLIFE POACHING</b></p> <p>During the construction phase, the increase in individuals accessing the project area for the proposed Umsobomvu Infrastructure Development could result in an increase in wildlife poaching.</p>	<p>→ All individuals should sign a register prior to accessing the construction site, including construction workers.</p> <p>→ Construction workers must not be housed onsite.</p> <p>→ No animal shall be killed or injured as a result of the construction of the Umsobomvu Infrastructure Development and presence of construction staff.</p> <p>→ The appointed ECO must inquire and undertake an overview inspection of the site for the evidence of snares during the construction phase.</p> <p>→ No hunting, baiting, or trapping shall be allowed within the affected properties or surrounding properties by construction staff.</p>
18.	<p><b>DISTURBANCE OF SENSITIVE AREAS [IN TERMS OF ECOLOGICAL SENSITIVITY]</b></p> <p>During the construction phase, the construction of the proposed Umsobomvu Infrastructure Development, could erode and degrade watercourses and the associated riparian vegetation due to negligent construction practices.</p>	<p>→ Stormwater must be managed in accordance with the recommendations outlined in the EMP to ensure that runoff does not enter surrounding watercourses or drainage lines.</p>
19.	<p><b>ESTABLISHMENT OF ALIEN PLANT SPECIES</b></p> <p>The removal of existing natural vegetation creates 'open' habitats which favours the establishment of undesirable vegetation in areas that are typically very difficult to eradicate which could pose a threat to surrounding ecosystems.</p>	<p>→ An Alien Vegetation Management Plan must be compiled and implemented during the Construction Phase.</p> <p>→ A Rehabilitation Management Plan must be compiled and implemented during the Construction Phase.</p> <p>→ Any alien vegetation which establishes during the construction phase must be removed from site and disposed of at a registered waste disposal site. Continuous monitoring for seedlings must take place throughout the construction phase.</p>
20.	<p><b>FOSSIL HERITAGE RESOURCES</b></p> <p>Disturbance, damage, destruction or sealing-in of fossil remains preserved at or beneath the ground surface within the development area, especially during ground clearance or bedrock excavations during the construction phase.</p>	<p>→ Monitoring of all substantial bedrock excavations for fossil remains by the ECO, with reporting of new palaeontological finds (notably fossil vertebrate bones and teeth) to ECPHRA (Eastern Cape) or SAHRA (Northern Cape) for possible specialist mitigation.</p> <p>→ A Chance Fossil Finds Procedure is recommended by the Palaeontological Specialist and included in Appendix D of this EMP, as per Appendix 1 of the Palaeontological Cover Letter and Impact Assessment.</p>
21.	<p><b>SENSITIVE HERITAGE RESOURCES</b></p> <p>The Archaeological Specialist identified the following site of heritage significance within the proposed Umsobomvu Infrastructure study area: UMZ014 (stone tools, SAHRA Rating 3C). The UMZ014 heritage site is situated within the proposed access road</p>	<p>→ Should the proposed road upgrade affect the UMZ014 heritage site, a permit will be required prior to the commencement of the construction phase.</p> <p>→ The necessary permit must be obtained from SAHRA prior to the commencement of vegetation clearing.</p> <p>→ The identified heritage site, any other identified heritage sites, must be monitored by an archaeologist during the construction phase.</p>

IMPACT	IMPACT DESCRIPTION	MITIGATION
		upgrade. The site is of low significance.
22.	<p><b>IMPACT ON HERITAGE AND PALAEOLOGY RESOURCES</b></p>	<p>In addition to the specialist mitigation measures above, SAHRA recommends these mitigation measures in accordance with section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA to reduce adverse impacts on sensitive heritage and palaeontology resources.</p> <ul style="list-style-type: none"> <li>→ 38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objections to the proposed development.</li> <li>→ 38(4)b – The recommendations provided by the heritage specialists and BAR are supported and must be adhered to. Specific conditions are provided for the development as follows.</li> <li>→ A Monitoring report by the ECO on all substantial excavations must be submitted to SAHRA upon completion of the construction phase.</li> <li>→ An archaeological monitoring report conducted by the appointed qualified archaeologist must be submitted to SAHRA upon completion of the construction phase.</li> <li>→ 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section</li> <li>→ 51(1)e of the NHRA and item 5 of the Schedule.</li> <li>→ 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.</li> <li>→ 38(4)d – See section 51(1) of the NHRA.</li> <li>→ 38(4)e – The following conditions apply with regards to the appointment of specialists: <ul style="list-style-type: none"> <li>i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.</li> </ul> </li> </ul>
23.	<p><b>IMPACT ON ESKOM INFRASTRUCTURE</b></p>	<p>Eskom has the following requirements for work in or near Eskom servitudes.</p> <ul style="list-style-type: none"> <li>→ Eskom's rights and services must be acknowledged and respected at all times.</li> <li>→ Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>→ Eskom's consent does not relieve the developer from obtaining the necessary statutory, landowner or municipal approvals.</li> </ul>

IMPACT	IMPACT DESCRIPTION	MITIGATION
		<ul style="list-style-type: none"> <li>→ Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> <li>→ If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</li> <li>→ The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</li> <li>→ Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.</li> <li>→ Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</li> <li>→ No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.</li> <li>→ Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</li> </ul>

IMPACT		IMPACT DESCRIPTION	MITIGATION
			<ul style="list-style-type: none"> <li>→ Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</li> <li>→ The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</li> <li>→ Equipment shall be regarded electrically live and therefore dangerous at all times.</li> <li>→ In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</li> <li>→ Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</li> <li>→ It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</li> <li>→ Any third-party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</li> </ul>
OPERATIONAL PHASE			
24.	<b>STORMWATER MANAGEMENT AND SOIL EROSION</b>	The creation of impermeable surfaces during the operation of the Umsobomvu Infrastructure Development could contribute to increased runoff during rainfall events. The increased runoff and inadequate stormwater management could lead to increased soil erosion within the proposed site and surrounds.	<ul style="list-style-type: none"> <li>→ The Stormwater Management Plan, compiled and implemented during the construction phase, must include operational phase management measures for implementation throughout the operational phase.</li> <li>→ The site must be monitored regularly for signs of erosion by the ECO. Remedial action must be taken at the first signs of erosion.</li> </ul>
25.	<b>FIRE RISK</b>	The operation of the Umsobomvu Infrastructure could increase the fire risk in the area.	<ul style="list-style-type: none"> <li>→ The maintenance personnel, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.</li> </ul>



IMPACT		IMPACT DESCRIPTION	MITIGATION
			<ul style="list-style-type: none"> <li>→ The maintenance personnel and/or the appointed fire marshal must ensure that there is always fire-fighting equipment available on-site during the operational phase.</li> <li>→ The maintenance personnel must be aware of the risk of fires, the procedure to be followed in the event of a fire and they must have access to the relevant contact details of the nearest Fire and Emergency Services.</li> </ul>
26.	<b>SOCIO-ECONOMIC BENEFITS</b>	The operation of the Umsobomvu Infrastructure Development will create long-term employment opportunities. These will primarily be employment opportunities involving general maintenance and servicing of the infrastructure. These employment opportunities will contribute to the skills development of individuals and a long-term income which will benefit individuals and their families.	<ul style="list-style-type: none"> <li>→ Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.</li> </ul>
27.	<b>WASTE MANAGEMENT</b>	The inadequate management of waste, which is produced during the operational phase, including litter, is likely to result in the pollution of the study area and immediate surrounds.	<ul style="list-style-type: none"> <li>→ Maintenance staff must be informed that littering is prohibited within the construction site and surrounding areas.</li> </ul>
28.	<b>VISUAL AND AESTHETIC IMPACTS</b>	The operation of the Umsobomvu Infrastructure Development could have an adverse impact on the visual and aesthetic quality of the study area and immediate surrounds. However, the Umsobomvu Infrastructure Development will only be visible to a limited number of individuals due to the location of the development.	<ul style="list-style-type: none"> <li>→ All general waste, including litter, must be stored in windproof/sealable containers before being disposed of at a registered landfill site.</li> <li>→ The rehabilitation of disturbed areas must be monitored to ensure successful rehabilitation and the resultant decrease in the visual impact.</li> <li>→ The Umsobomvu Infrastructure must be maintained frequently to reduce the risk of degradation of the infrastructure.</li> </ul>
29.	<b>SUPPORT FOR THE FUNCTIONING OF RENEWABLE ENERGY INFRASTRUCTURE</b>	The operation of the Umsobomvu Infrastructure components will contribute to the construction and operation of the Umsobomvu Wind Energy Facility.	<ul style="list-style-type: none"> <li>→ The Umsobomvu Infrastructure must be maintained frequently to reduce the risk of degradation and to ensure that the infrastructure adequately contributes to the construction and functioning of the Umsobomvu Wind Energy Facility.</li> </ul>
30.	<b>ESTABLISHMENT OF ALIEN PLANT SPECIES</b>	During the operational phase, failure to remove and manage alien vegetation during construction could result in the permanent establishment of alien vegetation in the study area. The poor rehabilitation of disturbed areas could lead to the permanent degradation of	<ul style="list-style-type: none"> <li>→ The Alien Vegetation Management Plan must be compiled and implemented to prevent the establishment and the spread of undesirable alien plant species during the Operational Phase.</li> <li>→ Monitoring of the establishment of alien seedlings should continue throughout the operational phase. Any alien seedlings must be removed and disposed of at a registered landfill.</li> </ul>



IMPACT		IMPACT DESCRIPTION	MITIGATION
		ecosystems as well as allow invasion by alien plant species.	→ A Rehabilitation Management Plan must be compiled and implemented during the Operational Phase.
31.	<b>IMPACTS OF NOISE AND LIGHTING ON FAUNAL POPULATIONS</b>	During the operational phase, noise and lighting associated with the proposed Umsobomvu Infrastructure Development (including maintenance activities) could cause a disturbance to surrounding faunal populations within the project area.	→ Regular maintenance and checks of the infrastructure must be undertaken to ensure that infrastructure is within regulated/standard noise limits. → Where possible, external lighting should be avoided, and site access should be minimised.
32.	<b>IMPACT ON HERITAGE AND PALAEOLOGY RESOURCES</b>	SAHRA recommends these mitigation measures in accordance with section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA to reduce adverse impacts on sensitive heritage and palaeontology resources.	→ An archaeological monitoring report conducted by the appointed qualified archaeologist must be submitted to SAHRA upon completion of the construction phase. → 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.
33.	<b>IMPACT ON ESKOM INFRASTRUCTURE</b>	Eskom has the following requirements for work in or near Eskom servitudes.	→ Eskom's rights and services must be acknowledged and respected at all times. → Eskom shall at all times retain unobstructed access to and egress from its servitudes. → Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer. → If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand. → Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.

IMPACT	IMPACT DESCRIPTION	MITIGATION
		<ul style="list-style-type: none"> <li>→ Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</li> <li>→ No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.</li> <li>→ Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</li> <li>→ Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</li> <li>→ Equipment shall be regarded electrically live and therefore dangerous at all times.</li> <li>→ Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</li> <li>→ It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</li> <li>→ Any third-party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</li> </ul>
DECOMMISSIONING PHASE		

IMPACT		IMPACT DESCRIPTION	MITIGATION
<p><i>The proposed Umsobomvu Infrastructure Development is unlikely to be decommissioned in the foreseeable future because it is required to supplement the development of the Umsobomvu I WEF (20-25 year lifespan), however, should components of the development be decommissioned in the short-term, such as the batching plants, the following mitigation measures and rehabilitation measures will apply.</i></p>			
IMPACT		IMPACT DESCRIPTION	MITIGATION
34.	INCREASE IN AIR EMISSIONS	During the decommissioning phase, dust is likely to be created as a result of decommissioning activities, such as grading and levelling of the exposed land and the use of heavy machinery, which could be a nuisance during the decommissioning phase.	<ul style="list-style-type: none"> <li>→ Exhaust emissions from heavy vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.</li> <li>→ Decommissioning activities must only be done during the agreed-upon working hours and days.</li> <li>→ A speed limit of 40 km per hour must not be exceeded on gravel roads.</li> </ul>
35.	INCREASE IN NOISE LEVELS	Noise will be created on the site during the decommissioning phase due to the operation of machinery, noise generated by heavy vehicles both on-site and during travel to and from the site as well as noise generated by the workers which are all likely to result in an increase in noise levels and potentially be a nuisance to individuals in proximity to the site.	<ul style="list-style-type: none"> <li>→ All vehicles must be in sound working order and meet the necessary noise level requirements.</li> <li>→ All relevant municipal by-laws, with regards to noise control, must apply.</li> <li>→ Workers must not make use of portable radios, vehicle radios, whistles, and other items which generate excessive noise, while they are on the site.</li> </ul>
36.	SITE CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES	During the decommissioning phase, onsite maintenance of vehicles and/or machinery, and equipment could result in oil, diesel and other hazardous chemicals contaminating surface and groundwater. Surface and groundwater pollution could arise from the spillage or leaking of fuel and oil during the decommissioning activities.	<ul style="list-style-type: none"> <li>→ The storage of fuels and hazardous materials must be located away from all identified sensitive water resources.</li> <li>→ All hazardous substances, including fuel and oil, must be stored in a bunded area.</li> <li>→ Spill kits must be readily available on-site throughout the decommissioning phase.</li> <li>→ Drip trays must be placed under all stationary plant.</li> <li>→ If a spill occurs on a permeable surface (e.g. soil), a spill kit must be used to reduce the potential spread of the spill immediately.</li> <li>→ If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.</li> <li>→ Contaminated remediation materials must be carefully removed from the area of the spill, to prevent the further release of hazardous chemicals to the environment and stored in adequate containers until appropriate disposal at a suitably licenced landfill site.</li> </ul>
37.	FIRE RISK	The decommissioning of the Umsobomvu Infrastructure Development could increase the risk of fires, which could potentially result in the loss of crops, grazing and livestock. In addition, fires could result in	<ul style="list-style-type: none"> <li>→ Open fires must not be permitted within the proposed site during the decommissioning phase.</li> <li>→ Smoking must be restricted to designated smoking areas which have easy access to fire-fighting equipment.</li> </ul>

IMPACT	IMPACT DESCRIPTION	MITIGATION
		<p>injury to employees within the site and the potential damage to or loss of property.</p> <ul style="list-style-type: none"> <li>→ The Contractor, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.</li> <li>→ The Contractor and/or the appointed fire marshal must ensure that there is always fire-fighting equipment available on-site during the decommissioning phase.</li> <li>→ The Contractor and/or the appointed fire marshal must ensure that all site personnel are aware of the risk of fires, the procedure to be followed in the event of a fire and that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.</li> </ul>
38.	<p><b>SOCIO-ECONOMIC BENEFITS</b></p>	<p>The decommissioning of the Umsobomvu Infrastructure will create short-term employment opportunities. These employment opportunities will contribute to the skills development of individuals and a short-term income which will benefit individuals and their families.</p> <ul style="list-style-type: none"> <li>→ Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.</li> </ul>
39.	<p><b>WASTE MANAGEMENT</b></p>	<p>The inadequate management of waste which is produced during the decommissioning phase is likely to result in the pollution of the study area and immediate surrounds.</p> <ul style="list-style-type: none"> <li>→ All general waste, which is temporarily stored, on-site must be done so in windproof/sealable containers before being disposed of at a registered landfill site.</li> <li>→ Waste must not be burned on site.</li> <li>→ Workers must be informed that littering is prohibited within the site and surrounding areas.</li> <li>→ The Waste Management Plan must include relevant decommissioning waste management measures and it must be implemented for the duration of the decommissioning phase.</li> </ul>
40.	<p><b>VISUAL AND AESTHETIC IMPACTS</b></p>	<p>The activities associated with the decommissioning of the Umsobomvu Infrastructure are likely to have an adverse impact on the visual and aesthetic quality of the study area and immediate surrounds. However, the construction site will only be visible to a limited number of individuals due to the location of the development.</p> <ul style="list-style-type: none"> <li>→ All general waste, which is temporarily stored, on-site must be done so in windproof/sealable containers before being disposed of at a registered landfill site.</li> <li>→ Rehabilitation of the decommissioned footprints must take place as soon as practically possible.</li> </ul>
41.	<p><b>INADEQUATE REHABILITATION</b></p>	<p>The inadequate rehabilitation of the development footprint could result in unsuccessful site re-vegetation and resultant long-term ecological degradation.</p> <ul style="list-style-type: none"> <li>→ A portion of the operational phase earnings should be set aside for costs associated with the landscaping and re-vegetation of the development footprint.</li> <li>→ All temporary disturbed areas that do not form part of development, must be rehabilitated using only indigenous vegetation.</li> <li>→ All impacted areas must be restored as per the EMPr requirements.</li> </ul>

IMPACT	IMPACT DESCRIPTION	MITIGATION
		<ul style="list-style-type: none"> <li>→ A Rehabilitation Plan must be compiled and implemented during the decommissioning phase.</li> </ul>
42.	<b>DISTURBANCE OF FAUNAL SPECIES</b>	<p>Decommissioning activities (including noise and vehicular movement) could result in the disturbance of faunal species and the subsequent movement of species out of the area. Additionally, inadequate rehabilitation could reduce the likelihood of re-creating faunal habitat.</p> <ul style="list-style-type: none"> <li>→ Search and clear the area directly prior to decommissioning activities.</li> <li>→ Vehicle speed must be limited to 40km/hr to reduce faunal collision mortality.</li> <li>→ No decommissioning activities should take place before sunrise or after sunset, unless agreed upon by the ECO.</li> <li>→ Animals must not be killed or injured as a result of the decommissioning of the Umsobomvu Infrastructure Development and presence of staff.</li> <li>→ No hunting, baiting, or trapping shall be allowed within the affected properties or surrounding properties by construction staff.</li> </ul>
43.	<b>WILDLIFE POACHING</b>	<p>During the decommissioning phase, the increase in individuals accessing the project area for the proposed Umsobomvu Infrastructure Development could result in an increase in wildlife poaching.</p> <ul style="list-style-type: none"> <li>→ All individuals should sign a register prior to accessing the site.</li> <li>→ Workers must not be housed onsite.</li> <li>→ No animal shall be killed or injured as a result of the decommissioning of the Umsobomvu Infrastructure Development and presence of workers.</li> <li>→ An ECO must be appointed for the duration of the decommissioning phase.</li> <li>→ The ECO must investigate the site for evidence of snares during the decommissioning phase.</li> <li>→ No hunting, baiting or trapping shall be allowed within the affected properties or surrounding properties by workers.</li> </ul>
44.	<b>IMPACT ON HERITAGE AND PALAEOLOGY RESOURCES</b>	<p>SAHRA recommends these mitigation measures in accordance with section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA to reduce adverse impacts on sensitive heritage and palaeontology resources.</p> <ul style="list-style-type: none"> <li>→ 38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objections to the proposed development.</li> <li>→ 38(4)b – The recommendations provided by the heritage specialists and BAR are supported and must be adhered to. Specific conditions are provided for the development as follows.</li> <li>→ A Monitoring report by the ECO on all substantial excavations must be submitted to SAHRA upon completion of the construction phase.</li> <li>→ An archaeological monitoring report conducted by the appointed qualified archaeologist must be submitted to SAHRA upon completion of the construction phase.</li> <li>→ 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section</li> </ul>

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		<ul style="list-style-type: none"> <li>→ 51(1)e of the NHRA and item 5 of the Schedule.</li> <li>→ 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.</li> <li>→ 38(4)d – See section 51(1) of the NHRA.</li> <li>→ 38(4)e – The following conditions apply with regards to the appointment of specialists:               <ul style="list-style-type: none"> <li>i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.</li> </ul> </li> </ul>
45.	<b>IMPACT ON ESKOM INFRASTRUCTURE</b>	<p>Eskom has the following requirements for work in or near Eskom servitudes.</p> <ul style="list-style-type: none"> <li>→ Eskom's rights and services must be acknowledged and respected at all times.</li> <li>→ Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>→ Eskom's consent does not relieve the developer from obtaining the necessary statutory, landowner or municipal approvals.</li> <li>→ Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> <li>→ If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</li> <li>→ The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</li> <li>→ Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.</li> </ul>



IMPACT	IMPACT DESCRIPTION	MITIGATION
		<ul style="list-style-type: none"> <li>→ Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</li> <li>→ No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.</li> <li>→ Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</li> <li>→ Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</li> <li>→ The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</li> <li>→ Equipment shall be regarded electrically live and therefore dangerous at all times.</li> <li>→ In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</li> </ul>

IMPACT		IMPACT DESCRIPTION	MITIGATION
			<ul style="list-style-type: none"> <li>→ Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</li> <li>→ It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</li> <li>→ Any third-party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</li> </ul>

### 5.3 CUMULATIVE IMPACT AND OTHER INFRASTRUCTURE

Cumulative impacts are defined as those “that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impact identification process is conducted.” To assess the cumulative impacts that the proposed Umsobomvu Infrastructure Development will have on the terrestrial ecology of the site, it is necessary to assess this at a broader level by looking at other developments in the area, with an emphasis on the associated Umsobomvu WEF. The cumulative impacts associated with the project will include the loss of vegetation communities at a regional scale which will be exacerbated, the spread of invasive alien plant species which could be exacerbated, and habitat fragmentation and disruption of ecosystem function and process could be exacerbated. The cumulative impact associated with the construction and operation of the proposed Umsobomvu Infrastructure, is likely to be of moderate significance due to the relatively large cumulative development footprint when considered as part of the Umsobomvu WEF development. However, to limit the impact, it is important that the recommended management plans (Chapter 10) are implemented, and that vegetation clearance is strictly limited to the development footprint of the Umsobomvu Infrastructure and associated WEF development. Rehabilitation, to restore ecological function, is also a key element of mitigating cumulative impacts, and it is therefore important to implement and monitor rehabilitation.

