DRAFT BASIC ASSESSMENT REPORT

UMSOBOMVU SUBSTATIONS, CONCRETE TOWER MANUFACTURING FACILITIES AND TEMPORARY LAYDOWN AREA, SITUATED IN THE UMSOBOMVU LOCAL MUNICIPALITY (NORTHERN CAPE PROVINCE) AND THE INXUBA YETHEMBA LOCAL MUNICIPALITY (EASTERN CAPE PROVINCE).

DFFE REFERENCE NUMBER: TBA

FEBRUARY 2022

PROPOSED UMSOBOMVU SUBSTATIONS, CONCRETE TOWER MANUFACTURING FACILITIES AND TEMPORARY LAYDOWN AREA, SITUATED IN THE UMSOBOMVU LOCAL MUNICIPALITY (NORTHERN CAPE PROVINCE) AND THE INXUBA YETHEMBA LOCAL MUNICIPALITY (EASTERN CAPE PROVINCE).

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DRAFT BASIC ASSESSMENT REPORT

PREPARED FOR:

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FEBRUARY 2022

INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

The Environmental Impact Assessment (EIA) Regulations, promulgated in terms of the National Environmental Management Act (NEMA, Act no. 107 of 1998 as amended) dated 8th of December 2014, were amended in April 2017. In terms of Appendix 1 (3) of the EIA Regulations (2014 and subsequent 2017 amendments), a Basic Assessment Report (BAR) must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include –

SCOPE OF ASSESSMENT & CONTENT OF BASIC ASSESSMENT REPORTS	
(a) Details of - (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including a curriculum vitae.	Chapter 1 & Appendix A
(b) The location of the activity, including – (i) The 21-digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; and (iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.	Chapter 2
(c) A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	Chapter 2
(d) A description of the scope of the proposed activity, including – (i) All listed and specified activities triggered and being applied for; and (ii) A description of the activities to be undertaken, including associated structures and infrastructure.	Chapter 3
(e) A description of the policy and legislative context within which the development is proposed including (i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks and instruments.	Chapter 3
(f) A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Chapter 4
(g) A motivation for the preferred site, activity and technology alternative.	Chapter 6
(h) A full description of the process followed to reach the proposed preferred alternative within the site, including – (i) Details of all the alternatives considered; (ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts – aa. Can be reversed; bb. May cause irreplaceable loss of resources; and cc. Can be avoided, managed or mitigated;	Chapter 6 & Chapter 7

(vi) The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on geographical, physical, biological, social, economic, heritage and cultural aspects; (viii) The possible mitigation measures that could be applied and level of residual risk; (ix) The outcome of the site selection matrix; (x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and (xi) A concluding statement indicating the preferred alternatives, including the preferred location of the activity.	
(i) A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including – (i) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.	Chapter 8
(j) An assessment of each identified potentially significant impact and risk, including – (i) Cumulative impacts; (ii) The nature, significance and consequences of the impact and risk; (iii) The extent and duration of the impact and risk; (iv) The probability of the impact and risk occurring; (v) The degree to which the impact and risk can be reversed; (vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) The degree to which the impact and risk can be avoided, managed or mitigated.	Chapter 8
(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report.	Chapter 7
(l) An environmental impact statement which contains – (i) A summary of the key findings of the environmental impact assessment; (ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and (iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.	Chapter 9
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for inclusion in the EMPr.	Chapter 8
(n) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of the authorisation.	*None to date*
(o) A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Chapter 9
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	Chapter 9
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post-construction monitoring requirements finalised.	*Not Applicable*
(r) An undertaking under oath or affirmation by the EAP in relation to – (i) The correctness of the information provided in the reports; (ii) The inclusion of comments and inputs from stakeholders and I&APs; (iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and	Appendix B

	(iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	
(s)	Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post-decommissioning management of negative environmental impacts.	*None to date*
(t)	Any specific information that may be required by the competent authority.	Appendix G
(u)	Any other matters required in terms of section 24 (4)(a) and (b) of the Act.	*None to date*

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ATNS	Air Traffic and Navigation Services
BA	Basic Assessment
BAR	Basic Assessment Report
CAA	Civil Aviation Authority
CHDM	Chris Hani District Municipality
CV	*Curriculum Vitae*
DAFF	Department of Agriculture, Forestry & Fisheries
DFFE	Department of Forestry, Fisheries and the Environment
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DENC	Department of Environment and Nature Conservation
DM	District Municipality
DMRE	Department of Mineral Resources and Energy
DoE	Department of Energy
DWS	Department of Water & Sanitation
EA	Environmental Authorisation
EAF	Energy Availability Factor
EAP	Environmental Assessment Practitioner
EC	Eastern Cape
ECPHRA	Eastern Cape Provincial Heritage Resources Authority
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
FEPA	Freshwater Ecosystem Priority Area
GHG	Greenhouse Gas
IDP	Integrated Development Plan
INDC	Intended Nationally Determined Contributions
IPP	Independent Power Producers
IRP	Integrated Resource Plan
ISCW	Institute for Soil, Climate & Water
kV	Kilovolt
LM	Local Municipality
MPRDA	Mineral and Petroleum Resources Development Act
MW	Megawatt
MWp	Megawatt Peak
NBKB	*Ngwao-Boswa ya kapa Bokone*
NC	Northern Cape
NDC	Nationally Determined Contribution
NDP	National Development Plan
NEMA	National Environmental Management Act

NERSA	National Energy Regulator of South Africa
NFEPA	National Freshwater Ecosystem Priority Areas
NGI	National Geospatial Information
NHA	National Heritage Act
NPAES	National Protected Areas Expansion Strategy
NSBA	National Spatial Biodiversity Assessment
NWA	National Water Act
OCGT	Open Cycle Gas Turbine
PDP	Provincial Development Plan
PPP	Public Participation Process
QDS	Quarter Degree Square
REIPP	Renewable Energy Independent Power Producers
SA	South Africa
SAHRA	South African Heritage Resource Agency
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDF	Spatial Development Framework
SDG	Sustainable Development Goals
SEF	Solar Energy Facility
SKA	Square Kilometre Array
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
WEF	Wind Energy Facility
WMA	Water Management Area
WRB	World Reference Base

1. PROJECT TEAM

1.1 CES COMPANY PROFILE (OVERVIEW)

CES has its head office in Makhanda (Grahamstown), where it was founded in 1990, to service a then fledging market in the fields of Environmental Management and Impact Assessment. CES now has offices in South Africa (Cape Town, Gqeberha, East London and Johannesburg), the United Kingdom (Romsey) as well as a wholly owned subsidiary in Maputo, Mozambique (Coastal & Environmental Services LDa., registered as an Environmental Practitioner with the Mozambican authorities).