### 5.4 MICRO-SITING RECOMMENDATIONS

Micro-siting investigations were undertaken on the Final Umsobomvu Infrastructure Development and the Umsobomvu WEF as a consolidated layout by the specialists; however, the recommendations relevant to the Umsobomvu Infrastructure Development have been extracted below. The recommendations made by the Avifaunal Specialist (WildSkies Ecological Services), Botanical and Faunal Specialist (CES), and Heritage Specialist (Umlando: Archaeological surveys & Heritage Resources Management) have been included in Table 5-3, Table 5-4 and Table 5-5 below.

**Table 5-3: Avifaunal Micro-Siting Specialist Recommendations.**

MICRO-SITING RECOMMENDATIONS – AVIFAUNAL		
COMPONENT		RECOMMENDATIONS
1.	Access Roads	<ul style="list-style-type: none"> <li>• The infrastructure location is acceptable from an avifaunal perspective.</li> </ul>

Table 5-4: Botanical Micro-Siting Specialist Recommendations.

MICRO-SITING RECOMMENDATIONS – BOTANICAL		
	COMPONENT	RECOMMENDATIONS
1.	Infrastructure in the Eastern Cape Province	<ol style="list-style-type: none"> <li>1. A permit must be obtained from the Eastern Cape DEDEAT prior to the damage, destruction or removal of any SCC identified at the site.</li> <li>2. To account for potential SCC which may have gone undetected during the micro-siting investigation, it is recommended that a Search and Rescue Operation is conducted during the peak survey period for the respective biomes in which the project occurs. Should additional SCC be identified during the Search and Rescue operation, which were not accounted for during this micro-siting investigation, separate permits must be obtained prior to the damage, destruction, removal or translocation of these species.</li> <li>3. SCC which are known to survive translocation must be translocated to the nearest similar habitat.</li> </ol>
2.	Infrastructure in the Northern Cape Province	<ol style="list-style-type: none"> <li>1. A permit must be obtained from the Northern Cape DAEARDL prior to the damage, destruction or removal of any of the other SCC identified at the site.</li> <li>2. To account for potential SCC which may have gone undetected during the micro-siting investigation, it is recommended that a Search and Rescue Operation is conducted during the peak survey period for the respective biomes in which the project occurs. Should additional SCC be identified during the Search and Rescue operation which were not accounted for during this micro-siting investigation, separate permits must be obtained prior to the damage, destruction, removal or translocation of these species.</li> <li>3. SCC which are known to survive translocation must be translocated to the nearest similar habitat.</li> </ol>

Table 5-5: Heritage Micro-Siting Specialist Recommendations.

MICRO-SITING RECOMMENDATIONS – Heritage		
	DESCRIPTION OF ARTIFACT FOUND	RECOMMENDED MITIGATION
1.	Stellae 10, Boundary Marker	● Remove and relocate
2.	Stellae 11, Boundary Marker	● Remove and relocate
3.	Stellae 12, Boundary Marker	● Remove and relocate
4.	UMZ006, Stone Tool Scatter	● Permit required
5.	UMZ014, Stone Tool Scatter	● Not affected by infrastructure
6.	UMZ015, Quarry and Knapping	● Not affected by infrastructure
7.	UMZ026, Stone Tool Scatter	● Sampling and Permit required
8.	UMZ029, Stone Tool Scatter	● Permit required
9.	Weltevreden, Labourers Houses	● Not affected by infrastructure
10.	Weltevreden, Historical Building	● Not affected by infrastructure
11.	Weltevreden, Historical Midden	● Sampling and Permit required
12.	Winterhoek, Historical Building	● Not affected by infrastructure

## 5.5 SITE SENSITIVITY

The site sensitivity map was developed over a period of 10 years. Starting in 2013, with the start of pre-construction bird and bat monitoring for the Umsobomvu WEF development, followed by the EIA process (2014-2017), a Part 2 EA Amendment process (2019) and two ground truthing processes (2021 and 2022). The proposed Umsobomvu Infrastructure Development was designed outside of the constraints gathered by various specialists over an eight-year period. The specialists were then deployed during the Umsobomvu Infrastructure Development BA Process in 2021, and the Umsobomvu WEF and Infrastructure ground

truthing process in 2022. The final infrastructure layout is a refined layout which has taken all sensitivities into account to ensure that the layout is in line with sustainable development of renewable energy and associated infrastructure. Please see Figure 5-1 below which takes all specialist sensitivities into account (Aquatic, Agriculture, Avifauna, Bats, Heritage, Noise, Palaeontology, Social, Terrestrial Biodiversity (Fauna and Flora) and Visual).

In order to ensure that the development is viewed holistically a site sensitivity of the full site development has been included as Figure 5-2. This includes the Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and the Umsobomvu Infrastructure Development (DFFE Ref: 14/12/16/3/3/1/2040) components.



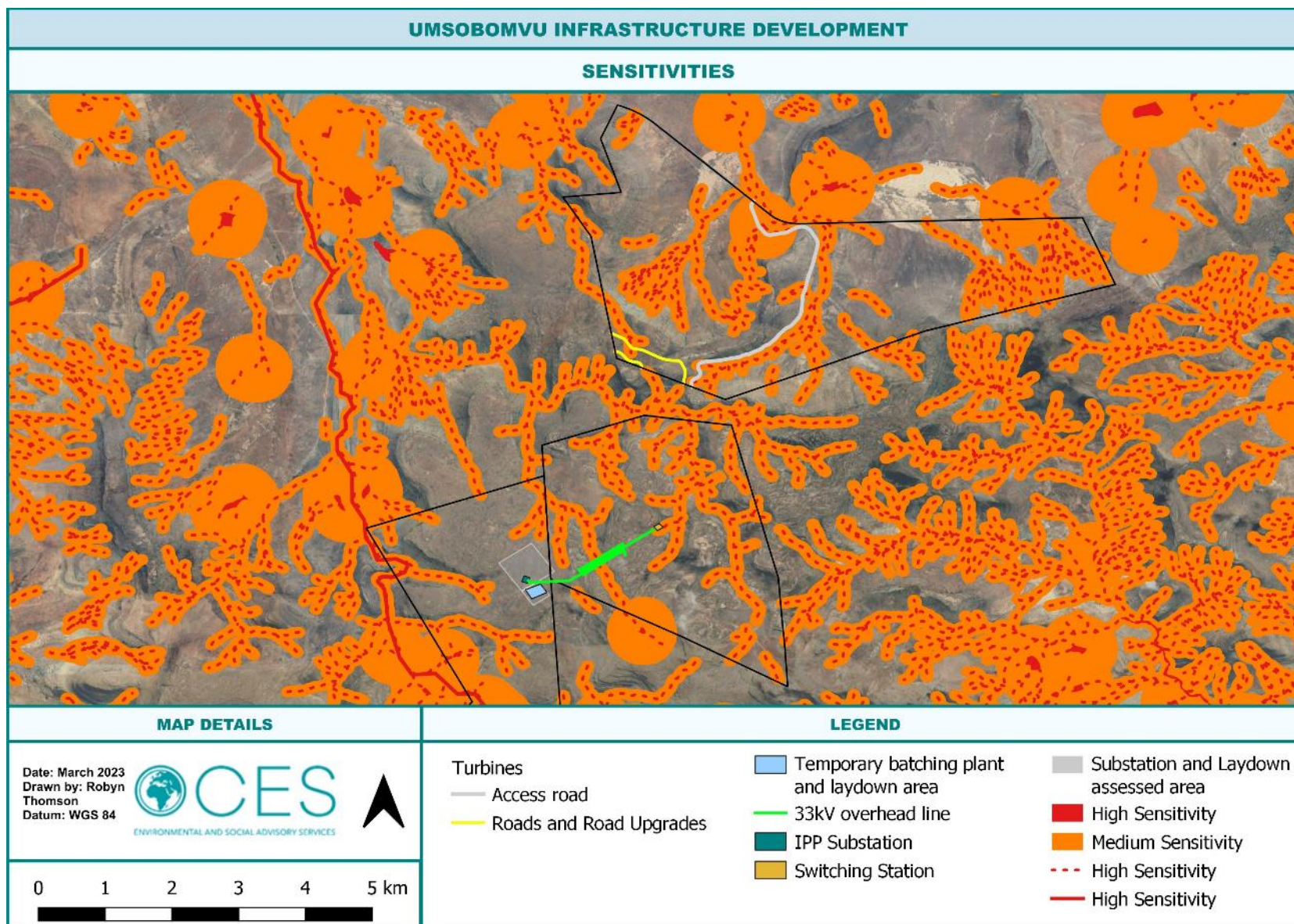


Figure 5-1: Sensitivity Map of the Proposed Umsobomvu Infrastructure Development.



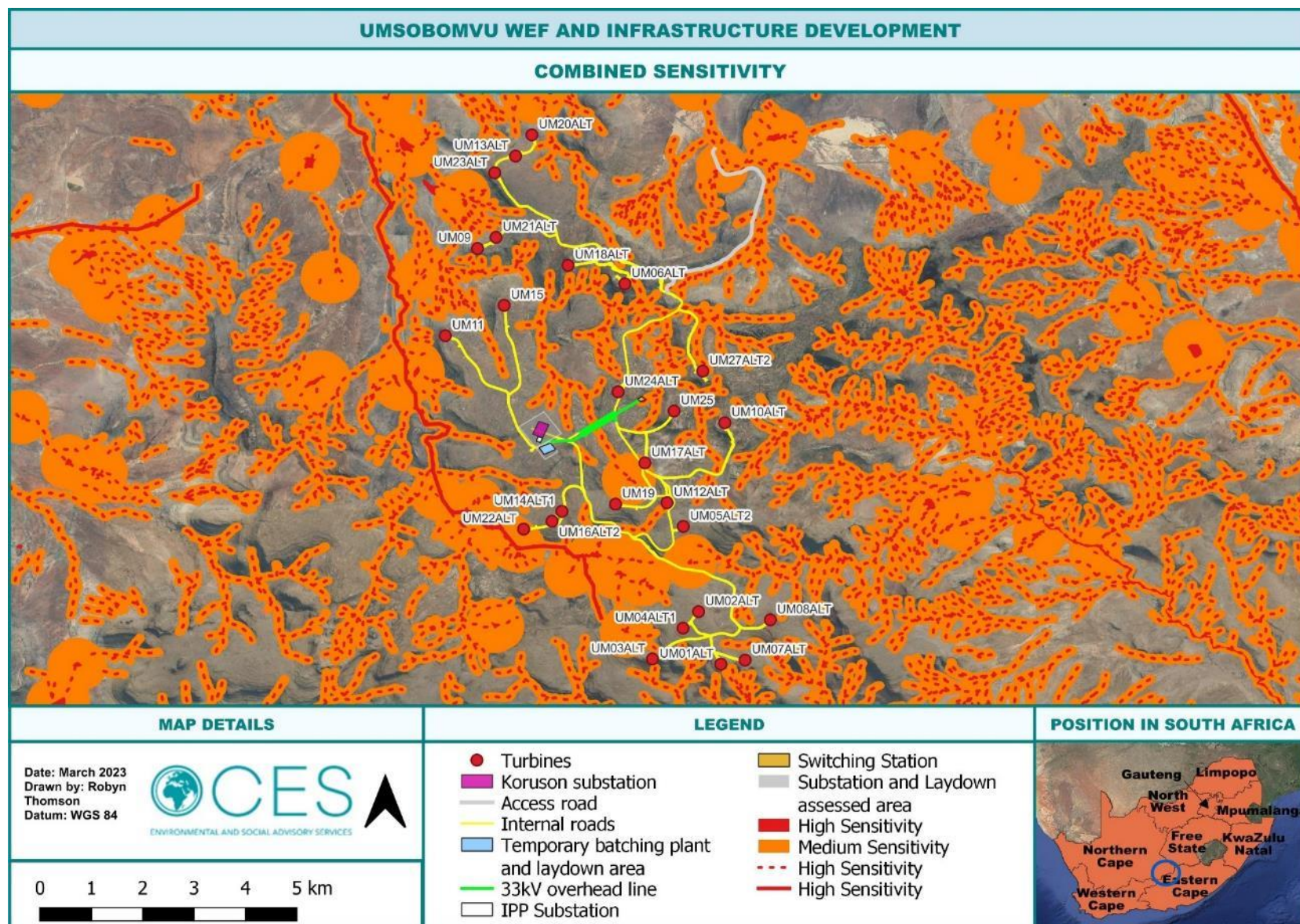


Figure 5-2: Sensitivity Map of the Proposed Umsobomvu Infrastructure Development and the Umsobomvu WEF.



## **5.6 ENVIRONMENTAL AUTHORISATION CONDITIONS**

The following conditions have been extracted from the Environmental Authorisation, verbatim. All conditions must be abided by as part of this EMPr (Table 5-11).

Table 5-11: Umsobomvu Infrastructure EA Conditions.

EA CONDITIONS AND EA NUMBERING		EAP Comments
EA DFFE REFERENCE NO.: 14/12/16/3/3/1/2040		
<b>Scope of Authorisation</b>		
1.	The development of the grid infrastructure associated with the Umsobomvu Wind Energy Facility (WEF) near Noupoot and Eastern Cape provinces, is approved as per the geographic coordinates cited in the table above.	Remains relevant.
2.	Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.	Remains relevant.
3.	The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.	Remains relevant. Please see this EMP for particulars regarding compliance of conditions.
4.	The activities authorised may only be carried out at the property as described above.	Remains relevant.
5.	Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be affected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation in terms of the regulations.	Remains relevant for any future changes.
6.	The holder of an Environmental Authorisation must apply for an amendment of the Environmental Authorisation with the Competent Authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.	Remains relevant for any future changes.
7.	This activity must commence within a period of ten (10) years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.	Remains relevant. Although construction is planned to commence this year (2023).
8.	Construction must be completed within five (05) years of the commencement of the activity on site.	Remains relevant.
<b>Notification of authorisation and right to appeal</b>		
9.	The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this Environmental Authorisation, of the decision to authorise the activity.	Completed as part of the BAR phase, on the 16 <sup>th</sup> of November 2021.
10.	The notification referred to must -	Completed as part of the BAR phase, on the 16 <sup>th</sup> of November 2021.
	10.1 specify the date on which the authorisation was issued;	
	10.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;	
	10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and	

	10.4. give the reasons of the competent authority for the decision.	
11.	The authorised activity shall not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014, and no appeal has been lodged against the decision. In terms of Section 43(7), an appeal under Section 43 of the National Environmental Management Act, Act No. 107 of 1998, as amended will suspend the Environmental Authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged you may not commence with the activity until such time that the appeal has been finalised.	Completed as part of the BAR phase. The appeals period lapsed on the 6 <sup>th</sup> of December 2021.
	<b><u>Management of the activity</u></b>	
12.	A copy of the final site layout map must be made available for comments by registered I&APS and the holder of the EA must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible. The layout map must indicate the following:	Completed as part of this EMPr and Layout finalisation process.
	12.1. The final layout of all infrastructure after the final walk through has been undertaken; and	Please see walk through reports submitted as part of this process.
	12.2. All “no-go” and buffer areas.	Please see Chapter 5.5 for all sensitivity and no-go data and mapping.
13.	The Environmental Management Programme (EMPr) and submitted as part of the BAR is not approved and must be amended to include measures as dictated by the final site lay-out map and micro-siting; and the provisions of this environmental authorisation. The EMPr must be made available for comments by registered I&APS and the holder of this environmental authorisation must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity. Once approved the EMPr must be implemented and adhered to.	Completed as part of this EMPr and Layout finalisation process.
14.	The EMPr amendment must include the following:	
	14.1. The requirements and conditions of this authorisation.	Please see Chapter 5.6 (this table)
	14.2. Any site-specific mitigation measures that may arise when the final walk through is undertaken; and	Please see Chapter 5.1 – 5.4 for all recommendations from inception to final walk through.
	14.3. A final development layout plan and all mitigation measures as dictated by the final development layout plan.	Please see Chapter 3 and all maps submitted as part of this EMPr and Layout finalisation process.
15.	The EMPr must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development when approved.	Remains relevant.
16.	Changes to the approved EMPr must be submitted in accordance to the EIA Regulations applicable at the time.	Remains relevant.
17.	The Department reserves the right to amend the approved EMPr should any impacts that were not anticipated or covered in the BAR be discovered.	Remains relevant.

<b>Frequency and process of updating the EMPr</b>		
18.	The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 25 below, indicate insufficient mitigation of environmental impacts associated with the undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.	Remains relevant.
19.	The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.	Remains relevant.
20.	The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of the EIA Regulations, 2014 as amended. The updated EMPr must have been subjected to a public participation process, which process has been agreed to by the Department, prior to submission of the updated EMPr to the Department for approval.	Remains relevant.
21.	In assessing whether to grant approval of an EMPr which has been updated as a result of an audit, the Department will consider the processes prescribed in Regulation 35 of the EIA Regulations, 2014 as amended. Prior to approving an amended EMPr, the Department may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provided for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.	Remains relevant.
22.	The holder of the authorisation must apply for an amendment of an EMPr, if such amendment is required before an audit is required. The amendment process is prescribed in Regulation 37 of the EIA Regulations, 2014, as amended. The holder of the authorisation must request comments on the proposed amendments to the impact management outcomes of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days..	Remains relevant.
<b>Monitoring</b>		
23.	The holder of the authorisation must appoint an experienced Environmental Control Office (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr..	Remains relevant.
	23.1. The ECO must be appointed before commencement of any authorised activities.	Remains relevant.
	23.2. Once appointed, the name and contact details of the ECO must be submitted to the <i>Director: Compliance Monitoring</i> of the Department.	Remains relevant.
	23.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.	Remains relevant.
	23.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.	Remains relevant.
<b>Recording and reporting to the Department</b>		

24.	All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the <i>Director: Compliance Monitoring</i> at the Department.	Remains relevant.
25.	The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited, and that the audit reports are submitted to the <i>Director: Compliance Monitoring</i> of the Department.	Remains relevant.
26.	The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of the EIA Regulations, 2014 as amended.	Remains relevant.
27.	The holder of the authorisation must, in addition, submit environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.	Remains relevant.
28.	The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014 as amended and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.	Remains relevant.
29.	Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.	Remains relevant.
<b><u>Notification to authorities</u></b>		
30.	A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.	Remains relevant.
<b><u>Operation of the activity</u></b>		
31.	A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.	Remains relevant.
<b><u>Site closure and decommissioning</u></b>		
32.	Should the activity ever cease or become redundant, the holder of this EA shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.	Remains relevant.
<b><u>Specific Conditions</u></b>		
<b><u>Conditions for non-operational aspects</u></b>		
33.	Construction of this development may only commence once the Umsobomvu Wind Energy Facility (DFFE Reference: 14/12/16/3/3/2/730/AM2) has commenced with the construction phase.	Please see the Part 1 EA Amendment submitted in association with this EMPr and Layout finalisation. This EA contains critical infrastructure (e.g. roads) which are required to start construction prior to the WEF in order to start construction of the WEF, i.e. this EA must pre-empt

		the WEF as it is part of the critical infrastructure required for its construction.
34.	A pre-construction walk-through of the final development footprint must be undertaken by botanical and avifaunal specialist prior to the commencement of the construction phase for the identification of Species of Conservation Concern (SCC), to undertake a faunal and floral Search and Rescue, as well as to ensure that all avifaunal aspects have been adequately managed.	Completed as part of this EMPr and Layout finalisation process.
35.	Should the proposed road upgrade affect the UMZ014 heritage site, a permit must be applied for from the South African Heritage Resources Agency (SAHRA) prior to the commencement of the construction phase.	Remains relevant.
36.	If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 0462 5402) must be alerted as per section 35(3) of the NHRA.	Remains relevant.
37.	If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA.	Remains relevant.
38.	Regarding the appointment of specialists: If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted at the expense of the developer, as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.	Remains relevant.
39.	An integrated waste management approach must be implemented that is based on waste minimisations and must incorporate reduction, recycling and re-use options where appropriate. Where solid waste is disposed of, such disposal shall only occur at a landfill licensed in terms of section 20(b) of the National Environmental Management Waste Act, 2008 (Act 59 of 2008).	Remains relevant. Also, please see Chapter 10 for all site specific management plans, inclusive of Waste (10.12)
<b>General</b>		
40.	A copy of this Environmental Authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying –	Remains relevant.
	40.1. at the site of authorised activity;	
	40.2. to anyone on request; and	
	40.3. where the holder of the Environmental Authorisation has a website, on such publicly accessible website.	
41.	National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the condition of authorisation as set out in this document or any subsequent document emanating from these conditions of authorisation.	Remains relevant.



## 6 ADMINISTRATION AND REGULATION OF ENVIRONMENTAL OBLIGATIONS

### 6.1 MANAGEMENT STRUCTURE

In line with this EMPr, the Contractor must prepare a document clearly outlining and demonstrating the environmental responsibilities, accountability, and liability of the Contractor's employees. The Contractor must assign responsibilities for the following:

- Reporting structures;
- Actions to be taken to ensure compliance;
- Overall design, development, and implementation of the EMPr;
- Documenting the environmental policy and strategy;
- Implementing the EMPr in all stages/phases of the project; and
- All the aspects which require action under the other core elements and sub-elements of the EMPr.

All official communication and reporting lines, including instructions, directives, and information, need to be channelled according to the organisation structure.

### 6.2 ROLES AND RESPONSIBILITIES

#### 6.2.1 The Applicant (Developer)

Umsobomvu Wind Power (Pty) Ltd (hereafter referred to as the "Applicant" or "Developer") is a Special Purpose Vehicle (SPV) established by EDF Renewables (Pty) Ltd. for the sole purpose of developing, owning, and operating the proposed Umsobomvu WEF and its associated infrastructure (this Umsobomvu Infrastructure development). The Applicant is the responsible entity for monitoring the implementation of the EMPr and compliance with the EA. However, if the company appoints a Contractor to implement the project, and hence implement the proposed mitigation measures documented in this EMPr on their behalf, then the successful contractor's responsibilities are outlined as per the section that follows. The Applicant will also be responsible for stipulating and enforcing fines and penalties to the Contractor for contravention of any non-compliances against the EMPr, the EA and other approved plans.

#### 6.2.2 The Contractor

The successful Contractor will:

- Be responsible for the finalisation of the EMPr in terms of methodologies which are required to be implemented to achieve the environmental specifications contained herein and the relevant requirements contained in the EA;
- Be responsible for the overall implementation of the EMPr in accordance with the requirements of the developer and the EA;
- Ensure that all third parties, who carry out all or part of the Contractor's obligations under the contract, comply with the requirements of this EMPr; and
- Be responsible for obtaining any outstanding permits and licenses which are required for the construction of the Umsobomvu Infrastructure Development.

#### 6.2.3 The Resident Engineer

The Resident Engineer (RE) must be appointed by the Applicant and will be required to oversee the construction programme and construction activities performed by the Contractor. The RE is expected to liaise with the Contractor and ECO on environmental matters, as well as any pertinent engineering matters where these may have environmental consequences. The RE will oversee the general compliance of the Contractor with the EMPr and other pertinent site specifications. The RE must also be familiar with the EMPr

specifications and further monitor the Contractor's compliance with the environmental specifications on a daily basis, through a Site Diary, and enforce compliance.

#### **6.2.4 The Environmental Site Officer (ESO)**

The Contractor must appoint a nominated representative of the Contractor as the ESO for the contract. The ESO must be site-based and must be the responsible person for implementing the environmental provisions of the construction contract. The approved ESO must be onsite at all times.

The ESO's duties will include, *inter alia*, the following:

- Ensuring that all the environmental authorisations and permits, required in terms of the applicable legislation, have been obtained prior to construction commencing;
- Reviewing construction Method Statements (MS) with input from the ECO and RE, where necessary, in order to ensure that the environmental specifications contained within the construction contract are adhered to;
- Assisting the Contractor in finding environmentally responsible solutions to problems;
- Keeping accurate and detailed records of all activities on-site;
- Keeping a register of complaints onsite and recording community comments and issues, and the actions taken in response to these complaints;
- Ensuring that the required actions are undertaken to mitigate the impacts resulting from non-compliance;
- Reporting all incidences of non-compliance to the ECO and Contractor; and
- The ESO must submit regular written reports to the ECO, not less frequently than once a month, during the construction phase of the Umsobomvu Infrastructure Development.

The ESO must have:

- The ability to manage public communication and complaints;
- The ability to think holistically about the structure, functioning and performance of environmental systems;
- The ESO must be fully conversant with the BAR, EMPr, relevant environmental legislation and any other relevant documents relating to the Umsobomvu Infrastructure Development; and
- The ESO must have received professional training, including training in the skills necessary to be able to amicably and diplomatically deal with the public as outlined in the first bullet point above.

The ECO must be in the position to determine whether or not the ESO has adequately demonstrated their capabilities to carry out the tasks at hand and in a professional manner. The ECO will therefore have the authority to instruct the Contractor to replace the ESO if, in the ECO's opinion, the appointed officer is not fulfilling their duties in terms of the requirements of the construction contract. Such instruction must be in writing and must clearly set out the reasons why a replacement is required and within what timeframe. The ECO must visit the development site and, in addition to the responsibilities listed in section 6.2.5 below, review the performance of the ESO and submit performance reviews to Umsobomvu Wind Power (Pty) Ltd.

#### **6.2.5 Environmental Control Officer (ECO)**

For the purpose of implementing the conditions contained herein, Umsobomvu Wind Power (Pty) Ltd must appoint an ECO for the contract. The ECO must be the responsible person for ensuring that the provisions of the EMPr, as well as the EA, are complied with during the construction phase. The ECO will be responsible for issuing instructions to the Contractor, where environmental considerations call for action to be taken. The ECO must submit regular written reports, at least once a month, to the Applicant and, when required and/or requested, to the competent authority (DFFE). The ECO will be responsible for the monitoring,

reviewing, and verifying of compliance with the EMPr and conditions of the EA by the Contractor.

The ECO's duties in this regard will include, *inter alia*, the following:

- Confirming that all the permits and EA(s) required in terms of the applicable legislation have been obtained prior to construction commencing;
- Monitoring and verifying that the EMPr, the EA and the Contract are adhered to at all times and acting if specifications are not followed;
- Monitoring and verifying that environmental impacts are kept to a minimum;
- Reviewing and approving construction Method Statements with input from the ESO and RE, where necessary, in order to ensure that the environmental specifications contained within this EMPr and the EA are adhered to;
- Inspecting the site and surrounding areas on a regular basis to monitor compliance with the EMPr, EA and Contract;
- Monitoring the undertaking by the Contractor of environmental awareness training for all new personnel on-site;
- Ensuring that activities onsite comply with all relevant environmental legislation;
- Undertaking a continual internal review of the EMPr and submitting any changes to the Applicant and authority for review and approval, as applicable;
- Checking the register of complaints kept on-site and maintained by the ESO and ensuring that the correct actions are/were taken in response to these complaints;
- Checking that the required actions are/were undertaken to mitigate the impacts resulting from non-compliance;
- Reporting all incidences of non-compliance to Umsobomvu Wind Power (Pty) Ltd;
- The ECO must also submit compliance audit reports to DFFE, in accordance with the requirements of the EA. Such reports must be reviewed by Umsobomvu Wind Power (Pty) Ltd prior to submission;
- Keeping a photographic record of progress on-site from an environmental perspective. This can be conducted in conjunction with the ESO, because the ESO will be the person that will be onsite at all times and can therefore take photographic records weekly. The ECO must ensure that the ESO understands the task at hand;
- Recommending additional environmental protection measures, where necessary; and
- Providing feedback on any environmental issues during the site meetings.

The ECO must have:

- A good working knowledge of all relevant environmental policies, legislation, guidelines, and standards;
- The ability to conduct inspections and audits and to produce thorough, readable, and informative reports;
- The ability to manage public communication and complaints;
- The ability to think holistically about the structure, functioning and performance of environmental systems; and
- Proven competence in the application of the following integrated environmental management tools:
  - Environmental Impact Assessment;
  - Environmental Management Plans/Programmes;
  - Environmental auditing;
  - Mitigation and optimisation of impacts;
  - Monitoring and evaluation of impacts; and
  - Environmental management systems.

The ECO must be fully conversant with the NEMA EIA Regulations (2014, as amended), the Umsobomvu Infrastructure Development BAR and associated reports, the EA, this EMPr, and other relevant documents related to the full Umsobomvu WEF development (i.e. EIA, EMPrs and EA). The Applicant will have the authority to replace the ECO if, in their opinion, the appointed officer is not fulfilling their duties in terms of

the requirements of the EMPr or this specification. Such instruction will be in writing and must be clearly set out with reasons why a replacement is required and within what timeframe.

### 6.3 COMPLIANCE MONITORING AND CORRECTIVE ACTION

Non-compliance with the conditions of the EMPr must be viewed as a breach of appointment Contract for which the construction contractors will be held liable. The latter is deemed NOT to have complied with the EMPr if:

- There is evidence of contravention of the EMPr, its environmental specifications or the Method Statements developed by the Contractor within the boundaries of the construction site or areas of contractor responsibility;
- Construction-related activities take place outside the defined boundaries of the site;
- Environmental damage ensues due to negligence;
- The Contractor fails to comply with corrective or other instructions issued by the ECO within a specific time; or
- The Contractor fails to respond adequately to complaints from the public or authorities.

The Applicant and the construction contractors are liable for any construction rehabilitation costs associated with their non-compliance with this EMPr. This rehabilitation will be undertaken to the satisfaction of the ECO. The construction contractors will have the right to appeal any punitive action undertaken by the ECO or the Applicant.

### 6.4 REPORTING AND REVIEW

The EMPr reporting and documentation requirements must be based on best practice principles, e.g. ISO 14001, which must take the following requirements into account:

- Documents associated with the EMPr must be reviewed regularly and updated by all environmental management parties;
- Audits of the environmental performance of the construction phase of the project will be undertaken on a monthly basis by accredited auditors in fulfilment of likely conditions of EA in this regard;
- The findings of external, internal, and informal environmental reviews will be recorded and items requiring action will be identified from the recommendations made; and
- The construction contractors will be contractually obliged to fulfil any reasonable recommendations, and implementation of these actions will be assessed in the above audit.

Meetings, where required, must take place onsite. Internal auditing and reporting must be subject to external review by the ECO during the monthly compliance audits.

### 6.5 MONITORING

Construction activities have the potential to impact on a range of biophysical habitats as well as neighbouring communities. The monitoring programme which requires development by the Applicant, ECO and Contractor must, *inter alia*, allow for analysis of:

1. Air emissions (such as dust);
2. Hydrocarbon pollution;
3. Success of local labour employment;
4. Success of local procurement policies;
5. Ambient and workplace noise;
6. Health and safety incidents;

7. Success of traffic management measures; and
8. Contamination and soil erosion.

## 6.6 EMERGENCY PREPAREDNESS

The Contractor must develop environmental emergency response procedures to ensure that there are appropriate responses to unexpected or accidental actions or incidents that will cause environmental impacts during the construction phase. Such activities include, *inter alia*:

- Accidental discharges to water and land;
- Accidental exposure of employees to hazardous substances;
- Accidental fires;
- Accidental spillage of hazardous substances; and/or
- Specific environmental and ecosystem effects from accidental releases or incidents.

The Contractor and Subcontractors must comply with the emergency preparedness incident reporting requirements that must be developed and in place prior to the commencement of the construction phase.

## 6.7 ENVIRONMENTAL INCIDENT MANAGEMENT

The construction contractors must adhere to the hazard and incident reporting protocols to be developed by the Contractor. A report must be completed for all incidents, and appropriate action taken where necessary to minimise any potential impacts. DFFE must be informed of any environmental incidents, in accordance with legislative requirements, should this be necessitated by a major environmental incident.

## 6.8 MANAGEMENT REVIEW

A formal management review must be conducted in which the internal audit reports, written by the ESO, and based on frequent inspections and interactions with the ECO and review of the periodic reports, including audit reports by the independent external auditor - will be reviewed. The purpose of the review is to critically examine the effectiveness of the EMPr and its implementation and to decide on potential modifications to the EMPr as and when necessary. The process of management review will be to keep to the principle of continual improvement.

Management reviews must take place when the liaison committee, consisting of representatives from the Contractor, construction Subcontractors (as appropriate), ECO and other parties or I&APs deem them necessary or on a quarterly basis. The purpose of these quarterly meetings will be to review the progress of the Contractor in implementing and complying with their obligations in terms of this EMPr for the duration of the project. Where necessary, management review will take place more frequently than the required quarterly meetings.

## 7 REPORTING

### 7.1 METHOD STATEMENTS

Method Statements must be completed by the Contractor, an individual that is competent with the tasks to be undertaken, for each activity which requires a Method Statement as specified in the EMP or as requested by the ECO. Each Method Statement must be submitted to the ECO and the Applicant for approval. For the purposes of the environmental specification, a Method Statement is defined as:

*“A written submission by the Contractor to the ECO setting out the plant, materials, labour and method the Contractor proposes to carry out an activity, in such detail that the ECO is enabled to assess whether the Contractor’s proposal is in accordance with the EMP and/or will produce results in accordance with EMP.”*

The Method Statement must include details of the:

- Construction procedures;
- Materials and equipment to be used;
- Transportation of the equipment to- and from site;
- How the equipment and/or material will be moved while on-site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Timing and location of activities;
- Compliance and non-compliance with the specifications; and
- Any other information deemed necessary by the Engineer.

Method Statements can be for once-off tasks or a series of tasks which are often repeated. The risks are identified during the various work stages when a Method Statement is prepared. Steps taken to reduce the potential risk associated with these stages can then be determined. The sequential steps and actions to be followed by the persons carrying out the works are written down. This sequence of steps must include all environmental and safety aspects relevant to the task being executed.

As a minimum, the Contractor must produce the following Method Statements:

- Site Dust Management;
- Solid Waste Management;
- Hazardous Material Management;
- Hydrocarbon Management;
- Site Clearing and Topsoil Management;
- Fire Management;
- Noise Management;
- Concrete Mixing;
- Pollution Control;
- Site Access and Traffic Management; and
- Incident and Emergency Response Management.

The Method Statements must be submitted to the ECO and the Applicant not less than twenty (20) days prior to the intended date of commencement of the activity, or as directed by the ECO. The Contractor must not commence with an activity until all required Method Statements have been approved by the ECO and the Applicant. The ECO must provide comment on the methodology and procedures proposed by the Contractor, but the ECO will not be responsible for the Contractor’s chosen measures of impact mitigation and



emergency/disaster management systems. Approval of the Method Statements must not be withheld unreasonably.

All control measures detailed in the Method Statement must be the subject of "toolbox" talks prior to the initiation of works. By introducing or reaffirming these measures during the "toolbox" talk, everyone involved must have a clear understanding of the work to be carried out, as well as the safe work method sequences and equipment required.

**AN EXAMPLE OF A METHOD STATEMENT LAYOUT IS PROVIDED IN APPENDIX C.**

## 7.2 GOOD HOUSEKEEPING

The Contractor must undertake "good housekeeping" practices during the Construction Phase. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods to include the care for and preservation of the environment within which the construction is situated.

## 7.3 RECORD KEEPING

The ECO must continuously monitor the Contractor's adherence to the approved impact prevention procedures and the ECO must issue the Contractor with a notice of non-compliance whenever transgressions are observed. The ECO must document the nature and magnitude of the non-compliance in a designated register, the actions taken to discontinue the non-compliance, the actions taken to mitigate its effects and the results of the actions. The non-compliance must be documented and reported to the Applicant in the monthly reports. These reports must be made available to the DFFE when requested.

## 7.4 DOCUMENT CONTROL

The Contractor is responsible for establishing a procedure for electronic document control. The document control procedure must comply with the following requirements:

- Documents must be identifiable by organisation, division, function, activity, and contact person;
- Every document must identify the personnel and their position(s), who drafted and compiled the document(s), who reviewed and recommended approval, and who finally approved the document for distribution; and
- All documents must be dated, provided with a revision number and reference number, filed systematically, and retained for a five (5) year period.

The Contractor must ensure that documents are periodically reviewed and revised, where necessary, and that current versions are available at all locations where operations, essential to the functioning of the EMPr, are performed. All documents must be made available to the ECO and other independent external auditors.

## 8 ENVIRONMENTAL AWARENESS

### 8.1 ENVIRONMENTAL TRAINING

The Contractors must ensure that their employees and any third party, who carries out all or part of the Contractors' obligations, is adequately trained with regard to the implementation of the EMPr and the general environmental legal requirements and obligations.

Environment and health awareness training programmes must be targeted at three (3) distinct levels of employment, i.e. the executive, middle management, and labour. Environmental awareness training programmes must contain the following information:

- The names, positions, and responsibilities of personnel to be trained;
- The framework for appropriate training plans;
- The summarised content of each training course; and
- A schedule for the presentation of the training courses.

The ECO must ensure that records of all training interventions are kept in accordance with the record-keeping and documentation control requirements as set out in this EMPr. The training records must verify each of the targeted personnel's training experience. The Applicant must ensure that adequate environmental training takes place. All employees must be given an induction presentation on environmental awareness and the content of the EMPr. The presentation must be conducted in the language of the employees to ensure it is understood. The environmental training must, as a minimum, include the following:

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities;
- Environmental legal requirements and obligations;
- Details regarding floral and faunal species of special concern and protected species, and the procedures to be followed must these be encountered during the construction of construction camps;
- The importance of not littering;
- The importance of using supplied ablution facilities;
- The need to use water sparingly;
- Details of and encouragement to minimise the production of waste and re-use, recover and recycle waste where possible; and the
- Details regarding archaeological and/or historical sites which may be unearthed during construction and the procedures to be followed should these be encountered.