The Company has grown apace with the increased market demand for environmental and social advisory services in Southern Africa and further afield. Our principal area of expertise lies in assessing the risks and impacts of the development process on the natural, social and economic environments through, among other instruments, the environmental impact assessment (EIA) process. We believe that by offering these services, we contribute meaningfully towards sustainable development.

We adopt a scientific approach to our studies, underpinned by an informed and holistic view of the environment and a pragmatic approach to sustainable development. This results in deliverables that are robust, defensible and credible. This is important for both the development and EIA processes, and as a result, the outputs of our studies demonstrate objectivity, sincerity and professionalism. We believe that a balance between development and environmental protection can be achieved by skilful and careful planning and that our outputs reflect this. Our track record across twenty (20) African countries as well as in the Middle East and Asia is evidence of the value add we bring to the environmental and social advisory services we provide and has contributed to our deep understanding of the environmental and social challenges associated with establishing and operating facilities and infrastructure in emerging markets.

1.2 CES PROJECT TEAM

Please refer to Appendix A for full *Curriculum Vitae* of the project team.

DR ALAN CARTER

Dr Alan Carter is an Executive Director of the East London CES office and has extensive training and over 30 years of 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 (marine). He is also a certified ISO14001 EMS auditor with Exemplar Global (formerly Registrar Accreditation Board, USA). Alan is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and through Environmental Assessment Practitioners Association of South Africa (EAPASA).

MS CAROLINE EVANS

Ms Caroline Evans is a Principal Environmental Consultant with more than eight (8) years' experience, and she is based in the Makhanda (Grahamstown) branch. She holds a BSc with majors in Environmental Science (distinction) and Zoology, as well as a BSc (Hons) in Environmental Science (distinction) both from Rhodes University. Her undergraduate degree included both commerce and natural sciences. Caroline's honours dissertation evaluated the economic impacts of degradation of the xeric subtropical thicket through farming practices, focusing on the rehabilitation potential of the affected areas in terms of carbon tax. She has a broad academic background including statistics, economics, management, climate change, wetland ecology, GIS, rehabilitation ecology, ecological modelling and zoology. Caroline has a strong focus on renewable energy and South African policy and legislation related to development.

MS LUNGA MBULANA

Ms Lunga Mbulana is an Environmental Consultant in the East London branch of CES. In addition, Lunga holds a BSc degree with majors in environmental and water science, geology and biodiversity and conservation as well as a BSc Honours degree in Environmental and Water Science from the University of the Western Cape. Lunga's research provided an understanding of geomorphic processes of hillslope-channel relationships in the Silvermine valley catchment, Western Cape. She is a registered scientist with SACNASP. Lunga has experience assisting in the compilation of Basic Assessment Reports, Environmental Management Plans as well as experience in the Public Participation Processes. Lunga is interested in all aspects of environmental quality management.

1.3 EXPERTISE OF THE PROJECT TEAM

Table 1.1 consist of the expertise of the project team and Table 1.2 consists of a few projects which indicate the project team's relevant experience.

Table 1.1: Expertise of the Project Team.

NAME	POSITION IN COMPANY	HIGHEST QUALIFICATION	PROFESSIONAL AND/OR VOLUNTARY REGISTRATIONS	YEARS' EXPERIENCE
DR ALAN CARTER	Executive	PhD in Plant Science (Rhodes University)	• EAPASA Registered EAP • SACNASP Professional Scientist • IWMSA • IAIA Member	30+
MS CAROLINE EVANS	Principal Environmental Consultant	BSc Honours in Environmental Science (Rhodes University)	• IAIA Member	8+
MS LUNGA MBULANA	Environmental Consultant	BSc Honours degree in Environmental and Water Science (University of the Western Cape)	• SACNASP Candidate Scientist	1

Table 1.2: Project Team's Relevant Experience.

	PROJECT NAME	*LOCATION*	BRIEF PROJECT DESCRIPTION
1.	**Waaihoek Wind Energy Facility**	*KwaZulu-Natal Province*	CES was appointed by Mainstream Renewable Power (Pty) Ltd to undertake the Scoping and EIA Process for the proposed Waaihoek Energy Facility, situated near Utrecht in KwaZulu-Natal.
2.	**Umsobomvu Wind Energy Facility**	*Eastern and Northern Cape Provinces*	CES was appointed by EDF Renewables (Pty) Ltd to conduct the Scoping and EIA Process for the Umsobomvu WEF, situated near Middelburg and Noupoort in the Eastern Cape and Northern Cape Provinces. The project received full EA in 2016. Subsequent to obtaining EA, CES was appointed to undertake a Part 2 Amendment of the EA to split the EA into three (3) separate EAs, namely the Umsobomvu WEF, Coleskop WEF and Eskom MTS Infrastructure.
3.	**Umsobomvu Associated Infrastructure**	*Eastern and Northern Cape Provinces*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Umsobomvu Associated Infrastructure to supplement the authorised Umsobomvu WEF development, situated near Middelburg and Noupoort in the Eastern Cape and Northern Cape Provinces.
4.	**Coleskop Associated Infrastructure**	*Eastern and Northern Cape Provinces*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Coleskop Associated Infrastructure to supplement the authorised Coleskop WEF development, situated near Middelburg and Noupoort in the Eastern Cape and Northern Cape Provinces.
5.	**Umoyilanga – Dassiesridge Wind Energy Facility**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the Scoping and EIA Process for the proposed Umoyilanga – Dassiesridge WEF and associated infrastructure, situated near Kariega (Uitenhage) in the Eastern Cape Province. Subsequent to the project receiving EA, CES was appointed to undertake both Part 2 and Part 1 EA Amendments. CES was also appointed to finalise the Environmental Management Programme (EMPr) and the layout subsequent to micro-siting.
6.	**Umoyilanga – Dassiesridge**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Umoyilanga – Dassiesridge Ancillary Infrastructure (including BESS) associated with the authorised Umoyilanga – Dassiesridge WEF, situated near