**RECOMMENDED ENVIRONMENTAL EDUCATION MATERIAL IS PROVIDED IN APPENDIX A.**

### 8.2 MONITORING OF ENVIRONMENTAL TRAINING

The Contractor must monitor the performance of construction workers to ensure that the points relayed during their induction have been properly understood and are being followed. If necessary, the ECO and/or a translator should be called to the site to further explain aspects of environmental or social behaviour that are unclear. Toolbox talks are recommended.

## 9 ENVIRONMENTAL MONITORING

### 9.1 GENERAL ENVIRONMENTAL MONITORING

A monitoring programme will be implemented for the duration of the construction of the Umsobomvu Infrastructure. This programme will include:

- Establishing a baseline through the taking of photographs of identified environmental aspects and potential impact sites along the routes prior to construction.
- Bi-weekly (fortnightly) monitoring during the first month of construction where after monthly audits will be conducted by the ECO for the remainder of the construction phase to ensure compliance to the EMP conditions, and where necessary make recommendations for corrective action. These audits can be conducted randomly and do not require prior arrangement with the Project Coordinator. The ESO, who will report to the ECO, will be on-site daily to monitor the above.
- While construction is taking place at the Umsobomvu Infrastructure Development, the ECO must be on-site at bi-weekly to ensure that protected plant and tree species are adequately demarcated. The ESO will be on site daily to ensure that these conditions are adhered to.
- Compilation of an audit report with a rating of compliance with the EMP. The ECO must keep a photographic record of any damage to areas outside the demarcated site and construction area. The date, time of damage, type of damage and reason for the damage shall be recorded in full to ensure the responsible party is held liable. All claims for compensation emanating from damage must be directed to the ECO for appraisal. The Contractor will be held liable for all unnecessary damage to the environment. A register must be kept of all complaints from the landowners and/or the community. All complaints and/or claims must be handled immediately to ensure timeous rectification and/or payment by the responsible party.

## 10 MANAGEMENT PLANS

The following management plans must be implemented during the relevant phases of the development of the Umsobomvu Infrastructure Development:

1. Open Space Management Plan
2. Watercourse and Wetland Management Plan
3. Faunal Relocation Plan
4. Botanical Search and Rescue Plan
5. Site Clearing Plan
6. Rehabilitation and Landscape Management Plan
7. Alien Vegetation Management Plan
8. Fire Management Plan
9. Traffic, Transportation and Road Maintenance Management Plan
10. Stormwater Management Plan
11. Erosion Management Plan
12. Waste Management Plan
13. Emergency Response Plan

### 10.1 OPEN SPACE MANAGEMENT PLAN

All recommendations of the Alien Vegetation, Rehabilitation, Fire and Flora and Fauna Management Plans are applicable to open space areas. For the purposes of this Management Plan, Open Space areas must include all areas impacted by construction activities including all approved buffers.

The following issues must be addressed:

- Open space areas must be kept as contiguous blocks of vegetation as far as possible and no additional barriers (except for approved roads and fences) should be constructed that may impede faunal movement.
- All open space areas must be kept alien and weed free.
- Only indigenous species from a list approved by the ECO may be used for any rehabilitation work in open space areas.
- No waste should be disposed of in open space areas, including but not restricted to cigarette butts and uneaten foodstuffs (i.e. fruit cores and peels) that may attract scavengers. It is recommended that receptacles are placed strategically to minimise this, especially during the construction phase.
- A search and rescue operation must be undertaken by a qualified botanist/ horticulturalist prior to commencement of construction. All SCC identified within the development footprints must be transplanted to a refuge area.
- Cleared vegetation must not be piled onto adjacent intact vegetation outside of the designated footprint, even for temporary storage.
- No collection of indigenous plants may be allowed on the property, outside of those undertaken by the designated person(s).
- Employees should undergo environmental awareness training and be sensitized to the need to avoid disturbance to the indigenous vegetation outside the development footprints.
- Rehabilitation guidelines for the entire development must prioritise the use of indigenous grass, tree, and shrub species in the soil stabilisation landscaping of the development once construction is completed, if required.

### 10.2 WATERCOURSE AND WETLAND MANAGEMENT PLAN

The following is recommended for the conservation of drainage habitat on the site:

- Although no hardstands are currently located within 30 m of a channel edge, future deviations of the layout must take in consideration that no hardstanding surfaces must be constructed within 30 m from a channel edge, except for roads and cable crossings.
- Any stormwater management features must be suitably designed and constructed to maintain stormwater flow to acceptable levels and minimise risk of erosion and scouring.
- Stormwater runoff must not be discharged directly into any drainage lines or seeps, where it could lead to erosion.

### 10.3 FAUNAL RELOCATION PLAN

- No fauna present on the property may be wilfully harmed unless it threatens the life of an employee.
- Hunting, disturbance, and collection of animals by employees must be prohibited.
- Construction areas must be screened for slow moving fauna before any activities commence and removed, if necessary.
- Any animals injured by the construction activities should be taken to a veterinarian for treatment.
- Minimise impacts on faunal habitat by adhering to the botanical specialists' recommendations.
- Vehicle speeds should be kept to a minimum by using informative signage and traffic calming methods.
- If certain areas are found to involve unusually high mortality rates, then suitable mitigation (e.g. the erection of low fences alongside the problem area) may be required.
- Monitor excavations daily and rescue any trapped fauna. When filled with water, the excavations should be checked twice a day. Release the rescued fauna into a suitable habitat adjacent to the study area.
- Domestic waste should be placed in suitable covered containers and removed from the site on a regular basis to reduce the attraction of scavenging animals, e.g. Vervet Monkeys.
- External and internal fences must be monitored for traps.
- In terms of the conducted survey, the areas demarcated for clearing do not pose a risk/threat to mammals, for example: the presence of mammals was minimal.
- If a mammal or reptile is trapped within an area where construction is taking place, then a professional handler must be called upon to remove the mammal or reptile.
- Protective clothing, such as gloves, should be used when handling mammals.
- All staff tasked to capture and relocate mammals should be inoculated against Rabies and Tetanus.
- Immobilizers and/or tranquilizers must not be used on the mammals.

### 10.4 BOTANICAL SEARCH AND RESCUE

The floral SCC identified during the micro-siting investigation undertaken for the proposed Umsobomvu Infrastructure are all classified as Least Concern but protected either in terms of the Northern Cape Nature Conservation Act (NC NCA) (Act No. 9 of 2009) or the Provincial Nature Conservation Ordinance (PNCO) (Act No. 19 OF 1974), or both. According to the South African National Biodiversity Institute (SANBI) Red List of South African Plants a species is classified as Least Concern when it has been evaluated against the IUCN criteria and does not qualify for any of the above categories. Species classified as Least Concern are considered at low risk of extinction. Widespread and abundant species are typically classified in this category.

- *Ruschia indurata*
- *Ruschia sp.*
- *Ruschia intricata*
- *Stomatium middelburgense*
- *cf Stomatium sp.*
- *cf Rabiea albinota*
- *cf Delosperma sp.*
- *cf Delosperma multiflorum*
- *Chasmatophyllum musculinum*
- *Brunsvigia sp.*

- *Anacampseros ustulata*
- *cf Microloma armatum*
- *Gomphocarpus fruticosus*
- *Aloe broomii*
- *Crassula corallina*
- *Crassula setulosa*
- *Cotyledon orbiculata*
- *Crassula sarcocaulis*
- *Euphorbia clavarioides*
- *Euphorbia mauritanica*
- *Pelargonium sp.*
- *Harveya pumila*
- *Jamesbrittenia filicaulis*

Permit applications, for the abovementioned species which were identified within the Umsobomvu Infrastructure site, have been submitted to the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) and the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (DAEARDL).

In mountainous areas which were difficult to access, it is suggested that the Search and Rescue operation is undertaken during vegetation clearance, in order to increase accessibility and visibility of SCC. SCC which cannot be translocated must be conserved in an onsite nursery area for use during rehabilitation.

## 10.5 SITE CLEARING PLAN

### VEGETATION CLEARING

- Before clearing of vegetation, the Contractor should ensure that all litter and non-organic material is removed from the area to be cleared.
- Vegetation clearing must take place in a phased manner in order to retain vegetation cover for as long as possible in order to reduce the size of areas where dust can be generated by wind.
- All seed-bearing invasive alien vegetation must be removed from site.
- Removed vegetation must not be dumped onto adjacent intact vegetation and topsoil must be removed separately.
- All indigenous plant material removed from cleared areas should be stockpiled for mulching or temporarily stockpiled in a demarcated area, which meets the satisfaction of the ESO and the ECO, before disposal at an approved landfill site.
- The use of herbicides is prohibited, unless approved by the ESO and the ECO.
- The Contractor should submit a site clearing Method Statement to the ESO and the ECO for approval. This Method Statement should include the details of the phasing of the clearing and how this will be done, where and how cleared material will be stored and/or disposed of, etc.

### TOPSOIL CLEARING

- Topsoil (a layer of approximately 100 - 150 mm) should be removed from areas to be disturbed during construction and safely stockpiled for landscaping purposes.
- All plant material (grasses, herbs and larger bushclump species) removed from the site are to be mixed into the topsoil.
- Topsoil stockpiles should be convex and should not exceed a height of 1.5 m.
- Stockpiles must be located in areas agreed to by the ESO and the ECO.
- Topsoil stockpiles must not be subject to compaction greater than 1 500 kg/m<sup>2</sup> and should not be pushed by a bulldozer for more than 50 m.



- Topsoil stockpiles must be monitored regularly to identify any alien plants, which must be removed when they germinate to prevent contamination of the seed bank.
- Appropriate measures, as agreed to by the ESO and the ECO, should be taken to protect topsoil stockpiles from erosion by wind or water by providing suitable stormwater and cut off drains, containment using hessian or similar material and/or by establishing suitable temporary vegetation.
- Stockpiles should not be covered with materials such as plastic which could cause it to compost or which could kill the seed bank.
- The Contractor must be held responsible for the replacement, at their own cost, for any unnecessary loss of topsoil due to their failure to work according to the requirements of this EMP and the approved Method Statement.

## 10.6 REHABILITATION AND LANDSCAPE MANAGEMENT PLAN

### SITE VEGETATION

Re-vegetating and rehabilitating the site, once constructed, through a comprehensive landscaping effort will benefit the faunal species which find refuge on the site. Linked to this, is the creation, preservation, and maintenance of tracts of natural and ornamental vegetation in all stages of ecological succession, interconnected by corridors or green belts for escape, foraging, breeding and exploratory movements. In terms of the scope of the construction activities, landscaping and rehabilitation will be minimal; many instances will require clean-up activities together with planting ground-stabilising vegetation.

Rehabilitation and landscaping efforts should focus on rehabilitating the following areas:

- Road verges after road construction is completed.
- Stormwater soaks away features and landscaped areas.
- The transformed portions of the site which have not been developed must be rehabilitated by planting indigenous plant species occurring in the area.
- Areas where pockets of alien invasive species have been removed.
- Areas not disturbed by the construction activities, but from previous land use, or those where invasive species have been removed, must be identified by a suitably qualified botanist as suitable sites for relocating plant SCC.

The ECO must approve a list of indigenous plants to be used during rehabilitation prior to the commencement of rehabilitation activities.

According to the South Africa, Lesotho and Swaziland Vegetation Map (South African National Biodiversity Institute, 2018), the proposed infrastructure is situated in an area classified as containing Besemkaree Koppies Shrubland and Eastern Upper Karoo.

Besemkaree Koppies Shrubland occurs in the Northern Cape, Free State and Eastern Cape Provinces along the slopes of koppies, butts and tafelbergs (Mucina and Rutherford, 2006). This vegetation type consists of two (2) layers; the lower layer is dominated by dwarf small-leaved shrubs, and in years with high rainfall, grasses. The upper layer is dominated by tall shrubs such as *Rhus erosa*, *Rhus burchelli*, *Rhus ciliata*, *Euclea crispa*, *Diospyros austro-africana* and *Olea europaea subsp. africana*. This vegetation type is classified as **Least Threatened** as it is largely excluded from agricultural practices. The conservation target is 28%, with 5% being conserved in the various reserves such as the Gariep Dam, Rolfontein, Tussen Die Riviere, Caledon and Kalkfontein Dam Nature Reserve.

The site investigations confirmed that this vegetation within the site is associated with high lying rocky outcrops, mountain summits, mountain slopes and in areas near drainage lines. The condition of this vegetation varied and ranged from being fairly intact in inaccessible areas, such as on steep slopes and on rocky outcrops, to showing signs of erosion in heavily impacted areas. Portions of this vegetation type have also been impacted to the extent that there is minimal vegetation cover and, in some cases, were devoid of vegetation altogether, most likely as a result of overgrazing. This vegetation type was characterised by a

mosaic of shrubs, dwarf trees and a grass layer. The dominant shrubs onsite included *Elytropappus rhinocerotis*, *Euryops annea* and *Chrysocoma ciliata*. Dwarf trees such as *Rhus erosa*, *Euclea crispa* and *Euclea undulata* were present, and grass species such as *Eragrostis chloromelas*, *Themeda triandra* and *Aristida sp.* were interspersed throughout the proposed site.

Eastern Upper Karoo occurs in the Northern Cape, Eastern Cape and Western Cape and is associated with a flat to gently sloping topography (Mucina and Rutherford, 2006). It is dominated by dwarf microphyllus shrubs and grasses belonging to the *Aristida* and *Eragrostis* genera. This vegetation type is classified as **Least Threatened** with a conservation target of 21%. A portion of this vegetation type has been conserved in Mountain Zebra and Karoo National Parks as well as in Oviston, Commando Drift, Rolfontein and Gariep Dam Nature Reserves. This vegetation type occurs in the low lying, flat areas of the affected properties.

#### **PLANT SPECIES OF CONSERVATION CONCERN**

The species list, containing plant species which are likely to occur within the proposed site, was assessed against the IUCN Red Data List, the South African Red Data List, the NEMBA (Act No. 10 of 2004) list of protected species, DAFF's list of protected tree species as well as the PNCO (1974) list of species and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) species lists.

Five (5) Plant Species of Conservation Concern (SCC) were found to occur within the proposed site and surroundings. However, it is likely that more plant SCC will be identified during the construction phase. Four (4) of these five (5) identified Plant SCC will require permits for the destruction and/or removal of the individuals. The Plant SCC include:

- ***Aloe broomii*** (Appendix II on CITES; Schedule 4 on the PNCO) which is widespread throughout in the central interior of South Africa and ranges from the Western Cape to the Northern Cape, Eastern Cape and Free State. This species has a stable population and is described as being common and not threatened on the South African Red Data List (von Staden, 2011). This species will require a permit for its destruction/removal.



- ***Euphorbia mauritanica*** (Appendix II on CITES) which is widespread occurring in the Eastern Cape, Free State, Kwa-Zulu Natal, Northern Cape and the Western Cape. This species ranges from Namibia to the Cape Peninsula and Eastward towards Kwa-Zulu Natal. This species is considered to have a stable population and is not in danger of extinction (von Staden, 2014). A permit to trade internationally, but no permit required for destruction/transplanting.





- ***Gomphocarpus fruticosus*** (Schedule 4 on the PNCO list) is widespread throughout South Africa, with a distribution that extends up into Angola, Zambia and Mozambique. It is associated with dry sandy soils in disturbed areas, often along riverbanks. The population of this species is considered to be stable and is listed with a status of Least Concern on the South African Red Data List (Goyder and Nicholas, 2001). A permit to destroy or transplant this species will be required.



- ***Harveya pumila*** (Schedule 4 on the PNCO list) has a wide distribution in South African and occurs in the Eastern Cape, Free State, Gauteng, Kwa-Zulu Natal and Mpumalanga. It is listed as Least Concern on the South African Red Data List (Victor, 2006). A permit to destroy or transplant this species will be required.



- ***Moraea huttonii*** (Schedule 4 on the PNCO list) has a wide distribution in South African and occurs in the Eastern Cape, Free State, Kwa-Zulu Natal and Mpumalanga. It is listed as Least Concern on the South African Red Data List (Cholo and Foyden, 2006). A permit to destroy or transplant this species will be required.



A suitably qualified Botanist must identify Plant SCC within the development footprints which require relocation prior to construction. Once Plant SCC have been identified within the construction areas, permits must be obtained for the destruction and/or for the removal for transplanting of the individuals. The removed Plant SCC must either be transplanted in areas adjacent with a similar habitat, in which construction activities will not take place, or be stored in a nursery until used for rehabilitating the disturbed areas within the site. The recommended out-planting procedure must be followed to ensure the success of the transplanted Plant SCC, as per Table 1 below.

**Table 1: Recommended Out-Planting Procedure.**

TASKS	METHOD
PLOT PREPARATION	The plots must be prepared as follows:

TASKS	METHOD
	<ul style="list-style-type: none"> <li>• Prior to rehabilitation of the site, all remnants of foreign debris must be removed from the site.</li> <li>• All plots must first be covered with 1 m deep subsoil and then with topsoil (minimum depth of 10 cm). Soils must be manually spread evenly over the surface. Topsoil must be spread to the original depth (10 cm), and deeper where sufficient topsoil remains.</li> <li>• As topsoil will contain all cleared vegetation, no additional treatment will be required. However, to avoid erosion and increase nitrogen content, it might be necessary to sow a cover crop of commercially available Rye Grass (<i>Lolium perenne</i>). Although not indigenous, it is recommended as it has been used successfully elsewhere, is annual so dies off, is able to bind soil, and increases nutrients and soil mycorrhiza in the sand. This all improves the success of indigenous seeding and planting. Seed at the rate of 50 kg per hectare.</li> </ul>
<b>PLANT PREPARATION</b>	<p>Plants must undergo a period of 'hardening-off' during which they have been exposed to full, direct sunlight and been under a reduced watering regime.</p> <p>The individual plants destined for each plot must be grouped into plot-specific, marked baskets, before they leave the nursery. Each plant must be labelled with an aluminium label, giving species code, and a specific numeral identifying the plot.</p> <p>Before the out-planting commences, the equipment necessary for the proper handling and placing of all required materials must be on hand, in good condition and to acceptable approved standards.</p> <ul style="list-style-type: none"> <li>• Planting must preferably be done during the rainy season.</li> <li>• Unless otherwise specified by the ESO or the ECO, excavate square holes of 800 mm x 800 mm x 800 mm on average for trees and 500 mm x 500 mm x 500 mm on average for shrubs.</li> <li>• Backfill planting holes with topsoil. As much of the soil from container plants as possible must be retained around the roots of the plant during planting.</li> <li>• The soil must cover all the roots and be well firmed down to a level equal to that of the surrounding <i>in situ</i> material</li> <li>• After planting, each plant must be well watered, adding more soil upon settlement if necessary.</li> <li>• Stake all trees and tall aloes using three (3) weather-resistant wooden or steel stakes anchored firmly into the ground. Two (2) of the three (3) stakes must be located on the windward side of the plant. Galvanised wire binding, 3 mm thick, covered with a 20 mm diameter plastic hosepipe must be tied tightly to the stakes, half to two thirds the height of the tree above the ground and looped around the trunk of the tree.</li> <li>• Place stakes at least 500 mm apart and away from the stem and roots of the tree, so as not to damage the tree or its roots.</li> <li>• Thoroughly water plants as required until the plants are able to survive independently (i.e. depending on the rainfall).</li> <li>• A raised circular 200 mm high subsoil berm, placed 500 mm (shrubs) to 750 mm (trees) from the plant's stem, must be provided for the watering. Do not simply leave the excavated plant hole partially backfilled for this purpose – the berm must be raised above the natural soil level.</li> <li>• Water aloes and bulbs once directly after transplanting to settle the soil</li> <li>• Remove stakes and wire binds over time as required, as plants become established.</li> <li>• Herbs, shrubs, and trees must be planted at a density of at least 1 plant per 6,25 m<sup>2</sup> or 1600 plants per hectare.</li> </ul>
<b>MAINTENANCE</b>	<ul style="list-style-type: none"> <li>• Water all transplanted plants, as specified.</li> <li>• Watering must commence and continue immediately after transplanting. Apply the following watering regime: Early morning and evenings for the first week; Then once a day for the next week; then twice a week until there is evidence of new shoots, whereafter watering is stopped.</li> <li>• Check all plants for pests and diseases on a regular basis and treat the plants using approved methods and products as per manufacturers specifications.</li> <li>• Control weeds by means of extraction, cutting or other approved methods.</li> <li>• For planted areas that have failed to establish, replace plants with the same species as originally specified. The same species must be used unless otherwise specified by the ESO and/or the ECO.</li> </ul>

In order to rehabilitate transformed and invaded areas, the following landscaping techniques must be employed:

- Clearing of vegetation must take place in accordance with the construction programme, instead of exposing large tracts of land simultaneously.
- Clearing of invaded areas must be undertaken as per the Alien Vegetation Management Plan.
- No re-useable topsoil must be removed from the site.
- Grass sods must be removed from areas to be cleared and stored for later use during rehabilitation.
- Sods used in re-vegetation must be obtained directly from the veld, but not from the identified sensitive areas. Veld sods must contain at least a 50 mm topsoil layer, and the roots must be minimally disturbed. They must either be obtained from the near vicinity of the site from an area selected by the ESO or the ECO, or from areas of the proposed development site that are earmarked for development. The soil must be compatible with that removed from the area to be re-vegetated and must not have been compacted by heavy construction equipment.
- Indigenous seeds may be harvested for purposes of re-vegetation in areas that are free of alien invasive vegetation, either at the site prior to clearance or from suitable neighbouring sites.
- The stockpiled vegetation from the clearing operations must be reduced to mulch.
- Indigenous plant material must be kept separate from alien material. The indigenous vegetative material must either be reduced by mechanical means (chipper) or by hand-axing to sticks no longer than 100 mm. The chipped material must be mixed with the topsoil at a ratio not exceeding 1:1.
- Mulch is to be harvested from areas that are to be denuded of vegetation during construction activities, provided that they are free of seed-bearing alien invasive plants.
- No harvesting of vegetation may be done outside the area to be disturbed by construction activities.
- Mulches must be collected in such a manner as to restrict the loss of seed.
- Brush-cut mulch must be stored for as short a period as possible, and seed released from stockpiles must be collected for use in the rehabilitation process.
- Re-vegetated areas must be monitored every three (3) months for the first twelve (12) months and every six (6) months thereafter.
- Re-vegetated areas showing inadequate surface coverage (less than 30% within 9 months after re-vegetation) must either be re-vegetated from scratch, or addition infill planting might be required. The ECO must advise.
- The Contractor must be responsible for maintaining the desired level of moisture necessary to maintain vigorous and healthy growth in re-vegetated areas. The quantity of water applied at one time must be sufficient to penetrate the soil to a minimum depth of 800 mm, where appropriate, and at a rate that will prevent saturation of the soil.
- Water used for the irrigation of re-vegetated areas must be free of chlorine and other pollutants which could have a detrimental effect on the plants.
- All seeded, planted, or sodded grass areas and all shrubs or trees planted must be irrigated at regular intervals.
- Where herbicides are used to clear vegetation, species-specific chemicals must be applied to individual plants only. General spraying must be strictly prohibited.

## 10.7 ALIEN VEGETATION MANAGEMENT PLAN

Henderson (2001) provides the invasive status classification, as outlined in the Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983a). These plants can be classified as Category 1, 2 or 3 species, and as a 'Declared Weed' or 'Declared Invader' according to their level of invasiveness in South Africa. The description of the above-mentioned classifications are:

- **Category 1 Plants**
  - Are prohibited and must be controlled.



- **Category 2 Plants**
  - (Commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread.
- **Category 3 Plants**
  - (Ornamentally used plants) may no longer be planted; existing plants may remain, as long as all reasonable steps are taken to prevent the spreading thereof, except within the floodline of watercourses and wetlands.
- **Declared Weed (category 1)**
  - Prohibited on any land or water surface in South Africa.
  - Must be controlled or eradicated where possible (except in biological control reserves).
- **Declared Invader (category 2)**
  - Allowed only in demarcated areas under controlled conditions.
  - Import of propagative material and trading allowed only by permit holders.
  - Outside demarcated areas must be controlled or eradicated where possible (except in biological reserves).
  - Prohibited within 30 m of the 1:50 year floodline of watercourses or wetlands unless authorisation is obtained.
- **Declared Invader (category 3)**
  - No further plantings allowed (except with special permission).
  - No trade of propagative material.
  - Existing plants may remain but must be prevented from spreading.
  - Prohibited within 30 m or the 1:50 year floodline of watercourses or wetlands, or as directed by the executive officer.

It is essential that alien invasive species be removed from the infrastructure development site. Following the Working for Water guidelines for effective alien vegetation removal (DWAF, 2009), an alien removal programme must consist of the following three (3) phases:

- I. Initial control: Clearing and eradication of alien invasive stands so as to drastically reduce the existing population.
- II. Follow-up control: Control of re-growth (including seedlings, root suckers and coppice growth); which must be conducted annually for the first five (5) years.
- III. Maintenance control: Sustain alien plant numbers with ongoing annual monitoring for the life of the project, and if necessary, implement additional control methods to avoid re-establishment of alien invasive stands.

#### **ALIEN PLANT SPECIES IDENTIFIED WITHIN THE INFRASTRUCTURE DEVELOPMENT SITE AND SURROUNDS**

- ***Opuntia stricta*** (Category 1b: PROHIBITED/Exempted if in Possession or Under control).  
A person in control of a Category 1 b Listed Invasive Species must control the listed invasive species in compliance with sections 75(1), (2) and (3) of the Act. A person contemplated in sub-regulation (2) must allow an authorised official from the Department to enter onto the land to monitor, assist with or implement the control of the listed invasive species, or compliance with the Invasive Species Management Programme contemplated in section 75(4) of the Act. - [www.environment.co.za](http://www.environment.co.za).







- ***Populus spp.*** (Category 2: PERMIT REQUIRED) Category 2 Listed Invasive Species are those species listed by notice in terms of section 70(1)(a) of the Act as species which require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit, as the case may be. A landowner on whose land a Category 2 Listed Invasive Species occurs or person in possession of a permit, must ensure that the specimens of the species do not spread outside of the land or the area specified in the Notice or permit. Unless otherwise specified in the Notice, any species listed as a Category 2 Listed Invasive Species that occur outside the specified area contemplated in sub-regulation (1), must, for purposes of these regulations, be considered to be a Category 1 b Listed Invasive Species and must be managed according to Regulation 3. Notwithstanding the specific exemptions relating to existing plantations in respect of Listed Invasive Plant Species published in Government Gazette No. 37886, Notice 599 of 1 August 2014 (as amended), any person or organ of state must ensure that the specimens of such Listed Invasive Plant Species do not spread outside of the land over which they have control. - [www.environment.co.za](http://www.environment.co.za).



Additional alien vegetation species could be present within the site. The ECO, advised by a suitably qualified Botanical Specialist, must assist in the identification of alien vegetation species and advise on suitable methods of removal and disposal.

#### **WEED REMOVAL (INITIAL CONTROL PROGRAMME FOR ALL ALIEN VEGETATION ENCOUNTERED)**

There are a number of possible methods which can be used to control alien invasive species; these include mechanical, chemical, biological, and mycoherbicide control. In addition, integrated control methods consist of the use of a combination of these methods to control alien vegetation. This section outlines possible techniques used in mechanical and chemical control methods only, as biological and mycoherbicide control is not recommended for this site and therefore not discussed further.

#### **Mechanical Control Methods**

The Agricultural Research Council (ARC)(2014) describes mechanical control as damaging or removing the plant by physical action. Various methods could be used, including uprooting/hand pulling, slashing, mowing, felling, ringbarking or bark stripping (ARC, 2014). This method of alien vegetation removal is best suited to small areas or sparse infestations. The following mechanical methods for removal are recommended:

- Hand pulling: Grip the seedlings or saplings low down and pull out by hand (using gloves). Make use of a hoe for plants that cannot be pulled out with ease.
- Ring barking: Bark is removed to from the bottom of the stem to a height of 0.75 – 1.0 m to below ground level. Bush knives or hatchets can be used for debarking.
- Frill or Ring-bark: Using an axe or bush knife, angled cuts are made downward into the cambium layer through the bark in a ring; herbicide is applied into the cuts.
- Cut stump treatment: Stems must be cut as low as practical, as stipulated on the herbicide label. Chemical herbicides are applied in diesel or water as recommended. Applications in diesel must be to the whole stump and exposed roots and in water to the cut area as recommended on the label.

#### Chemical Control Methods

Chemical control methods involve the use of registered herbicides to kill the target weed (ARC, 2014). Chemical control methods for alien plant removal include using a number of approved environmentally safe herbicides, which are applied to the leaves, stems or stumps of alien invader species.

- Foliar Spray:
  - Seedlings – Touchdown
  - Young trees – Garlon
- Cut Stumps (larger trees) and then apply:
  - Chopper;
  - Confront (2%); or
  - Timbrel 3A\*.
- Frill (trees) and then apply:
  - Chopper; or
  - Timbrel 3A\*.
- Stem Injection:
  - MSMA;
  - Mamba; or
  - Touchdown.

The *Working for Water Programme: Guide to Control Method and Herbicide Selection for Alien Vegetation* must be followed.

### **10.8 FIRE MANAGEMENT PLAN**

It is imperative that the necessary precautions be implemented to minimise this risk of fire within the site and surrounds. The following measures must be implemented to reduce the risk of fires during the construction and operational phases.

#### **CONSTRUCTION PHASE MANAGEMENT MEASURES**

- The Contractor must ensure that all personnel are aware of the fire risk and the need to extinguish cigarettes before disposal, in appropriate waste disposal containers.
- The risk of fire is highest during the drier months and during high wind velocities. To avoid and manage fire risk the following steps must be implemented:
  - Firefighting equipment must be kept on-site and ensure that all personnel are educated on how to use it as well as the procedures to be followed in the event of a fire.
  - Identify the relevant authorities and structures responsible for fighting fires in the area and liaise with them regarding procedures must a fire commence.

- Ensure that all the necessary emergency contact details are posted at conspicuous and relevant locations.
- Should a Contractor be found responsible for the outbreak of a fire, they must be liable for any associated costs.
- Open fires must not be allowed on-site for the purpose of cooking or warmth. Bona fide braai fires (such braai fires must be limited to the traditional “month end” braais and not individual daily cooking fires) may be lit within the construction camp or site.
- The Contractor must take all reasonable steps to prevent the accidental occurrence or spread of fire. The Contractor must appoint a fire officer who must be responsible for ensuring immediate and appropriate action in the event of a fire.
- The Contractor must ensure that all site personnel are aware of the procedure to be followed in the event of a fire. The appointed fire officer must notify the Fire and Emergency Services in the event of a fire and must not delay doing so until such time as the fire is beyond control.
- The Contractor must ensure that there is basic firefighting equipment on-site at all times. This equipment must, at a minimum, include fire extinguishers and beaters. The Contractor must pay the costs incurred by organisations called to put out fires started by the Contractor, their staff, or any sub-contractor. The Contractor must also pay the costs incurred to reinstate burnt areas as deemed necessary by the RE.
- Any work that requires the use of fire may only take place at that designated area and as approved by the RE. Firefighting equipment must be available in these areas.
- The Contractor must ensure that the telephone number of the local Fire and Emergency Service is displayed at the site offices.
- The Contractor is to ascertain the fire requirements and must submit a fire contingency Method Statement to the ESO and ECO for approval.

#### **OPERATIONAL PHASE MANAGEMENT MEASURES**

Any requirements of the local Fire Protection Association must be adhered to in consultation with the relevant landowners, as per the requirements of the National Veld and Forest Fire legislation, which may include:

- Formation of a Fire Protection Association (FPA).
- Duty to prepare and maintain firebreaks.
- Requirements for firebreaks.
- Readiness for firefighting.
- Actions to fight fires.
- In areas other than designated development footprints, a network of firebreaks must be maintained and overlap with any firebreaks managed by the landowners to ensure that fires are not able to spread over the development.
  - All road reserves will serve as firebreak; and
  - All firebreaks must be maintained as required by the local Fire Chief.
- Firebreaks are to be positioned and prepared in such a way as to cause the least disturbance to soil and biodiversity. Firebreaks must be free from combustible material, e.g. pruned material and leaf litter.
- Ensure that firefighting equipment is maintained and in good working order before the start of each fire season.
- Smoking outside of designated safe areas must not be permitted.
- Flicking of cigarette butts into adjacent vegetation must not be permitted.

Suitable signage must be provided on-site, including entrance warning of fire risk and warnings not to flick cigarette butts into vegetated areas.

#### **10.9 TRAFFIC, TRANSPORTATION AND ROAD MAINTENANCE MANAGEMENT PLAN**

High construction traffic volumes are expected to be generated during the construction period. Measures to manage the impact of these volumes have been identified and are listed below. The local community must be advised of these measures prior to construction commencing and, in particular, prior to the transport of wind turbine components through local media and ward councillors.

- Temporary road construction and traffic accommodation signage, in accordance with Volume 2 Chapter 13 of the SADC Road Traffic Signs Manual, must be displayed at the proposed site in order to create awareness of construction vehicles by other road users and are to ensure that construction vehicle speeds are restricted. Such signage, to be determined by the appointed Contractor as per the required Health and Safety Plan and approved by the Engineer, shall include speed restrictions, warning of construction workers and construction vehicles, and information signs advising motorists of the hours the route will be used by construction vehicles. Such signage must be placed at least:
  - On the approaches to the access points;
  - At the access points to the proposed development; and
  - Be fixed so that it is not affected by wind and is immovable for the duration of construction (i.e. planted in the ground).
- While access to the site can occur from 07:00 to 17:30, every effort must be made to restrict the operation of heavy abnormal construction traffic to periods outside of peak commuter operating times – off-peak periods, between the hours of 08:00 and 17:00 so that impact on commuter traffic is kept to a minimum.

In addition, the Contractor must ensure the following:

- Access to the site must be managed to ensure that no unauthorised vehicles are permitted onto the construction site and to ensure safe entry to- and exit from the site.
- All construction vehicles shall be in possession of the necessary licenses and roadworthy certificates in terms of the National Road Traffic Act (Act No. 93 of 1996).
- Vehicles transporting hazardous substances shall comply with the requirements of the Hazardous Substances Act (Act No. 15 of 1973).
- All abnormal heavy vehicles shall be accompanied by escort vehicles and correctly marked to indicate the abnormal load. The specification of the escort vehicle shall depend on the length and width of the load.
- Vehicles loads shall be secured such that no loads or part thereof fall from the vehicle and damage other road users.
- All vehicles used during construction must be roadworthy, regularly maintained, and repaired when required.
- Drivers of construction vehicles shall be in possession of the necessary licenses in terms of the National Road Traffic Act (Act No. 93 of 1996).
- Construction and operational vehicles travelling on all public roads shall adhere to the posted speed limits.

## 10.10 STORMWATER MANAGEMENT PLAN

This Stormwater Management Plan must be implemented during the construction and operation phases of the project. During the implementation of the Stormwater Management Plan, the Contractor must also ensure compliance with applicable regulations and prevent off-site migration of contaminated stormwater and the increase soil erosion. This Stormwater Management Plan serves as a high-level guideline for designers and Contractors to follow measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of stormwater run-off.

Diligence in stormwater management is essential and a full-time task, even during dry periods, as the lack of it could lead to the degradation of the site over time, rendering it susceptible to serious damage in the event

of unexpected flooding, and subsequent potential damage to equipment on-site due to gradual erosion after normal rainfall events, or by unexpected damage due to extreme flood events.

The site must conform to all engineering designs and measures to manage and control water run-off and erosion during or after rainstorms. This will include the following items:

- Run-off control and drains;
- Slope attenuation;
- Silt fences;
- Stormwater channels and catch pits;
- Shade or catch nets; and
- Soil bindings.

The civil design must describe and illustrate the proposed stormwater control measures as stipulated by the Civil Engineer, in compliance with this Stormwater Management Plan:

- Control measures to be implemented before and during the construction period, including the final stormwater control measures (post-construction). All roads and platforms must be designed and built according to SANS 1200 applicable sections to ensure all stormwater measures are properly implemented.
- The location, area/extent (m<sup>2</sup>/ha) and specifications of all temporary and permanent water management structures or stabilisation methods.
- Stone pitching or concrete-lined drains be placed adjacent to roads where required to transfer the water to existing watercourses.
- At the point where stormwater is discharged, energy dissipaters must be constructed to slow the flow of run-off water.
- Mitre drains must be cut in the site roads at appropriate places to ensure water run-off and control.
- All cut-and-fill banks must be covered with stone pitching or crusher stone to ensure bank stabilisation and the elimination of potential erosion.

The aim is to ensure that the stormwater run-off is guided off the construction area, and such that it does not create erosion problems that may require aftercare.

In addition, the following surface water control measures must be implemented:

- Surface water flow must be guided to ensure there is no flow directly to an erosion area.
- Prevent the concentration or flow of surface water or stormwater down cut-and-fill slopes or along pipeline routes or roads and ensure measures to prevent erosion are in place prior to construction.
- Stormwater and any run-off generated by hard surfaces must be discharged into retention swales or areas with rock riprap. These areas must be grassed with indigenous vegetation. These energy dissipation structures must be placed in a manner that flows are managed prior to being discharged back into the natural watercourses, thus not only preventing erosion, but also supporting the maintenance of natural base flows within these systems, i.e. hydrological regime (water quantity and quality) is maintained.
- Mitigate against siltation and sedimentation using the above-mentioned structures and ensure that the structures do not cause erosion.
- Ensure that all stormwater control features have soft engineered areas that attenuate flows, allowing for water to percolate into the local aquifers.
- Minimise and restrict site clearing to areas required for construction purposes only and restrict disturbance to adjacent undisturbed natural vegetation.
- Large tracts of bare soil will either cause dust pollution or quickly erode and then cause sedimentation in the lower portions of the catchment.
- Minimise the diversion of flows into different catchments.



- If implementing dust control measures, prevent over-wetting, saturation and run-off that may cause erosion and sedimentation.
- Watercourse (stream) crossings must not trap any run-off, thereby creating inundated areas, but allow for free-flowing watercourses.

### 10.11 EROSION MANAGEMENT PLAN

This Erosion Management Plan must be implemented prior to construction as well as during the construction and operation phases of the project, along with the Stormwater Management Plan. The Erosion Management Plan must ensure compliance with applicable regulations and prevent off-site migration of contaminated stormwater or increase in soil erosion. This Plan will serve as a high-level guideline for designers and Contractors to follow measures that allow surface and subsurface movement of water along drainage lines that will not impede natural surface and subsurface flows. Drainage measures must promote the dissipation of stormwater run-off.

Diligence in stormwater management and erosion management is essential and a full-time task, even during dry periods, as the lack of management could lead to the degradation of the site over time, placing the site and surrounds at risk to serious damage in the event of unexpected flooding, and subsequent potential damage to equipment on-site due to gradual erosion after normal rainfall events, or by unexpected damage due to extreme flood events.