	PROJECT NAME	*LOCATION*	BRIEF PROJECT DESCRIPTION
	Ancillary Infrastructure		Kariega (Uitenhage) in the Eastern Cape Province. The project received full EA in 2021.
7.	**Umoyilanga – Dassiesridge Overhead Line**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Umoyilanga – Dassiesridge 132 kV Overhead Line associated with the authorised Umoyilanga – Dassiesridge WEF, situated near Kariega (Uitenhage) in the Eastern Cape Province. The project received full EA in 2021.
8.	**Bayview Wind Farm**	*Eastern Cape Province*	CES was appointed by Engie Africa (Pty) Ltd to undertake the Scoping and EIA Process for the proposed Bayview Wind Farm and associated powerlines, situated near Kariega (Uitenhage) in the Eastern Cape. Subsequent to an Appeal against the issuing of the EA, CES was appointed to update the EA to include input from an independent Wake Effect Specialist. Following the issuing of a second EA in 2021, the project was Appealed, and it is currently active.
9.	**Scarlet Ibis Wind Energy Facility**	*Eastern Cape Province*	CES was appointed by of EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Scarlet Ibis WEF and associated powerlines, situated near Kariega (Uitenhage) in the Eastern Cape. The project received full EA in 2018.
10.	**Albany Wind Energy Facility, and Albany Connection and Associated Grid Infrastructure**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the Scoping and EIA Process for the proposed Albany WEF, situated near Makhanda (Grahamstown) in the Eastern Cape Province. The project is currently active. In addition, CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Albany Connection and Associated Grid Infrastructure to supplement the proposed Albany WEF development, situated near Makhanda (Grahamstown) in the Eastern Cape Province. The project is currently active.
11.	**Chaba Battery Energy Storage System**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the BA Process for the proposed Chaba BESS, south of the Chaba WEF project site on the Great WEF project site, near Komga in the Eastern Cape Province. The project received full EA in 2021.
12.	**Great Kei Wind Energy Facility**	*Eastern Cape Province*	CES was appointed by EDF Renewables (Pty) Ltd to undertake the Scoping and EIA Process for the Great Kei WEF, situated near Komga in the Eastern Cape Province. Subsequent to the Great Kei WEF receiving EA, CES was appointed to undertake a Part 2 EA Amendment. The project received the full amended EA in 2020.
13.	**Grahamstown Wind Energy Facility**	*Eastern Cape Province*	CES was appointed by Plan 8 Infinite Energy (Pty) Ltd to undertake the Scoping and EIA Process for the Grahamstown WEF, situated near Makhanda (Grahamstown) in the Eastern Cape Province. Subsequent to the Grahamstown WEF receiving EA, CES was appointed to undertake a Part 2 EA Amendment. The project received the full amended EA in 2021.
14.	**Haga Haga Wind Farm**	*Eastern Cape Province*	CES was appointed by WKN Windcurrent SA (Pty) Ltd to undertake a Part 2 Amendment for the authorised Haga Haga WEF, situated near Haga Haga in the Eastern Cape Province. The project received the full amended EA in 2021.
15.	**Golden Valley Wind Farm**	*Eastern Cape Province*	CES was appointed by BioTherm Energy (Pty) Ltd to undertake the Scoping and EIA Process for the Golden Valley WEF, situated near Golden Valley/Cookhouse in the Eastern Cape Province. Subsequent to the Golden Valley WEF receiving EA, CES was appointed to undertake a Part 2 Amendment to split the EA into separate EAs for the Golden Valley I and Golden Valley II WEFs. Various amendments have since been undertaken. The Golden Valley I WEF has been constructed.

2. PROJECT DESCRIPTION

2.1 PROJECT LOCALITY

Umsobomvu Wind Power (Pty) Ltd is proposing the development of infrastructure to supplement the development of the authorised Wind Energy Facilities (WEFs) in proximity to the infrastructure site. The proposed infrastructure is situated on Portion 8 of Uitzicht Farm 3, the Remaining Extent (RE) of Winterhoek Farm 118, and the RE of Elands Kloof Farm 135. These properties are situated within the Umsobomvu Local Municipality in the Northern Cape Province and the Inxuba Yethemba Local Municipality in the Eastern Cape Province.

Table 2.1 below lists the proposed properties which will be affected by the Proposed Umsobomvu Development.

Table 2.1: 21-Digit Surveyor General (SG) Codes of the affected properties.

FARM NAME	21 DIGIT SG NUMBER	PORTION AND FARM NUMBER	LOCAL MUNICIPALITY
Uitzicht	C04800000000000300008	Portion 8 of Farm 3	Umsobomvu Local Municipality and Inxuba Yethemba Local Municipality
Elands Kloof	C03000000000013500000	Remaining Extent of Farm 135	Umsobomvu Local Municipality
Winterhoek	C03000000000011800000	Remaining Extent of Farm 118	Umsobomvu Local Municipality