The site must conform to all engineering designs and measures to manage and control water run-off and erosion during or after rainstorms. This will include the following items:

- Run-off control and drains;
- Slope attenuation;
- Silt fences;
- Stormwater channels and catch pits;
- Shade or catch nets; and
- Soil bindings.

The civil design must describe and illustrate the proposed erosion control measures as stipulated by the Civil Engineer, in compliance with this Erosion Management Plan:

- Erosion control measures to be implemented before and during the construction period, including the final erosion control measures (post-construction). All roads and platforms must be designed and built according to SANS 1200 applicable sections to ensure all stormwater measures are properly implemented.
- The location, area/extent (m<sup>2</sup>/ha) and specifications of all temporary and permanent water management structures or stabilisation methods.
- Stone pitching or concrete-lined drains be placed adjacent to roads where required to transfer the water to existing watercourses.
- At the point where stormwater is discharged, energy dissipaters must be constructed to slow the flow of run-off water.
- Mitre drains must be cut in the site roads at appropriate places to ensure water run-off and control.
- All cut-and-fill banks must be covered with stone pitching or crusher stone to ensure bank stabilisation and the elimination of potential erosion.

The aim is to ensure that the stormwater run-off is guided off the construction area, and such that it does not create erosion problems within the site and the surrounds.

In addition, the following surface water control measures must be implemented to reduce the risk of erosion:



- Surface water flow must be guided to ensure there is no flow directly into an area which could increase erosion.
- Prevent the concentration or flow of surface water or stormwater down cut-and-fill slopes or along pipeline routes or roads and ensure measures to prevent erosion are in place prior to construction.
- Stormwater and any run-off generated by hard surfaces must be discharged into retention swales or areas with rock riprap. These areas must be grassed with indigenous vegetation. These energy dissipation structures must be placed in a manner that flows are managed prior to being discharged back into the natural watercourses, thus not only preventing erosion, but also supporting the maintenance of natural base flows within these systems, i.e. hydrological regime (water quantity and quality) is maintained.
- Mitigate against siltation and sedimentation using the above-mentioned structures and ensure that the structures do not cause erosion.
- Ensure that all stormwater control features have soft engineered areas that attenuate flows, allowing for water to percolate into the local aquifers.
- Minimise and restrict site clearing to areas required for construction purposes only and restrict disturbance to adjacent undisturbed natural vegetation.
- Large tracts of bare soil are likely to cause dust pollution and increase erosion.
- If implementing dust control measures, prevent over-wetting, saturation and run-off that may cause erosion and sedimentation.
- Watercourse (stream) crossings must not trap any run-off, thereby creating inundated areas, but allow for free-flowing watercourses.

## 10.12 WASTE MANAGEMENT PLAN

The Contractor's intended methods for waste management and waste minimisation must be implemented at the onset of the contract and approved by the ECO. Where required, Method Statements must be compiled and submitted to the ECO for approval. All personnel must be instructed to dispose of all waste in the proper manner.

No waste from construction or otherwise may be disposed of on-site. All waste generated on-site must be removed from the site and disposed of at a licensed waste disposal site. In this regard, adequate litter drums or other suitable containers must be located on-site to ensure that waste generated on-site is disposed of in a suitable and timeous manner. Where possible, some of the construction waste must be recycled and used in construction.

### **SOLID AND LIQUID WASTE**

During the construction phase, solid waste must be stored in a designated area within the site, which has been approved by the ECO, is covered, tip-proof drums for collection and disposal. All refuse containers must be free of any holes and in good condition. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the ESO and the ECO. As far as possible, general waste (including paper, glass, plastics, aluminium, etc.) must be sorted for recycling. Disposal of solid waste must be at a licensed landfill site, or at a site approved by the DFFE in the event that an existing operating landfill site is not within a reasonable distance from the site. Waste must not be burned.

Any water contaminated by cement must not be allowed to flow freely into the environment. Instead, it must be contained, and solids allowed to settle out. Thereafter, the solid material must be disposed of at a landfill site with other solid waste.

### **LITTER**

During the construction phase, littering by construction workers must be prohibited on-site. The facilities must be maintained in a neat and tidy condition, and the site is to be kept free of litter throughout the

construction phase. Fines must be implemented for persons found littering. All reasonable measures must be taken to reduce the potential for litter and negligent behaviour with regards to the disposal of all refuse. At all places of work, the Contractor must provide litter collection facilities for later safe disposal at a licensed landfill site or at a DFFE approved waste disposal site.

During the operation phase, the area of the development must be cleared of litter on a regular basis. Once collected, this litter must be disposed of at a licensed landfill site or at a DFFE approved waste disposal site.

### **HAZARDOUS WASTE**

During the construction phase, hazardous waste such as bitumen, oils, oily rags, paint tins, etc., must be disposed of at a DFFE approved hazardous waste landfill site. Special care must be taken to avoid the spillage of hazardous waste and from this waste entering the ground or contaminating water. In the event of the above occurring, the affected areas must be promptly reinstated to the satisfaction of the ECO. As far as possible, maintenance of construction equipment and vehicles on-site must be avoided. Used oil, lubricants and cleaning materials from the maintenance of vehicles and construction equipment must be collected in a holding tank and returned to the supplier. Water and oil must be separated in an oil trap. Oils collected in this manner, must be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at an approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit must be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company. The Contractor must ensure that an emergency preparedness plan is in place for implementation in the case of a spill or substances which can be harmful to an individual or the receiving environment. All used filter materials must be stored in a secure bin for disposal off-site. Hazardous waste must not be stored or stockpiled in any area other than at a site approved by the ECO. Any contaminated soil must be removed and replaced. Soils contaminated by oils and lubricants must be collected and disposed of at a facility designated by the local authority to accept contaminated materials. Washing of vehicles on the construction site must not be permitted as this is likely to result in the release of hydrocarbon-contaminated wash water into the environment.

During the operational phase, hazardous materials on-site (if any) must be disposed of in a DFFE approved hazardous waste landfill site. The Contractor must ensure that an emergency preparedness plan is in place for implementation in the case of a spill or substances which can be harmful to an individual or the receiving environment.

## **10.13 EMERGENCY RESPONSE PLAN**

This Emergency Response Plan must be implemented by the Contractor with guidance from the Health, Safety and Environment (HSE) Representative(s) during the Construction, Operational and Decommissioning Phases of the infrastructure development to reduce the likelihood of emergency incidents and to ensure that there will be appropriate responses to unexpected or accidental adverse incidents.

### **EMERGENCY INCIDENT AVOIDANCE**

- Induction Training, which includes a suitable Environmental Education Course and the location of emergency evacuation assembly points, must be given to all employees involved in the Construction, Operational and Decommissioning Phases.
- All impact management actions specified in the EMPr(s) and the Environmental Authorisation must be implemented throughout the phases of development.
- If faunal species are encountered within the site subsequent to the faunal search and rescue procedure, which must be undertaken directly prior to vegetation clearance, these species must only be handled and relocated by a suitably experienced individual.
- A suitably experienced snake wrangler, with the ability to accurately identify snakes, must be present on-site during construction and decommissioning activities.

- A list of snakes which are likely to occur within the site must form part of the Environmental Education Course. In addition, it is recommended that the African Snakebite Institute app is downloaded by the ECO and the HSE Representative.
- Spill kits must be readily available on-site. These spill kits must include absorbent pads, bags, etc. and each refuelling vehicle must have a spill kit.
- A general first aid kit must be kept on-site and managed by a suitably experienced individual, who has received suitable first aid training.
- All vehicles and plants operated on-site must be serviced regularly.
- Tyre puncture repair kits must be kept on-site and used by a suitably experienced individual.
- Firefighting equipment must be readily available on-site. This must include rubber beaters and at least one (1) fire extinguisher of a suitable size. The fire extinguisher(s) must be serviced as per the manufacturer's recommendations.
- Fire breaks must be established and maintained where necessary.
- Smoking must only occur in designated areas, as approved by the appointed ECO.
- Open fires must not be permitted unless approval is received from the appointed ECO and the HSE Representative.
- Emergency contact details must be clearly displayed on-site. These must include, but not be limited to, contact details for the nearest:
  - Fire Services/Fire Protection Agency (FPA);
  - South African Police Services;
  - Ambulance; and
  - National Crisis Line.
- Fuels, oils and other hazardous materials must be kept in a bunded area under lock and key.
- A suitable number of drip trays must be readily available on-site, and the use of these drip trays must be monitored by the appointed ECO.
- All hazardous chemicals that will be used on-site must have Material Safety Data Sheets (MSDS).
- All hazardous substances must be stored in suitable containers as defined in the Method Statement.
- Hazardous materials must only be handled by trained personnel. The handling of hazardous materials must only be in accordance with the MSDS.
- Employees handling hazardous substances and materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available.
- Containers must be clearly marked to indicate contents, quantities, and safety requirements.
- Vehicle speed limits must be indicated on-site and limited to 40 km/hr on gravel roads.
- Employees must not be housed on-site.
- Any incidence of social unrest must be reported to the South African Police Services.
- Any incidence of theft must be reported to the South African Police Services.
- Any incidence of poaching must be reported to the South African Police Services.
- Weather forecasts must be observed, at least on a weekly basis, to plan for any potentially risky weather events.
- Additional safety measures must be implemented during periods of heavy rainfall, high wind speeds, snowfall, etc. During such periods, the recommended speed limit of 40 km/hr must be reduced to 30 km/hr.

## **EMERGENCY RESPONSES**

### Hazardous Substance Spills

In the event that an accidental spill of fuel, oil or other hazardous substances occurs, these actions must be taken immediately to isolate, control and manage the spill:

- Appropriate actions, in accordance with the approved (prior to construction) Method Statement(s), must be taken to isolate and contain the spill.
- The spill must be contained using spill kits; by applying suitable absorbent material to the spill and removing the contaminated soil (ground spills), or by using booms (watercourse spills).
- All spills must be treated with a matter of urgency.
- Used spill kit material and contaminated soil must be temporarily stored in a designated area on-site prior to disposal at a registered hazardous waste disposal site by a suitable service provider.
- The ECO and the HSE Representative must be informed of the incident as soon as possible, and an incident report must be completed which includes photographs of the spill, the measures taken to contain the spill and remediate the location of the spill as well as the success of the measures taken.

### Fires

In the event of a fire, these actions must be taken immediately to control and extinguish the fire:

- Contact the Fire Services as soon as possible.
- Make use of the rubber beaters and fire extinguisher, the minimum firefighting equipment which must be available on-site, to control the fire until the Fire Services arrive.
- Should any employees have minor burns resulting from the fire, these burns must be treated with a burn dressing from the available first aid kit followed by an appointment with a suitably qualified healthcare professional.
- Should any employees have major burns resulting from the fire, an ambulance must be called immediately, and the burns must be treated by a suitably qualified healthcare professional.
- The ECO and the HSE Representative must be informed of the incident as soon as possible, and an incident report must be completed which includes photographs, the measures taken to contain the fire and remediate the affected area.

### Emergency Evacuation

An Emergency Evacuation Method Statement must be compiled for approval from the appointed ECO and the HSE Representative prior to the commencement of the construction phase. Should emergency evacuation of the site be required, the following must be done as a matter of urgency:

- All employees must gather at the predetermined emergency evacuation assembly points and await the Contractor's instructions as per the approved Emergency Evacuation Method Statement.
- The ECO and the HSE Representative must compile an incident report must be completed which includes the identification of the snake, the location where the incident occurred, the location in which the snake was relocated to and the measures are taken to ensure the safety of the snake bite victim.

### Severe Weather Conditions

A Method Statement must be compiled for approval from the appointed ECO and the HSE Representative prior to the commencement of the construction phase for the protocols relating to severe weather conditions. Should severe weather conditions be forecast, which could increase the risk of employees travelling to site or undertaking the necessary activities on-site, temporary site closure must be considered, and all necessary site closure measures must be put in place.

### Snake Bites

In the event of a snake bite, these actions must be taken immediately:

- An ambulance must be contacted immediately.

- All efforts must be taken to obtain a description of the snake or a photograph in order to correctly identify the snake for treatment purposes.
- The snake must be captured by a suitably qualified snake wrangler and safely relocated away from the site.
- The ECO and the HSE Representative must be informed of the incident as soon as possible, and an incident report must be completed which includes the identification of the snake, the location where the incident occurred, the location in which the snake was relocated to and the measures are taken to ensure the safety of the snake bite victim.

#### Injury, Illness or Death Onsite

Should an employee obtain a minor injury or illness on-site, a suitably trained individual must provide treatment from the first aid kit, followed by an appointment with a suitably qualified healthcare professional (if deemed necessary) and allowed to rest until fully recovered (if necessary).

Should an employee obtain a major injury or show signs of severe illness on-site, an ambulance must be contacted immediately so that the employee can be treated by a doctor.

Should an employee die on-site, an ambulance, as well as the South African Police Services, must be contacted immediately. Those present at the time of the death must engage with the South African Police Services and they must receive the necessary counselling and support.

The ECO and the HSE Representative must be informed of all injuries, illnesses and/or deaths which occur on-site. An incident report must be completed for every incident as well as the steps taken to ensure the safety of the employees.

#### COMPLIANCE

The ECO and HSE Representative must monitor and keep records of all emergency incidents on-site. These incidents must be included in the Audits Reports during the relevant phases of the development and the Contractor and Developer must be made aware of all incidents. In addition, the landowners must be notified of all incidents which occur within their properties.

## **11 CLOSURE PLANNING**

The Contractor must clear and clean the site and ensure that all equipment and residual materials, not forming part of the permanent works, are removed from site before issuing the completion certificate or as otherwise agreed.

### **11.1 POST-CONSTRUCTION AUDIT**

A post-construction audit must be carried out and submitted to DFFE at the expense of the Applicant. Objectives must be to audit compliances with the key components of the EMPr, to identify main areas requiring attention and recommend priority actions. The post-construction audit must be submitted to DFFE within three (3) months of completion of the development and prior to the operational phase. Results of the audits must inform changes required to the specifications of the EMPr or additional specifications to deal with any environmental issues which arise on-site and have not been dealt with in the current document.

### **11.2 GENERAL REVIEW OF THE EMPr**

The EMPr must be reviewed by the ECO on an ongoing basis. Based on observations during site inspections and issues raised at site meetings, the ECO must determine whether any procedures require modification to improve the efficiency and applicability of the EMPr on site. Any such changes or updates must be registered in the ECO's record, as well as being included as an annexure to this document. Annexures of this nature must be distributed to all relevant parties.



## 12 CONCLUSIONS

### 12.1 IMPACT MANAGEMENT OUTCOMES

The successful implementation of the impact management actions, stipulated in Chapter 5 of this EMPr, for each phase of the Umsobomvu Infrastructure Development will result in the avoidance, management and/or mitigation of the identified impacts and risks associated with the development. In addition, the implementation of the recommended management plans, in Chapter 10 of this EMPr, should further contribute to the avoidance, reduction and/or management of potential impacts resulting from the various stages of the Umsobomvu Infrastructure Development. The general impact management outcomes of this EMPr are to:

- To reduce the adverse impacts and enhance the benefits of the development.
- Preserve faunal and floral species and their associated habitats within identified sensitive areas and outside of the development footprint.
- To reduce the adverse impacts on avifaunal species due to the construction of the overhead line.
- To reduce the adverse impacts on avifaunal species due to the construction of the wind turbines.
- Preserve SCC within the development footprint.
- Maintain soil and vegetation cover, through the implementation of erosion control, stormwater management, and alien vegetation management measures.
- Undertake activities in a manner which does not place workers or the public at risk in terms of health and safety.
- Prevent, and where not possible, control fires to protect public health, the environment and any properties in the vicinity of the development.
- Reduce the potential for pollution, in terms of air pollution, land pollution, water pollution, and noise pollution.
- Preserve cultural heritage and palaeontological resources of significance.
- Rehabilitate disturbed areas to their natural state or a near-natural state.
- Manage and maintain the operational development to reduce adverse impacts associated with the operation of the development and to ensure sustainable development.

### 12.2 CONCLUDING STATEMENTS

Although all foreseeable actions and potential mitigations or management actions are contained in this document, the EMPr must be seen as a day-to-day management document. The EMPr thus sets out the environmental and social standards, which would be required to minimise the negative impacts and maximise the positive benefits of the Umsobomvu Infrastructure as detailed in the BAR and associated specialist reports. The EMPr could thus change daily, and if managed correctly lead to successful planning and design, construction, operational, and decommissioning phases.

All attempts must be made to have this EMPr available, as part of any tender documentation, so that the engineers and contractors are made aware of the potential cost and timing implications needed to fulfil the implementation of the EMPr, thus adequately costing for these.






## 13 APPENDIX A | ENVIRONMENTAL EDUCATION COURSE

### EXAMPLE OF AN ENVIRONMENTAL EDUCATION COURSE OUTLINE







[www.webweaver.nu/clipart/environmental.shtml](http://www.webweaver.nu/clipart/environmental.shtml)
















### Reasons why should we look after the environment

-  We have a right to a clean environment
-  A clean environment is essential to healthy living
-  All our basic needs come from the environment
-  A contract has been signed – development vs the environment
-  Penalties / fines could be issued

## How to look after the environment








-  Report issues
-  Teamwork
-  Follow the set rules and guidelines (EA, EMPr, Method statements etc.)
-  Conserve, reuse and recycle

## Tips and Guidelines

-  Workers and equipment should not be allowed outside demarcated areas
-  No swimming or polluting of water bodies allowed
-  No damage / disturbance to vegetation or water bodies without consent / permits
-  No disturbance allowed in no-go areas
-  No hunting of animals
-  Report all fires
-  No burning or burying of waste
-  No smoking near hazardous materials
-  Training on fire fighting equipment
-  Hazardous materials to be stored in designated and bunded areas
-  Spill kits and drip trays a must
-  Report all spills
-  Control dust and Noise
-  Maintain construction vehicles
-  Availability and maintenance of sanitation facilities



### Tips and Guidelines

-  Only eat in designated areas
-  Do not litter
-  Vehicles to remain on approved tracks and adhere to speed limit
-  Ensure emergency phone numbers are available
-  Ensure PPE is worn
-  Report fires, leaks and injuries
-  Ask if unsure



**14 APPENDIX B | COPY OF ENVIRONMENTAL AUTHORISATION**

COPY OF ENVIRONMENTAL AUTHORISATION

## 15 APPENDIX C | EXAMPLE OF A METHOD STATEMENT

### EXAMPLE OF A METHOD STATEMENT

#### METHOD STATEMENT

**CONTRACT:** ..... **DATE:** .....

**PROPOSED ACTIVITY** (give title of Method Statement and reference number from the EMPr):

**WHAT WORK IS TO BE UNDERTAKEN** (give a brief description of the works):

**WHERE ARE THE WORKS TO BE UNDERTAKEN** (where possible, provide an annotated plan and a full description of the extent of the works):

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

Start Date:

End Date:

**HOW ARE THE WORKS TO BE UNDERTAKEN** (provide as much detail as possible, including annotated sketches and plans where possible):

**\* Note: Please attach additional pages should you require more space.**



**DECLARATIONS****1) ENVIRONMENTAL CONTROL OFFICER (ECO)**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name)

Date: \_\_\_\_\_

**2) PERSON UNDERTAKING THE WORKS**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name)

Date: \_\_\_\_\_

## 16 APPENDIX D | CHANCE FOSSIL FINDS PRODECURE

APPENDIX 1 - CHANCE FOSSIL FINDS PROCEDURE: Ancillary infrastructure for the Umsobomvu 1 WEF near Middelburg	
Province & region:	NORTHERN CAPE: Pixley Ka Seme District Municipality EASTERN CAPE: Chris Hani District Municipality
Responsible Heritage Resources Agency	N. Cape: SAHRA (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Phone: +27 (0)21 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za). E. Cape: ECPHRA (Contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; Email: smokhanya@ecphra.org.za)
Rock unit(s)	Adelaide Subgroup and Katberg Formation (Tarkastad Subgroup) of Beaufort Group. Late Caenozoic superficial deposits (e.g. colluvium, alluvium, soils, surface gravels, pedocretes).
Potential fossils	Vertebrate skeletal remains and burrows, trace fossils, plant fossil (e.g. petrified wood, plant compressions) within the Beaufort Group. Mammalian and other vertebrate bones, teeth and horncores, freshwater molluscs, calcretised trace fossils (e.g. termitaria), subfossil plant material within superficial sediments.
ECO protocol	1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately (N.B. safety first!), safeguard site with security tape / fence / sand bags if necessary.
	2. Record key data while fossil remains are still <i>in situ</i> : <ul style="list-style-type: none"> <li>Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo</li> <li>Context – describe position of fossils within stratigraphy (rock layering), depth below surface</li> <li>Photograph fossil(s) <i>in situ</i> with scale, from different angles, including images showing context (e.g. rock layering)</li> </ul>
	3. If feasible to leave fossils <i>in situ</i> : <ul style="list-style-type: none"> <li>Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation</li> <li>Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Agency for work to resume</li> </ul>
	3. If <i>not</i> feasible to leave fossils <i>in situ</i> (emergency procedure only): <ul style="list-style-type: none"> <li>Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)</li> <li>Photograph fossils against a plain, level background, with scale</li> <li>Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags</li> <li>Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist</li> <li>Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation</li> </ul>
	4. If required by Heritage Resources Agency, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.
	5. Implement any further mitigation measures proposed by the palaeontologist and Heritage Resources Agency
Specialist palaeontologist	Record, describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy). Ensure that fossils are curated in an approved repository (e.g. museum / university / Council for Geoscience collection) together with full collection data. Submit Palaeontological Mitigation report to Heritage Resources Agency. Adhere to best international practice for palaeontological fieldwork and Heritage Resources Agency minimum standards.

## **17 APPENDIX E | OPERATIONAL BIRD MONITORING FRAMEWORK**

The proposed Umsobomvu Infrastructure Development will be monitoring in accordance with the recommendations for the Umsobomvu WEF.

## 18 APPENDIX F | PPP PROOFS, EMPR AND LAYOUT FINALISATION

### 18.1 PUBLIC PARTICIPATION PROCESS FOLLOWED

The Draft Finalised EMPr and Layout is available for public review from the 26<sup>th</sup> of May until the 26<sup>th</sup> of June 2023.

The documentation will be made available to the public via the CES public documents website ([www.cesnet.co.za](http://www.cesnet.co.za)) in soft copy format. In addition to this the documents will also be made available in Middleburg at the Public Library and in Noupoot at the Municipal Offices in hard copy format.

The availability of the documentation was advertised using the existing Umsobomvu WEF and Associated Infrastructure broad Stakeholder and I&AP database. It was also advertised in The Herald (Eastern Cape) and the Volksblad (Northern Cape). The documentation will also be uploaded to the SAHRIS platform. Please find the proofs here within.

Please see the following sections which include 18.2 Proof of Notification; 18.3 Proof of Advertisement; 18.4 Comments Received; and 18.5. Comments and Response Report. The current proofs relate to the 14/12/16/3/3/1/2040/MP1 PPP, this will be updated with the 14/12/16/3/3/1/2040/MP2 PPP once completed.

## 18.2 PROOF OF NOTIFICATION

### Caroline Evans

**From:** Caroline Evans  
**Sent:** Monday, 06 February 2023 16:52  
**To:** Alan Carter  
**Subject:** NOTIFICATION | 14/12/16/3/3/1/2040 | Umsobomvu Infrastructure | EMPr and Layout Approval Process | PPP: 06/02/2023 - 08/03/2023

**Bcc:** THLATSHWAYO@dffe.gov.za; MSHUBANE@dffe.gov.za; livia Letlalo; MEssop@environment.gov.za; HALberts@environment.gov.za; zlanga@environment.gov.za; Bathandwa Ncube; AEssop@environment.gov.za; SMambane@environment.gov.za; PMakitla@environment.gov.za; SLEkota@environment.gov.za; amaifo@environment.gov.za; smunzhedzi@environment.gov.za; smailete@environment.gov.za; BCAdmin@environment.gov.za; Nondwe.Mdekazi@dedea.gov.za; Tbone.DeJongh@dedea.gov.za; Mncedisi.Makosonke@dedea.gov.za; Alan.Southwood@dedea.gov.za; tmakaudi@ncpg.gov.za; fouriel4@dw.gov.za; abrahamsa@dws.gov.za; fenin2@dws.gov.za; mokhoantle@dws.gov.za; kgapholam@dws.gov.za; hlengania@dws.gov.za; VanDykG@dws.gov.za; Ntsundeni.Ravhugoni@dmre.gov.za; Brenda.monnapula@dmre.gov.za; Brenda.Ngebulana@dmre.gov.za; Zimkita.Tyala@dmre.gov.za; thokob@daff.gov.za; MashuduMa@daff.gov.za; mokgadi.mathekgana@energy.gov.za; eddie.leach@eskom.co.za; GeerinJH@eskom.co.za; NicoIM@eskom.co.za; sdiokpala@pkscdm.gov.za; diokpala.sam5@gmail.com; fnel@chrisanidm.gov.za; fnxesi@chrisanidm.gov.za; mpela@umsobomvumun.co.za; tantsi@isat.gov.za; mpela@umsobomvu.co.za; ithatelo@salga.org.za; ldaniels@salga.org.za; jmaferaka@salga.org.za; adlanjwa@salga.org.za; zmpulampula@salga.org.za; zcookie@salga.org.za; info@ecphra.org.za; smokhanya@ecphra.org.za; rtimothy@nbkb.org.za; ratha.timothy@gmail.com; nhiggett@sahra.org.za; CouchRA@telkom.co.za; viljoena@sentechn.co.za; radebej@sentechn.co.za; andre.barnard@vodacom.co.za; krishna.chetty@mtn.com; hdiippenaar@cellc.co.za; RLiebenberg@cellc.co.za; wvermaak@cellc.co.za; DVanDerWalt@cellc.co.za; spvanderwalk@karoomail.co.za; meylburgherasmus@gmail.com; wilt@nokwi.co.za; hsventer@nokwi.co.za; viljoen@oddworld.co.za; sep@suurfontein.co.za; driespienaar@gmail.com; divalphen@gmail.com; middelburgdistrikibv@gmail.com; bosuurberg@gmail.com; andries@ajbester.co.za; bpe@intekom.co.za; tp@midkaroo.co.za; gsnyman@mtnloaded.co.za; info@hillstonfarm.co.za; clift@vodamail.co.za; rlv@webmail.co.za; tafelkop0@gmail.com; hofmeyrboere@gmail.com; StrohL@caa.co.za; camu@atns.co.za; GouwsJ@nra.co.za; daniel.marnewick@birdlife.org.za; iba@birdlife.org.za; conservation@birdlife.org.za; energy@birdlife.org.za; advocacy@birdlife.org.za; yolanf@ewt.co.za; harriete@ewt.org.za; kerryn@ewt.org.za; glennr@ewt.org.za; lourensl@ewt.org.za; wessanc@yahoo.com; joubertrenee@telkomsa.net; tourismmid@adsactive.com; joano@nda.agric.za; office@wrsa.co.za; ecgma@telkomsa.net; vanessa@sa.wild.org; jibopape@gmail.com; allenlange@lantic.net; rory@ecdc.co.za; jonathanv@iwpower.co.za; KarenC@l2b.co.za; eia@g7energies.com; ryan@grassmaster.co.za; wallyholmes@grassmaster.co.za; mario.bratz@yahoo.com; Marielle.Penwarden@abo-wind.com; ChristieC@ewt.org.za; andrener@icloud.com; andre@neserattorneys.co.za; fauntyg@vodamail.co.za; transkaroo@eik.co.za; paardevlei@adsactive.com; n.paardevlei@gmail.com; gearboxclinic@telkomsa.net; francoisvdryst@gmail.com; andries@ajbester.co.za; gyssteyn@worldonline.co.za; neusberg@nokwi.co.za; jj@adsactive.com; Andries Struwig; Thembisile Hlatshwayo;

Bcc: Salome Mambane; Zama Langa; Salome Mambane; nhiggitt@sahra.org.za

Dear Umsobomvu Infrastructure Stakeholders and I&APs

**NOTIFICATION OF AVAILABILITY OF PROPOSED FINAL EMPR AND LAYOUT FOR THE CONSTRUCTION OF THE UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES (DFFE REF: 14/12/16/3/3/1/2040) | COMMENCEMENT OF PUBLIC COMMENTING PERIOD (06/02/2023 – 08/03/2023)**

Notice is hereby given in terms of Regulation 4(2)(a) published in Government Notice No. R. 982 under Chapter 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments) that the Proposed Final EMPr and Layout are available for public comment from the 6<sup>th</sup> of February until the 8<sup>th</sup> of March 2023. The documents are available at the following link: <http://www.cesnet.co.za/umsobomvu-infrastructure-empr-and-layout-finalisation>

In addition to this, you are also notified that Umsobomvu Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (South Africa) (Pty) Ltd, is proposing the development and operation of the Umsobomvu Wind Energy Facility and Associated Infrastructure near Middelburg (Eastern Cape Province) and Noupoort (Northern Cape Province). The proposed development requires Water Use Authorisation in accordance with the following sections of the National Water Act (NWA) (Act No. 36 of 1998, as amended): Section 21(a) – Taking water from a water resource, Section 21(c) – Impeding or diverting the flow of water in a watercourse, Section 21(i) – Altering the bed, banks, course, or characteristics of a watercourse, Section 21(g) – Disposing of waste in manner that may detrimentally impact a water resource, and Section 21(e) – Engaging in a controlled activity. Umsobomvu Wind Power has appointed Coastal and Environmental Services (Pty) Ltd to undertake the Water Use Application Process via the Department of Water and Sanitation (DWS) Electronic Water Use Licence Application and Authorisation System (e-WULAAS).

The Proposed Final EMPr and Layout have been submitted to the Department of Forestry, Fisheries and the Environmental (DFFE) for comment via the official online portal.

Kind regards  
Caroline

NOTICE: POPIA (Protection of Personal Information Act) Disclaimer. All Stakeholder and I&AP Databases need to adhere to the Act from the 1<sup>st</sup> of July 2021. Should you wish to register as an I&AP on the Stakeholder and I&AP Database, as the administrators of the Umsobomvu Infrastructure Stakeholder and I&AP Database we require your consent to be part of this database. As such you are herewith notified that you are entitled to refuse such consent and you may exercise such a right by withdrawing from this database in writing at any stage of the process. Should you elect to remain in this group, it will be accepted that you have consented to being a part of this database and to your personal information (being your name, affiliation, contact details and written comments) being noticeable to any person interested in this project and in the public domain. In this regard, we implore all members of this database NOT to make use of such personal information for whatsoever reason without obtaining the consent from the relevant person(s).

Kind regards  
Caroline



Umsobomvu Infrastructure EMP and Layout Finalisation

Umsobomvu Wind Power (Pty) Ltd is planning the development of the Umsobomvu Infrastructure, associated with the Umsobomvu Wind Energy Facility (WEF), near Middelburg and Noupport in the Inxuba Yethemba Local Municipality (Eastern Cape Province) and the Umsobomvu Local Municipality (Northern Cape Province). The planned development will include:

- The construction of new roads and upgrade of existing farm tracks and farm roads, which will have a width of 12 m during the construction phase.

Umsobomvu Infrastructure Environmental Management Programme-EMPr

Botanical Ground Truthing Report

Heritage Ground Truthing Report

Ground Truthing Report

SAHRIS

Special Notice

Following comments received on the proposed Revised Schedule of Fees for applications made to the South African Heritage Resources Agency (SAHRA), made in terms of Section 25(2)(i) of the National Heritage Resources Act No. 25 of 1999 (NHRA) and published in the Government Gazette of 22 July 2022, SAHRA hereby publishes the final Revised Schedule of Fees for Applications made to SAHRA. Applications for provision of services submitted to the South African Heritage Resources Authority (SAHRA), in terms of the National Heritage Resources Act No. 25 of 1999 (NHRA) must be accompanied by a payment of the appropriate fee, taking effect from 1 January 2023.

Revised Schedule of Fees for Applications made to the South African Heritage Resources Agency (SAHRA)

UMSOBOMVU INFRASTRUCTURE DEVELOPMENT (DFFE Ref. No.: 14/12/16/3/3/1/2040)

Log in or register to post comments 203 reads

CaseHeader LocationInfo Admin

Status: Pending & Under Assessment

HeritageAuthority(s): SAHRA  
ECPIRA  
NRKH

Case Type: Section 38 (8) - Statutory Comment Required

Development Type: Infrastructure  
Electrical Infrastructure


ProposalDescription:

Official Decisions & Comments

Date	Dec Status
04/06/2021	Final Comment
22/11/2019	Interim Comment
06/05/2019	Interim Comment

Like 0 Tweet

### 18.3 PROOF OF ADVERTISEMENT



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**NOTIFICATION OF AVAILABILITY OF PROPOSED FINAL EMPr AND LAYOUT FOR THE CONSTRUCTION OF THE UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES (DFFE REF: 14/12/16/3/3/1/2040) | COMMENCEMENT OF PUBLIC COMMENTING PERIOD (06/02/2023 – 08/03/2023)**

Notice is hereby given in terms of Regulation 4(2)(a) published in Government Notice No. R. 982 under Chapter 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments) that the Proposed Final EMPr and Layout are available for public comment from the 6th of February until the 8th of March 2023. The documents are available at the following link: <http://www.cesnet.co.za/umsobomvu-infrastructure-empr-and-layout-finalisation>

In addition to this, you are also notified that Umsobomvu Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (South Africa) (Pty) Ltd, is proposing the development and operation of the Umsobomvu Wind Energy Facility and Associated Infrastructure near Middelburg (Eastern Cape Province) and Noupoort (Northern Cape Province). The proposed development requires Water Use Authorisation in accordance with the following sections of the National Water Act (NWA) (Act No. 36 of 1998, as amended): Section 21(a) – Taking water from a water resource, Section 21(c) – Impeding or diverting the flow of water in a watercourse, Section 21(i) – Altering the bed, banks, course, or characteristics of a watercourse, Section 21(g) – Disposing of waste in manner that may detrimentally impact a water resource, and Section 21(e) – Engaging in a controlled activity. Umsobomvu Wind Power has appointed Coastal and Environmental Services (Pty) Ltd to undertake the Water Use Application Process via the Department of Water and Sanitation (DWS) Electronic Water Use Licence Application and Authorisation System (e-WULAAS).



**CES**  
We are looking for a qualified person to join our team. The successful candidate will be responsible for the day-to-day management of the business. The ideal candidate will have a minimum of 5 years experience in a similar role. Please send your CV to: [ces@ces.co.za](mailto:ces@ces.co.za)

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**QUICK CAPITAL**  
We are looking for a qualified person to join our team. The successful candidate will be responsible for the day-to-day management of the business. The ideal candidate will have a minimum of 5 years experience in a similar role. Please send your CV to: [quickcapital@quickcapital.co.za](mailto:quickcapital@quickcapital.co.za)

**LEGALIS**  
We are looking for a qualified person to join our team. The successful candidate will be responsible for the day-to-day management of the business. The ideal candidate will have a minimum of 5 years experience in a similar role. Please send your CV to: [legalis@legalis.co.za](mailto:legalis@legalis.co.za)

**ZUTARI**  
We are looking for a qualified person to join our team. The successful candidate will be responsible for the day-to-day management of the business. The ideal candidate will have a minimum of 5 years experience in a similar role. Please send your CV to: [zutari@zutari.co.za](mailto:zutari@zutari.co.za)

**SANRAL**  
We are looking for a qualified person to join our team. The successful candidate will be responsible for the day-to-day management of the business. The ideal candidate will have a minimum of 5 years experience in a similar role. Please send your CV to: [sanral@sanral.co.za](mailto:sanral@sanral.co.za)

# Man City have smallest squad in Premier League — Guardiola

Champion team valued at equivalent of R20bn but manager says they have little depth

Manchester City manager Pep Guardiola claims his squad is the smallest in the Premier League, despite the team being valued at over £20 billion. Guardiola says the club's financial power has led to a lack of depth in the squad, with many players being loaned out or sold. He also says that the club's focus is on winning the Champions League, rather than the Premier League. Guardiola's comments come as the club's value has risen to over £20 billion, making it the most valuable club in the world. The club's success in the Champions League has also led to a rise in its share price, with the club's value increasing by over 50% in the last year.



Manchester City players in action during a match. The players are wearing their light blue home kit and are seen in a dynamic pose, suggesting a recent goal or a significant play. The background shows a blurred crowd of spectators in a stadium.

Guardiola's comments come as the club's value has risen to over £20 billion, making it the most valuable club in the world. The club's success in the Champions League has also led to a rise in its share price, with the club's value increasing by over 50% in the last year.

Guardiola's comments come as the club's value has risen to over £20 billion, making it the most valuable club in the world. The club's success in the Champions League has also led to a rise in its share price, with the club's value increasing by over 50% in the last year.

## Rashford hailed as one of Europe's best strikers

Manchester United striker Marcus Rashford has been hailed as one of Europe's best strikers. Rashford's performance in the Premier League has been exceptional, with him scoring a number of goals and providing assists. His speed and agility have made him a threat to any defence, and his ability to score from outside the box has also been praised. Rashford's rise to prominence has been rapid, and he is now considered one of the most talented strikers in the world.



Manchester United striker Marcus Rashford in action during a match. He is wearing his red home kit and is seen in a dynamic pose, suggesting a recent goal or a significant play. The background shows a blurred crowd of spectators in a stadium.

## Co-coach urges Dondol Stars not to get carried away

Dondol Stars coach has urged his players not to get carried away after a recent victory. The coach says that the team's success is a result of hard work and dedication, and that they should continue to work hard to maintain their position. He also says that the team should not let their guard down, as there are still many challenges ahead. The coach's words are a reminder to the players to stay focused and motivated, and to continue to strive for excellence.



Dondol Stars players in action during a match. The players are wearing their blue and white kit and are seen in a dynamic pose, suggesting a recent goal or a significant play. The background shows a blurred crowd of spectators in a stadium.



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**NOTIFICATION OF AVAILABILITY OF PROPOSED FINAL EMPR AND LAYOUT FOR THE CONSTRUCTION OF THE UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES (DFFE REF: 14/12/16/3/3/1/2040) | COMMENCEMENT OF PUBLIC COMMENTING PERIOD (06/02/2023 – 08/03/2023)**

Notice is hereby given in terms of Regulation 4(2)(a) published in Government Notice No. R. 982 under Chapter 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments) that the Proposed Final EMPR and Layout are available for public comment from the 6th of February until the 8th of March 2023. The documents are available at the following link: <http://www.cesnet.co.za/umsobomvu-infrastructure-empr-and-layout-finalisation>

In addition to this, you are also notified that Umsobomvu Wind Power (Pty) Ltd, a subsidiary of EDF Renewables (South Africa) (Pty) Ltd, is proposing the development and operation of the Umsobomvu Wind Energy Facility and Associated Infrastructure near Middelburg (Eastern Cape Province) and Noupoot (Northern Cape Province). The proposed development requires Water Use Authorisation in accordance with the following sections of the National Water Act (NWA) (Act No. 36 of 1998, as amended): Section 21(a) – Taking water from a water resource, Section 21(c) – Impeding or diverting the flow of water in a watercourse, Section 21(i) – Altering the bed, banks, course, or characteristics of a watercourse, Section 21(g) – Disposing of waste in manner that may detrimentally impact a water resource, and Section 21(e) – Engaging in a controlled activity. Umsobomvu Wind Power has appointed Coastal and Environmental Services (Pty) Ltd to undertake the Water Use Application Process via the Department of Water and Sanitation (DWS) Electronic Water Use Licence Application and Authorisation System (e-WULAAS).