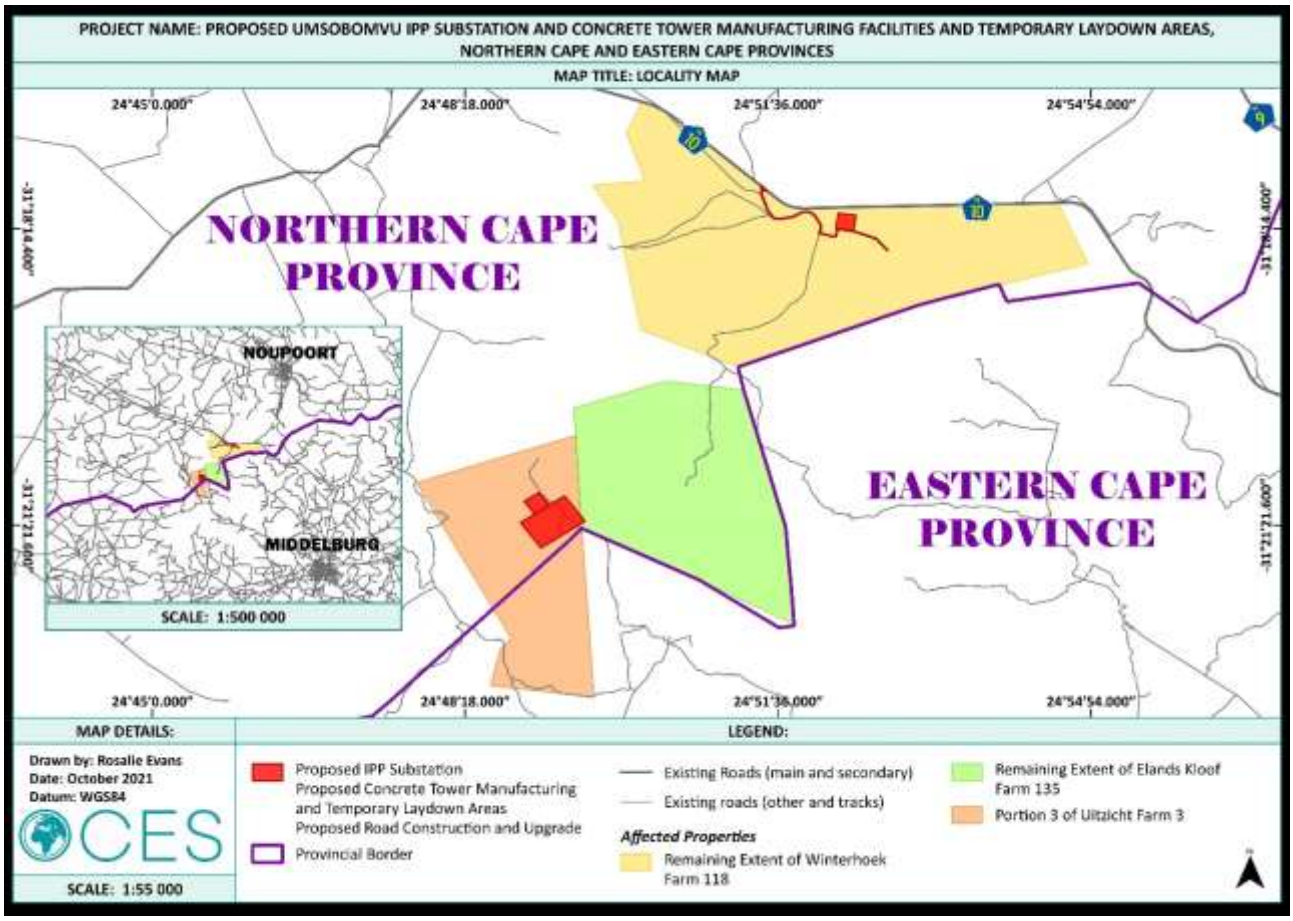

Figure 2.1: Locality Map of the Proposed Umsobomvu Development.

2.2 PROJECT DESCRIPTION

The proposed development includes the following and will require up to 18.75 ha (187 500 m²) of vegetation clearance within the three (3) assessment areas:

- The assessment of one (1) 600 m x 900 m area which will include:
  - An IPP 132 kV Substation up to 22 500 m^2;
  - 132 kV Distribution Collector Substation up to 22 500 m^2;
  - Operation and Maintenance (O&M) Building up to 22 500 m^2; and
  - Two (2) 132 kV Overhead Lines (OHL) of up to 500 m in length.
- The assessment of two (2) 300 m x 300 m areas which will include:
  - Area 1: A Concrete Tower Manufacturing Facility (CTMF) and Temporary Laydown Area of up to 60 000 m^2; and
  - Area 2: A CTMF and Temporary Laydown Area of up to 60 000 m^2.
- The construction of an up to 3.5 km new access road, including a new intersection, with sections of the road route requiring the widening of existing roads to 12 m in width during construction which will then be rehabilitated to 8 m in width during operation.

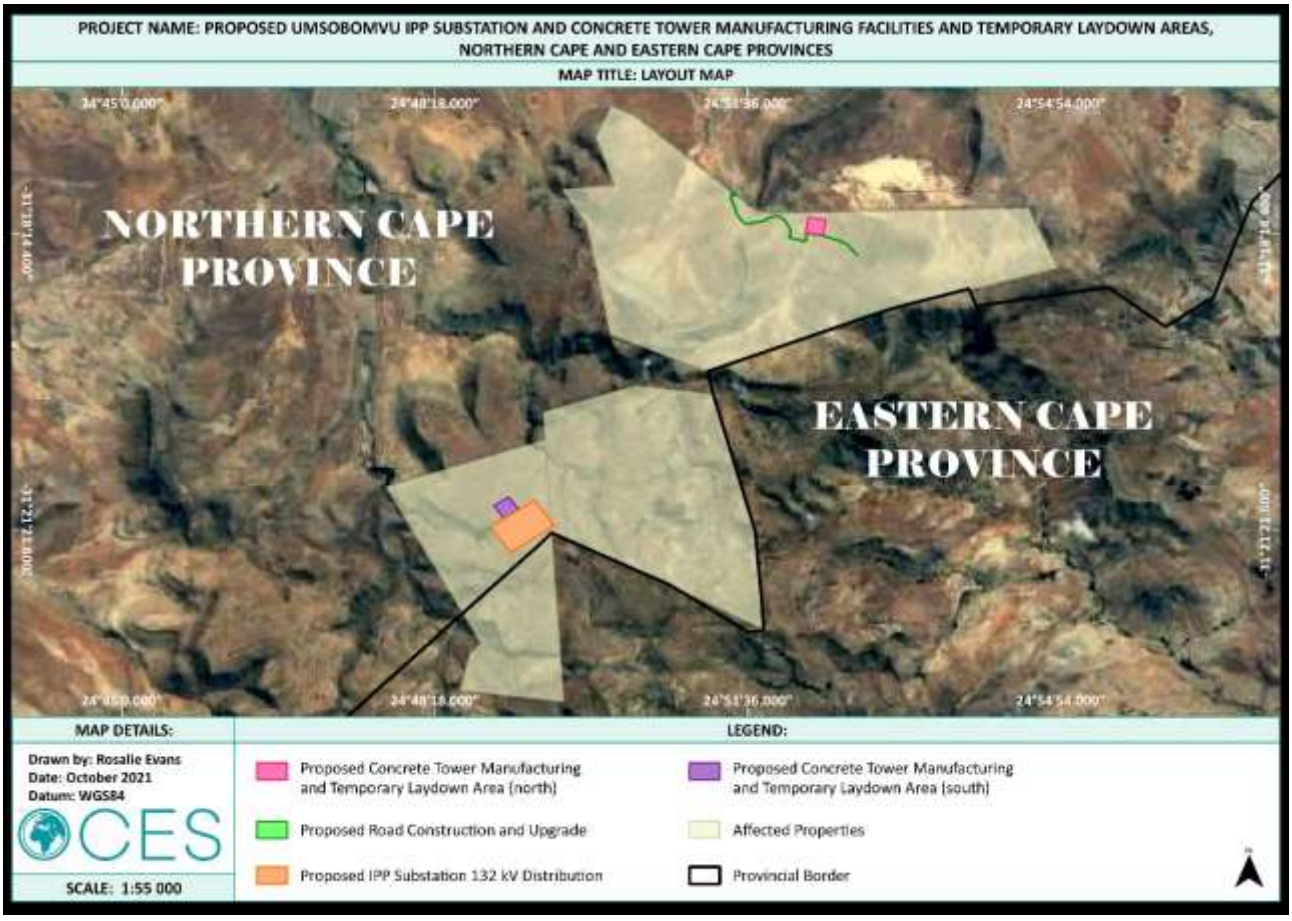

Figure 2.2: Layout Map of the Proposed Umsobomvu Development.

Table 2.2: Corner Point Coordinates of the Proposed Umsobomvu Development Components.

NUMBER & COLOUR IN FIGURES A, B AND C	COORDINATES (DEGREES AND DECIMAL MINUTES)				
ASSESSMENT AREA 1					
1.	31° 18.072'S	24° 52.237'E	**3.**	31° 18.256'S	24° 52.397'E
2.	31° 18.096'S	24° 52.423'E	**4.**	31° 18.233'S	24° 52.209'E
					
ASSESSMENT AREA 2					
1.	31° 21.105'S	24° 48.927'E	**3.**	31° 21.147'S	24° 49.187'E
2.	31° 21.013'S	24° 49.080'E	**4.**	31° 21.239'S	24° 49.035'E
ASSESSMENT AREA 3					
1.	31° 21.330'S	24° 48.884'E	**3.**	31° 21.315'S	24° 49.563'E
2.	31° 21.049'S	24° 49.349'E	**4.**	31° 21.597'S	24° 49.102'E
					

NUMBER & COLOUR IN FIGURES A, B AND C	COORDINATES (DEGREES AND DECIMAL MINUTES)				
NEW INTERSECTION, ROAD CONSTRUCTION AND ROAD UPGRADE					
1.	31° 17.824'S	24° 51.441'E	**8.**	31° 18.283'S	24° 52.042'E
2.	31° 17.857'S	24° 51.422'E	**9.**	31° 18.321'S	24° 52.199'E
3.	31° 18.132'S	24° 51.569'E	**10.**	31° 18.242'S	24° 52.235'E
4.	31° 18.109'S	24° 51.756'E	**11.**	31° 18.259'S	24° 52.386'E
5.	31° 18.061'S	24° 51.910'E	**12.**	31° 18.344'S	24° 52.634'E
6.	31° 18.102'S	24° 51.991'E	**13.**	31° 18.467'S	24° 52.756'E
7.	31° 18.199'S	24° 52.051'E			

3. RELEVANT LEGISLATION

Table 3.1 below consists of the legislation, policies, and guidelines relevant to the proposed Umsobomvu Development, which is located near Noupoort and Middelburg. Please note that this list is not exhaustive.

Table 3.1: Relevant Legislation, Policies & Guidelines.

LEGISLATION, POLICIES AND GUIDELINES	RELEVANCE TO THE PROPOSED UMSOBOMVU DEVELOPMENT
The Constitution Act (Act No. 108 of 1996)	The Developer is obligated to ensure that the proposed Umsobomvu Development will not result in pollution and ecological degradation. In addition, the Developer must ensure that the Umsobomvu Development is ecologically sustainable and that it contributes to economic and social development.
National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment Regulations (2014, and subsequent amendments)	The construction of the proposed Umsobomvu Development triggers listed activities in terms of Listing Notice 1 and Listing Notice 3 of the NEMA EIA Regulations (2014, and subsequent amendments). Environmental Authorisation (EA) is required from the National Department of Forestry, Fisheries and the Environment (DFFE) prior to the commencement of construction.
National Environmental Management: Biodiversity Act (NEM:BA) (Act No. 10 of 2004)	The proposed Umsobomvu Development will require the clearance of sections of vegetation, specifically Besemkaree Koppies Shrubland and Eastern Upper Karoo (Mucina and Rutherford, 2018/9) which will impact on the biodiversity of the area. The relevant permits for any identified plant Species of Conservation Concern (SCC) must be obtained prior to the clearance of vegetation. The DFFE Biodiversity Conservation has been registered on the Stakeholder and I&AP Database and Terrestrial Biodiversity