ST/2021/02/16/3/3/1/2040





## 18.4 COMMENTS RECEIVED



### forestry, fisheries & the environment

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 - PRETORIA - 0001 - Environment House -473 Steve Biko Road, Arcadia, - PRETORIA

DFFE Reference: 14/12/16/3/3/1/2040/MP1

Enquiries: Ms Bathandwa Ncube

Telephone: 012 399 9368 E-mail: [BNcube@dfpe.gov.za](mailto:BNcube@dfpe.gov.za)

Dr Alan Robert Carter  
Coastal and Environmental Services (Pty) Ltd  
PO Box 8145  
BEREA  
East London  
5214

Telephone Number: 043 726 7809  
Cellphone Number: 083 379 9861  
Email Address : [a.carter@cesnet.co.za](mailto:a.carter@cesnet.co.za) / [c.evans@cesnet.co.za](mailto:c.evans@cesnet.co.za)

#### PER MAIL / EMAIL

Dear Dr Carter

#### COMMENTS ON THE AMENDED DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE UMSOBOMVU INFRASTRUCTURE DEVELOPMENT WITHIN THE INXUBA YETHEMBA AND UMSOBOMVU LOCAL MUNICIPALITIES, EASTERN AND NORTHERN CAPE PROVINCES

The Environmental Authorisation (EA) for the above-mentioned project dated 10 November 2021; and the draft Environmental Management Programme (EMPr) dated February 2023, received by this Department on 06 February 2023, refer.

Following the review of the above-mentioned draft EMPr, this Department has the following comments:

#### EMPr Report

- 1) The project description on page 7 of the draft EMPr and the layout plans submitted as part of this EMPr are different to the layout plans which were submitted as part of the final Basic Assessment Report dated July 2021 and the project description and coordinates which were authorised in the EA dated 10 November 2021. You are requested to address this in the Comments and Response Report contemplated in comment 7 below.
- 2) The EMPr must include a final Layout Plan of the approved infrastructure overlain by a sensitivity map, which depicts sensitive environmental features on site (e.g. CBAs, heritage sites, wetlands, drainage lines, surface water, nesting areas, buffer areas, no-go areas etc.)
- 3) All amendments that have been made to the draft EMPr subsequent to the EMPr dated July 2021, and that will be made as a result of this public participation process, must be highlighted/underlined for ease of reference.
- 4) You are requested to submit copies of signed Specialist Declaration of Interest forms (witnessed and signed by a Commissioner of Oaths) for all specialists that have produced management plans and/or walkthrough reports included in the EMPr. The forms are available on Department's website (please use the Department template).

MEM



- 5) The EMPr must not contain any ambiguity. Where applicable, statements containing the word "should" or "may" are to be amended to "must".
- 6) Where applicable, the term "machinery" must be amended to "construction equipment" within the EMPr.

#### **Public participation**

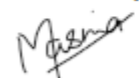
- 7) Please ensure that all issues raised and comments received during the circulation of the draft EMPr from registered I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed and included in the final EMPr.
- 8) Copies of original comments received from I&APs and organs of state, which have jurisdiction in respect of the proposed activity are submitted to the Department with the final EMPr.
- 9) Proof of correspondence with the various stakeholders must be included in the final EMPr. This must indicate that this draft BAR has been subjected to 30 days public participation process, stating the start and end date of the PPP.
- 10) Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments. Please provide proof of written notice for the availability of the BAR for comment.
- 11) All issues raised and comments received during the circulation of the draft EMPr from I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the final EMPr, including comments from this Department, and must be incorporated into a Comments and Response Report (CRR). The format must be in the table format as indicated in *Annexure 1* of this comments letter.
- 12) Comments from I&APs must not be split and arranged into categories. Comments from each submission must be responded to individually.
- 13) Please refrain from summarising comments made by I&APs. All comments from I&APs must be copied verbatim and responded to clearly. Please note that a response such as "noted" is not regarded as an adequate response to an I&AP's comments.

#### **General**

- 14) The final EMPr must comply with all the requirements of Appendix 4 of the EIA Regulations, 2014, as amended.
- 15) Please ensure that all mitigation recommendations are in line with applicable and most recent guidelines.

You are hereby reminded of Section 24F of the National Environmental Management Act, Act No 107 of 1998, as amended, that no activity may commence prior to an environmental authorisation being granted by the Department.

Yours faithfully



**Ms Milicent Solomons**

**Acting Chief Director: Integrated Environmental Authorisations**

**Department of Forestry, Fisheries and the Environment**

**Signed by: Ms Masina Morudu**

**Designation: Control Environmental Officer: National Integrated Authorisations**

**Date: 07/03/23.**

cc:	Mr Sheldon Vandrey	Umsobomvu Wind Power (Pty) Ltd.	Email: <a href="mailto:Sheldon.vandrey@edf-re.co.za">Sheldon.vandrey@edf-re.co.za</a>
	Ms Nondwe Mdekazi & Mr Tim De Jongh	Eastern Cape DEDEAT	E-mail: <a href="mailto:Nondwe.Mdekazi@dedea.gov.za">Nondwe.Mdekazi@dedea.gov.za</a> / <a href="mailto:Tbone.DeJongh@dedea.gov.za">Tbone.DeJongh@dedea.gov.za</a>
	Ms Tsholo Makaudi	Northern Cape DAEARD&LR	Email: <a href="mailto:tmakaudi@ncpg.gov.za">tmakaudi@ncpg.gov.za</a>



**forestry, fisheries  
& the environment**

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA

Private Bag X 447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, Tel: +27 12 399 9000, Fax: +27 86 625 1042

Reference: 14/12/16/3/3/1/2040

Enquiries: Ms Mashudu Mudau/ Ms Portia Makilla

Telephone: 012 399 9411 E-mail: [pmakilla@dfe.gov.za](mailto:pmakilla@dfe.gov.za)

Dr Alan Carter  
Coastal and Environmental Services (Pty) Ltd  
39 Harewood Drive,  
Nahoon Mouth,  
**EAST LONDON,**  
5214

Telephone Number: (+27)43 726 7809  
Email Address: [a.carter@cesnet.co.za](mailto:a.carter@cesnet.co.za)

**PER E-MAIL**

Dear Dr, Carter

**COMMENTS FOR THE FINALISATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) AND LAYOUT MAP FOR THE PROPOSED UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES**

The Directorate: Biodiversity Conservation reviewed and evaluated the final Environmental Management Programme report.

The EMPr was submitted in compliance with Condition 12 of the EA which required that a copy of the final development layout map must be made available for comments by registered I&APS and the holder of the EA must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map and must indicate the following:

- 12.1. The final layout of all infrastructure after the final walk through has been undertaken; and
- 12.2. All "no-go" and buffer areas.

The report has only considered the no-go buffer areas for the avifauna, however the above-mentioned condition 12.2 state that all no-go buffer areas must be indicated in the final layout map. It is therefore recommended that an amended layout map be submitted for the Directorate: Biodiversity Conservation to make an informed decision.



Batho pele- putting people first

**COMMENTS FOR THE FINALISATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) AND LAYOUT MAP FOR THE PROPOSED UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES**

In conclusion, all Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; [BCAdmin@environment.gov.za](mailto:BCAdmin@environment.gov.za) for the attention of Mr. Seoka Lekota.

Yours faithfully

A handwritten signature in black ink, appearing to be 'S. Lekota', written over a horizontal line.

**Mr. Seoka Lekota**  
**Control Biodiversity Officer Grade B: Biodiversity Conservation**  
**Department of Forestry, Fisheries & the Environment**  
**Date: 08/03/2023**



*Batho pele*- putting people first

## 18.5 COMMENTS AND RESPONSE REPORT

COMMENTS AND RESPONSE REPORT			
STAKEHOLDER AND I&AP DETAILS	DATE RECEIVED	STAKEHOLDER OR I&AP COMMENT	EAP/APPLICANT RESPONSE
<b>DFFE</b>  <b>Ms Masina Morudu</b>  <b>Enquiries:</b> Ms Bathandwa Ncube  <b>Telephone:</b> 012 399 9368  <b>E-mail:</b> <a href="mailto:BNcube@dffe.gov.za">BNcube@dffe.gov.za</a>	07/03/23	<p><b>COMMENTS ON THE AMENDED DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE UMSOBOMVU INFRASTRUCTURE DEVELOPMENT WITHIN THE INXUBA YETHEMBA AND UMSOBOMVU LOCAL MUNICIPALITIES, EASTERN AND NORTHERN CAPE PROVINCES</b></p> <p>The Environmental Authorisation (EA) for the above-mentioned project dated 10 November 2021; and the draft Environmental Management Programme (EMPr) dated February 2023, received by this Department on 06 February 2023, refer.</p> <p>Following the review of the above-mentioned draft EMPr, this Department has the following comments:</p> <p><b>EMPr Report</b></p> <ol style="list-style-type: none"> <li>1) The project description on page 7 of the draft EMPr and the layout plans submitted as part of this EMPr are different to the layout plans which were submitted as part of the final Basic Assessment Report dated July 2021 and the project description and coordinates which were authorised in the EA dated 10 November 2021. You are requested to address this in the Comments and Response Report contemplated in comment 7 below.</li> <li>2) The EMPr must include a final Layout Plan of the approved infrastructure overlain by a sensitivity map, which depicts sensitive environmental features on site (e.g. CBAs, heritage sites, wetlands, drainage lines, surface water, nesting areas, buffer areas, no-go areas etc.)</li> </ol>	<p>Thank you for your comments as a key stakeholder on the Umsobomvu Infrastructure project. Please see responses below.</p> <p><b>EMPr Report</b></p> <ol style="list-style-type: none"> <li>1) A Part 1 EA Amendment has been submitted along with this final submission in order to ensure that the EA and EMPr (inclusive of final layout) align with each other, based on the final design.</li> <li>2) Please kindly see Chapter 5.5 of this report which includes a sensitivity map relevant to the Umsobomvu Infrastructure Development as well as the Umsobomvu WEF as a whole. As mentioned in this Chapter, the sensitivity data has been gathered since 2014 and includes data relevant to avifaunal and bat monitoring, numerous site visits by specialists and ground truthing which was undertaken as part of the EMPr and Layout finalisation process.</li> <li>3) EMPr amendments include the addition of Section 5.4 (Micro-Siting Conditions), Section 5.5 (Final Site Sensitivity) and Section 5.6 (Environmental Authorisation Conditions) as these activities all took place post authorisation. In addition to 5.3-5.6 Chapter 10 (Monitoring Plans) and the Appendices of the EMPr were added to address Chapter 5.6, i.e. the EA conditions and the EMPr and Layout finalisation process.</li> <li>4) Please see attached as part of the data pack</li> </ol>

COMMENTS AND RESPONSE REPORT			
STAKEHOLDER AND I&AP DETAILS	DATE RECEIVED	STAKEHOLDER OR I&AP COMMENT	EAP/APPLICANT RESPONSE
		<p>3) All amendments that have been made to the draft EMPr subsequent to the EMPr dated July 2021, and that will be made as a result of this public participation process, must be highlighted/underlined for ease of reference.</p> <p>4) You are requested to submit copies of signed Specialist Declaration of Interest forms (witnessed and signed by a Commissioner of Oaths) for all specialists that have produced management plans and/or walkthrough reports included in the EMPr. The forms are available on Department's website (please use the Department template).</p> <p>5) The EMPr must not contain any ambiguity. Where applicable, statements containing the word "should" or "may" are to be amended to "must".</p> <p>6) Where applicable, the term "machinery" must be amended to "construction equipment" within the EMPr.</p> <p><b>Public participation</b></p> <p>7) Please ensure that all issues raised and comments received during the circulation of the draft EMPr from registered I&amp;APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed and included in the final EMPr.</p> <p>8) Copies of original comments received from I&amp;APs and organs of state, which have jurisdiction in respect of the proposed activity are submitted to the Department with the final EMPr.</p> <p>9) Proof of correspondence with the various stakeholders must be included in the final EMPr. This must indicate that this draft BAR has been subjected to 30 days public</p>	<p>submitted for this EMPr and Layout finalisation.</p> <p>5) The EAP confirms that all "should" and "may" have been amended to "must" to avoid ambiguity.</p> <p>6) The EAP confirms that the term "machinery" has been amended to "construction equipment" within the EMPr.</p> <p><b>Public participation</b></p> <p>7) Please see this Appendix, Appendix 18, which includes Public Participation Process, Proof of Notification, Proof of Advertisement, Comments Received and Comments and Response Report.</p> <p>8) Please see this Appendix, Appendix 18, which includes Public Participation Process, Proof of Notification, Proof of Advertisement, <u>Comments Received</u> and Comments and Response Report.</p> <p>9) Please see this Appendix, Appendix 18, which includes Public Participation Process, <u>Proof of Notification</u>, <u>Proof of Advertisement</u>, Comments Received and Comments and Response Report.</p> <p>10) Please see this Appendix, Appendix 18, which includes Public Participation Process, <u>Proof of Notification</u>, Proof of Advertisement, Comments Received and Comments and Response Report.</p> <p>11) Please see this Appendix, Appendix 18, which includes Public Participation Process, Proof of Notification, Proof of Advertisement, Comments Received and <u>Comments and Response Report</u>.</p> <p>12) The EAP confirms that comments received are copied verbatim and listed as received. No</p>



COMMENTS AND RESPONSE REPORT			
STAKEHOLDER AND I&AP DETAILS	DATE RECEIVED	STAKEHOLDER OR I&AP COMMENT	EAP/APPLICANT RESPONSE
		<p>participation process, stating the start and end date of the PPP.</p> <p>10) Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments. Please provide proof of written notice for the availability of the BAR for comment.</p> <p>11) All issues raised and comments received during the circulation of the draft EMPr from I&amp;APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the final EMPr, including comments from this Department, and must be incorporated into a Comments and Response Report (CRR). The format must be in the table format as indicated in <i>Annexure 1</i> of this comments letter.</p> <p>12) Comments from I&amp;APs must not be split and arranged into categories. Comments from each submission must be responded to individually.</p> <p>13) Please refrain from summarising comments made by I&amp;APs. All comments from I&amp;APs must be copied verbatim and responded to clearly. Please note that a response such as “noted” is not regarded as an adequate response to an I&amp;AP’s comments.</p> <p><b>General</b></p> <p>14) The final EMPr must comply with all the requirements of Appendix 4 of the EIA Regulations, 2014, as amended.</p> <p>15) Please ensure that all mitigation recommendations are in line with applicable and most recent guidelines.</p> <p>You are hereby reminded of Section 24F of the National</p>	<p>categorisation of comments has taken place.</p> <p>13) The EAP confirms that comments have been responded to in detail and that responses such as “noted” have not been used..</p> <p><b>General</b></p> <p>14) The EAP confirms that the final EMPr complies with all the requirements of Appendix 4 of the EIA Regulations, 2014, as amended.</p> <p>15) The EAP also confirms that the mitigation measures and management outcomes are in line with the applicable and most recent guidelines.</p>

COMMENTS AND RESPONSE REPORT									
STAKEHOLDER AND I&AP DETAILS	DATE RECEIVED	STAKEHOLDER OR I&AP COMMENT	EAP/APPLICANT RESPONSE						
		<p>Environmental Management Act, Act No 107 of 1998, as amended, that no activity may commence prior to an environmental authorisation being granted by the Department.</p> <p><u>Annexure 1</u></p> <p>Format for Comments and Response Report:</p> <table><tr><th>Date of comment, format of comment name of organisation/I&amp;AP,</th><th>Comment</th><th>Response EAP/Applicant/Specialist</th></tr><tr><td>27/06/2021 Email Department of Forestry, Fisheries and the Environment: National Infrastructure Projects (Joe Soap)</td><td><p>Please record C&amp;R trail report in this format</p><p>Please update the contact details of the provincial environmental authority</p></td><td><p>EAP: (Noted) The C&amp;R trail report has been updated into the format, see Appendix K</p><p>EAP: Details of provincial environmental authority have been updated, see details of the Application form</p></td></tr></table>	Date of comment, format of comment name of organisation/I&AP,	Comment	Response EAP/Applicant/Specialist	27/06/2021 Email Department of Forestry, Fisheries and the Environment: National Infrastructure Projects (Joe Soap)	<p>Please record C&amp;R trail report in this format</p> <p>Please update the contact details of the provincial environmental authority</p>	<p>EAP: (Noted) The C&amp;R trail report has been updated into the format, see Appendix K</p> <p>EAP: Details of provincial environmental authority have been updated, see details of the Application form</p>	
Date of comment, format of comment name of organisation/I&AP,	Comment	Response EAP/Applicant/Specialist							
27/06/2021 Email Department of Forestry, Fisheries and the Environment: National Infrastructure Projects (Joe Soap)	<p>Please record C&amp;R trail report in this format</p> <p>Please update the contact details of the provincial environmental authority</p>	<p>EAP: (Noted) The C&amp;R trail report has been updated into the format, see Appendix K</p> <p>EAP: Details of provincial environmental authority have been updated, see details of the Application form</p>							
<p><b>DFFE, B&amp;C</b></p> <p>Mr. Seoka Lekota.</p> <p><b>Enquiries:</b> Ms Mashudu Mudau/ Ms Portia Makitla</p> <p><b>Telephone:</b> 012 399 9411</p> <p><b>E-mail:</b></p>	08/03/2023	<p><b>COMMENTS FOR THE FINALISATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) AND LAYOUT MAP FOR THE PROPOSED UMSOBOMVU INFRASTRUCTURE, EASTERN CAPE AND NORTHERN CAPE PROVINCES</b></p> <p>The Directorate: Biodiversity Conservation reviewed and evaluated the final Environmental Management Programme report.</p> <p>The EMPr was submitted in compliance with Condition 12 of the EA which required that a copy of the final development layout map must be made available for comments by registered I&amp;APS and the holder of the EA must consider such comments. Once</p>	<p><b>Thank you for your comments on the finalisation of the proposed Umsobomvu Infrastructure EMPr and Layout.</b></p> <p>As detailed in this EMPr, the layout was designed based on nine (9) years worth of sensitivity mapping, site visits, analysis and ground truthing. This is evident in the history of the project which includes the original EA, and amended and split EA and the EMPr and ground truthing process. Please kindly see Section 5.5 of this report which illustrates the full sensitivity map in relation to the layout. All no-go areas (based on consolidated data from Agricultural, Aquatic, Avifauna, Bat, Botanical, Faunal, Heritage, Palaeontology, Noise, Social and Visual Specialists) have</p>						

COMMENTS AND RESPONSE REPORT			
STAKEHOLDER AND I&AP DETAILS	DATE RECEIVED	STAKEHOLDER OR I&AP COMMENT	EAP/APPLICANT RESPONSE
pmakitla@dfre.gov.za		<p>amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map and must indicate the following:</p> <p>The final layout of all infrastructure after the final walk through has been undertaken; and</p> <p>All “no-go” and buffer areas.</p> <p>The report has only considered the no-go buffer areas for the avifauna, however the above- mentioned condition 12.2 state that all no-go buffer areas must be indicated in the final layout map. It is therefore recommended that an amended layout map be submitted for the Directorate: Biodiversity Conservation to make an informed decision.</p> <p>In conclusion, all Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; BCAdmint6environment.gov.za for the attention of Mr. Seoka Lekota.</p>	<p>been avoided. Where high sensitive areas could not be avoided (only relevant to road crossings) the water use licencing process is being followed.</p> <p>Heritage, Aquatic (WUL) and Botanical permits have all been submitted.</p> <p><b>Thank you for your engagement as a key biodiversity commenting authority.</b></p>