	Specialists (including both botanical and faunal specialists) for part of the assessment team.
National Environmental Management: Protected Areas Act (NEM:PAA) (Act No. 57 of 2003)	The proposed Umsobomvu Development will require the clearance of vegetation within a National Protected Areas Expansion Strategy (NPAES) Focus Area. Sections of the proposed Umsobomvu Development are situated within the Karoo Escarpment Grassland Focus Area.
National Water Act (NWA) (Act No. 36 of 1998)	The proposed Umsobomvu Development occurs within 100 meters of a few watercourses and within 500 meters of a wetlands. Water use authorisation is required from the Department of Water and Sanitation (DWS) prior to the commencement of the construction phase. The DWS is registered on the Stakeholder and I&AP Database.
Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002)	The Department of Mineral Resources and Energy (DMRE) should be made aware of the proposed development and, should any activities associated with the construction of the proposed Umsobomvu Development require the excavation/extraction of sand or hard rock for construction purposes, the necessary approvals and/or permits must be obtained from the DMRE prior to the commencement of these activities. The DMRE is registered on the Stakeholder and I&AP Database.
National Heritage Resources Act (NHRA) (Act No. 25 of 1999)	The proposed Umsobomvu Development could impact sensitive heritage resources. The South African Heritage Resource Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) have been registered on the Stakeholder and I&AP Database, a Heritage Specialist forms part of the assessment team and the relevant authorisation and/or permits must be obtained prior to the commencement of the construction phase.
National Environmental Management: Waste Act (NEM:WA) (Act No. 59 of 2008)	The Developer must ensure that all activities associated with the proposed Umsobomvu Development address waste-related matters in compliance with the requirements on the NEM:WA. The Developer should communicate with the affected Local Municipalities (LMs) to ensure that waste is disposed of at a suitable registered landfill site. Mitigation measures and management actions have been included in the EMPrs for the proposed development.
National Forestry Act (NFA) (Act No. 84 of 1998)	The proposed Umsobomvu Development footprints could contain SCC, specifically protected trees. The necessary permissions and/or permits must be obtained prior to the clearance of vegetation. The DFFE Biodiversity Conservation has been registered on the Stakeholder and I&AP Database and Terrestrial Biodiversity Specialists (including both botanical and faunal specialists) for part of the assessment team. An invasive species monitoring, control and eradication plan for land/activities under their control should be developed as part of the environmental plans in accordance with CARA.
Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974)	
Northern Cape Nature Conservation Act (Act No. 9 of 2009)	
Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983)	
Electricity Regulation Act (Act No. 4 of 2006)	The proposed Umsobomvu Development must be in line with the Electricity Regulation Act. The DMRE and Eskom have been registered on the Stakeholder and I&AP Database.
Occupational Health and Safety Act (OHSA) (Act No. 85 of 1993)	The Developer must be mindful of the principles and broad liability and implications associated with the OHSA and mitigate any potential impacts which are identified prior to the construction phase. Mitigation measures and management actions have been included in the EMPrs for the proposed development.
National Environmental Management: Air Quality Act (NEM:AQA) (Act No. 39 of 2004)	No major air quality issues are expected due to the proposed Umsobomvu Development; however, the Developer should be mindful of the impacts associated with increased dust generation during the construction phase. Mitigation measures and management actions have been included in the EMPrs for the proposed development.
National Road Traffic Act (NRTA) (Act No. 93 of 1996)	The Developer must comply with all the requirements in terms of the NRTA during the construction and operational phases of the proposed Umsobomvu Development.
National Veld and Forest Fire Act (NVFFA) (Act No. 101 of 1998)	The Developer must ensure that appropriate firefighting equipment, protective clothing, and trained personnel (for extinguishing fires) are present onsite during the construction of the Umsobomvu Development. Mitigation measures and management actions have been included in the EMPrs for the proposed development.
Pixley Ka Seme District Municipality (Northern Cape)	The Umsobomvu Development must comply with/be in line with all relevant municipal by-laws, the Spatial Development Frameworks (SDFs) and the Integrated Development Plans (IDPs). Representatives from the affected
Umsobomvu Local Municipality (Northern Cape)	

Chris Hani District Municipality (Eastern Cape)	District Municipalities and Local Municipalities have been included in the Stakeholder and I&AP Database.
Inxuba Yethemba Local Municipality (Eastern Cape)	

Table 3.2 provides the relevant listed activities, in terms of the NEMA EIA Regulations (2014, and subsequent amendments), which are likely to be triggered by the activities associated with the proposed Umsobomvu Development, for which the affected properties are situated in both the Northern Cape and Eastern Cape Provinces.

The NEMA EIA Regulations (2014, and subsequent amendments) allow for a Basic Assessment Process for activities with limited environmental impact (GN R. 983 and 985, 2014 or GN R. 327 and 324, 2017) and a more rigorous two (2) tiered approach to activities with potentially greater environmental impact (GN R. 984, 2014 or GN R. 325, 2017). The two (2) tiered approach includes both a Scoping and EIA Process. The proposed Umsobomvu Development triggers a **Basic Assessment (BA) Process**, due to the Listing Notice 1 and Listing Notice 3 activities, which will require an EA from the National DFFE.

Table 3.2: Listed Activities triggered by the proposed Umsobomvu Infrastructure.

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1** of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
11 (i)	**The development of facilities or infrastructure for the transmission and distribution of electricity—** **(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.**	**The proposed development includes an IPP 132 kV Substation and a 132 kV Distribution Collector Substation. In addition, two (2) 132 kV Overhead Lines of up to 500 m are being proposed to connect the 132 kV IPP Substation to the Eskom 400 kV MTS Substation.**
14	**The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.**	**The proposed development will include the storage and handling of goods which are classified as dangerous. The total extent of the required dangerous goods will be up to 100 m^3 on site at any given point.**
24 (ii)	**The development of a road –** **(ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 meters.**	**The construction of an up to 1.4 km stretch of new road of up to 12 m in width during construction which will then be rehabilitated to 8 m in width during operation.**
27	**The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.**	**The proposed development requires the clearance of approximately 18.75 ha of vegetation.**
28 (ii)	**Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:** **(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.**	**The proposed development consists of industrial infrastructure which is being proposed on land which is used for agriculture and/or game farming, situated outside an urban and which will exceed 1 ha.**
56 (i) (ii)	**The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre –** **(i) where the existing reserve is wider than 13,5 metres; or** **(ii) where no reserve exists, where the existing road is wider than 8 metres.**	**The widening of an up to 2.1 km section of existing road/tracks of up to 12 m in width during construction which will then be rehabilitated to 8 m in width during operation. In addition, the existing**

		intersection, off the national route N10, will be widened and upgraded.
Activity No(s):	Provide the relevant **Scoping and EIA Activity(ies)** as set out in **Listing Notice 2** of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
N/A		
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3** of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
4 (g) (ii) (ee)	**The development of a road wider than 4 metres with a reserve less than 13,5 metres.** **g. Northern Cape** **ii. Outside urban areas:** **(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.**	**The construction of an up to 1.4 km stretch of new road of up to 12 m in width during construction which will then be rehabilitated to 8 m in width during operation, situated with a CBA 2 in terms of the Northern Cape CBAs (2016).**
10 (a) (i) (bb) (ee) (ii) and 10 (g) (ii) (iii) (bb) (ee)	**The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.** **a. Eastern Cape** **i. Outside urban areas:** **(bb) National Protected Area Expansion Strategy Focus areas;** **(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; and** **(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.** **g. Northern Cape** **ii. Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland.** **iii. Outside urban areas:** **(bb) National Protected Area Expansion Strategy Focus areas; and** **(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.**	**During the construction phase and the operational phase of the proposed development, the combined storage of a dangerous good, such as fuel, is likely to exceed 30 m^3 within Eastern Cape and Northern Cape CBAs, within 100 m from the edge of a watercourse and within the Karoo Escarpment Grassland Focus Area.**
12 (a) (ii) and 12 (g) (ii)	**The clearance of an area of 300 square metres or more of indigenous vegetation.** **a. Eastern Cape** **ii. Within critical biodiversity areas identified in bioregional plans.** **g. Northern Cape** **ii. Within critical biodiversity areas identified in bioregional plans.**	**The proposed development requires the clearance of approximately 18.75 ha of vegetation. The proposed infrastructure is situated within areas classified as Northern Cape (2016) CBA 1 and CBA 2 as well as a section of Eastern Cape Biodiversity Conservation Plan (ECBCP) (2019) Terrestrial CBA 2.**
14 (ii) (a) (c) (a) (i)	**The development of –**	**In addition to the development of substations, concrete tower manufacturing**

(bb) (ff) and 14 (ii) (a) (c) (g) (ii) (bb) (ff)	**(ii) Infrastructure or structures with a physical footprint of 10 square metres or more; Where such development occurs – (a) with a watercourse; and (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. a. Eastern Cape i. Outside urban areas: (bb) National Protected Area Expansion Strategy Focus areas; and (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans. g. Northern Cape ii. Outside urban areas: (bb) National Protected Area Expansion Strategy Focus areas; and (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.**	**facilities and temporary laydown areas which exceed 10 m^2, the proposed development includes the development of a section of new road and the upgrade of existing roads which traverse watercourses and could require the construction of water-crossings which exceed 5 m^2. The proposed infrastructure is situated within areas classified as Northern Cape (2016) CBA 1 and CBA 2, a section of Eastern Cape Biodiversity Conservation Plan (ECBCP) (2019) Terrestrial CBA 2, and a National Protected Areas Expansion Strategy Focus Area.**
18 (g) (ii) (ee)	**The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. g. Northern Cape ii. Outside urban areas: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.**	**The widening of an up to 2.1 km section of existing road/tracks of up to 12 m in width during construction which will then be rehabilitated to 8 m in width during operation. In addition, the existing intersection, off the national route N10, will be widened and upgraded. The proposed road upgrade is situated with a CBA 2 in terms of the Northern Cape CBAs (2016).**

4. PROJECT NEED AND DESIRABILITY

Renewable energy resources, such as Wind Energy Facilities (WEFs) and Solar Energy Facilities (SEFs), are being implemented as alternative sources of energy at both a global and national scale. This is in an effort to reduce the reliance on fossil fuels, such as oil and coal, which contribute towards the emission of greenhouse gases (GHG) into the atmosphere, therefore contributing to climate change. In addition, South Africa signed the Paris Agreement on Climate Change. In line with the Intended Nationally Determined Contributions (INDC), South Africa's emissions are expected to peak, plateau and from the year 2025 decline (p8, IRP2019). According to the IRP2019, the energy sector contributes close to 80% towards the country's total GHG emissions, of which 50% are from electricity generation and liquid fuel production alone (p8, IRP2019).

South Africa has recognised the need to expand electricity generation capacity within the country and to diversify the electricity mix. This is based on national policy and informed by ongoing planning undertaken by the Department of Mineral Resources and Energy (DMRE), previously the Department of Energy (DoE), and the National Energy Regulator of South Africa (NERSA). Since the Integrated Resource Plan (IRP) 2010–2030, which was promulgated in March 2011, the following capacity developments have taken place (up until the release of the IRP2019):

- A total 6 422 MW under the Renewable Energy Independent Power Producers Programme (REIPPP) has been procured, with 3 876 MW operational and made available to the grid.
- Independent Power Producers (IPPs) have commissioned 1 005 MW from two (2) Open Cycle Gas Turbine (OCGT) peaking plants.

- Under the Eskom build programme, the following capacity has been commissioned:
  - 1 332 MW of Ingula pumped storage;
  - 1 588 MW of Medupi;
  - 800 MW of Kusile; and
  - 100 MW of Sere Wind Farm.
- In total, 18 000 MW of new generation capacity has been committed to.

The IRP2019 was gazetted on the 18th of October 2019. According to South Africa's National Development Plan (NDP) 2030, which is a long-term plan for the country, South Africa will have an energy which is:

- Reliable and efficient energy service at competitive rates;
- Socially equitable through expanded access to energy at affordable tariffs; and
- Environmentally sustainable through reduced emissions and pollution. (p8, IRP2019)

According to the IRP2019 (p11):

> *"Energy security in the context of this IRP is defined as South Africa developing adequate generation capacity to meet its demand for electricity, under both the current low-growth economic environment and even when the economy turns and improves to the level of 4% growth per annum. Generation capacity must accordingly be paced to restore the necessary reserve margin and to be ahead of the economic growth curve at least possible cost."*

The IRP2019 (p13) also indicates that:

> *"Renewable Energy: Solar PV, wind and CSP with storage present an opportunity to diversify the electricity mix, to produce distributed generation and to provide off-grid electricity. Renewable technologies also present huge potential for the creation of new industries, job creation and localisation across the value chain."*

With regards to existing Eskom plant performance (p34), the IRP2019 highlights the following:

> *"The existing Eskom's generation plant energy availability factor (EAF) was assumed to be averaging 86% in the promulgated IRP 2010–2030. The actual EAF at the time was averaging 85%. Since then, Eskom's EAF declined steadily to a low average of 71% in the 2015/16 financial year before recovering to average around 77.% in the 2016/17 financial year. Information as at January 2018 indicates that EAF has regressed further to levels below 70%. This low EAF was the reason for constrained capacity early in December 2018 and January 2019 that resulted in load shedding.*
>
> *Eskom's existing generation plant will still dominate the South African electricity installed capacity for the foreseeable future. The current and future performance of these Eskom plants is critical for security of supply and heavily influences the capacity planned to be introduced under the IRP."*

The proposed Umsobomvu Development includes substations, an O&M building, a 132 kV OHL, CTMFs, temporary laydown areas and an access road to supplement the development of the authorised Umsobomvu WEF, which formed part of a separate (DFFE Reference No.: 14/12/16/3/3/2/730). The need for the Umsobomvu Development therefore includes the need for this infrastructure to supplement the Umsobomvu WEF. In addition, the infrastructure components are being proposed within locations which are desirable to appropriately enhance the Umsobomvu WEF development. This need and desirability Chapter for the proposed Umsobomvu Development therefore includes the need and desirability of the Umsobomvu WEF.

4.1 LOCAL AND DISTRICT LEVEL

The proposed Umsobomvu Development, as part of the Umsobomvu WEF development, will contribute to local economic growth and development through the creation of both direct and indirect employment opportunities during the various stages of development. In addition, the proposed Umsobomvu Development will contribute to the improvement of services infrastructure through the construction of the substations.

The Umsobomvu Development and the Umsobomvu WEF are situated on properties which are located in both the Eastern Cape and Northern Cape Provinces of South Africa. These properties are located in both the Inxuba Yethemba Local Municipality of the Chris Hani District Municipality (Eastern Cape Province), and the Umsobomvu Local Municipality of the Pixley ka Seme District Municipality (Northern Cape Province).

4.1.1 Chris Hani District Municipality 2021-2022 Draft Integrated Development Plan (IDP) Review

The Chris Hani District Municipality (CHDM) 2021-2022 Draft IDP Review states that *"Out of the economically active population, there are 71 400 that are unemployed, or when expressed as a percentage, an unemployment rate of 32.3%."*.

> *"The unemployment rate is an efficient indicator that measures the success rate of the labour force relative to employment. In 2007, the unemployment rate for Chris Hani was 32.0% and increased overtime to 32.3% in 2017. The gap between the labour force participation rate and the unemployment rate decreased which indicates a negative outlook for the employment within Chris Hani District Municipality."* – p78, CHDM 2021-2022 Draft IDP Review

The Umsobomvu Development and the associated Umsobomvu WEF will create direct short- and medium-to long-term employment opportunities during the construction (short-term) and operational (medium-term to long-term) phases. In addition, indirect employment opportunities are likely to be created and local economic benefits are likely to occur during the stages of development.

4.1.2 Pixley ka Seme District Municipality Draft IDP 2021-2022

The Pixley ka Seme DM Draft IDP 2021-2022 states that *"the employment status of the workforce/potential economically active group in the municipal area have improved from the 2001 figure of 63,1% employed and 36,9% unemployed. In 2011, the number of unemployed individuals was almost 8% below what it was in 2001. However, any unemployment rate, irrespective of how large, has serious repercussions for the ability of the residents to pay for their daily needs and for municipal services."* According to StatsSA 2011, the DM population consisted of 71.7% employed, 28.3% unemployed, and 47.6% not economically active individuals, which indicated an increase in the percentage of employed and not economically active individuals, and a decrease in the percentage of unemployed individuals since 2001. However, although there was an increase in the percentage of employed individuals over this ten-year period, the Pixley ka Seme DM Draft IDP 2021-2022 highlights that *"It is accepted that, on average, South African households have an annual income of R138 168, viz. a monthly income of R11 514. Hence, more than 90% of the households living in the Pixley ka Seme municipal area have a monthly income below the average for a South African household."*

The Umsobomvu Development and the associated Umsobomvu WEF will create direct short- and medium-to long-term employment opportunities during the construction (short-term) and operational (medium-term to long-term) phases. In addition, indirect employment opportunities are likely to be created and local economic benefits are likely to occur during the stages of development.

4.1.3 Umsobomvu Local Municipality IDP, 2017 - 2022

The Umsobomvu LM IDP 2017-2022 describes the economy in the Umsobomvu municipal area and district as being characterised by the following characteristics:

- *"High levels of poverty and low levels of education.*
- *It is a small-town sub-region with a low level of development despite the strategic location in terms of national transport corridors.*
- *Sparsely populated towns with Colesberg serving as "agricultural service centre.*
- *High rate of unemployment, poverty and social grant dependence.*
- *Prone to significant environmental changes owing to long-term structural changes (such as climate change, energy crises and other shifts).*
- *Geographic similarity in economic sectors, growth factors and settlement patterns.*
- *Economies of scale note easily achieved owing to the relatively small size of towns.*
- *A diverse road network with national, trunk, main and divisional roads of varying quality.*
- *Proximity to the Gariep Dam.*
- *Potential in renewable energy resource generation."*

In addition, the Umsobomvu LM IDP 2017-2022 summary of objectives includes the following objectives which will impact local government, and to which can be contributed:

> *"The proportion of people with access to the electricity grid should rise to at least 90% by 2030, with non-grid options available for the rest."*
>
> *"At least 20 000 MW of renewable energy should be contracted by 2030."*

The Umsobomvu Development and the associated Umsobomvu WEF will contribute, both directly and indirectly, to the abovementioned objectives. The Umsobomvu Development and the associated Umsobomvu WEF will also contribute to the reduction in the *"high levels of poverty"*, a contribution to the reduction in the *"high rate of unemployment, poverty and social grant dependence"*, and take advantage of the *"potential in renewable energy resource generation"* which exists with the LM.

4.2 PROVINCIAL LEVEL

4.2.1 Northern Cape Provincial Spatial Development Framework (PSDF), 2012

The Umsobomvu Development and the associated Umsobomvu WEF are in line with the Northern Cape Provincial Spatial Development Framework (PSDF) (2012).

According to Section C7 of the Northern Cape PSDF 2012:

> *"The development of the energy sector holds huge benefit for the Northern Cape which would have significant multipliers in the local economy. It is important that innovative planning be undertaken to provide the necessary infrastructure and associated amenities to accommodate the industry in an efficient manner. Therefore, in order to ensure the sustainability of the current and future economic sectors and to maximise synergies, it is imperative that industrial development be undertaken in a manner that promotes the principles of environmental integrity, human wellbeing and economic efficiency."*

Although it is outdated now, Section C7.3 of the Northern Cape PSDF 2012 stated that *"b) Renewable energy sources (e.g. wind, solar thermal, biomass, and domestic hydroelectricity generation) are to comprise 25% of the province's energy generation capacity by 2020."*.

Section 8.2.3 of the Northern Cape PSDF 2012 stated the following energy objectives:

> *"a) Promote the development of renewable energy supply schemes. Large-scale renewable energy supply schemes are strategically important for increasing the diversity of domestic energy supplies and avoiding energy imports while minimising detrimental environmental impacts."*
>
> *"d) Develop and institute innovative new energy technologies to improve access to reliable, sustainable and affordable energy services with the objective to realise sustainable economic growth and development. The goals of securing supply, providing energy services, tackling climate change, avoiding air pollution and reaching sustainable development in the province offer both opportunities and synergies which require joint planning between local and provincial government as well as the private sector."*

The Umsobomvu Development and the associated Umsobomvu WEF will contribute to the development of infrastructure in the energy sector, assist with the distribution of energy from a renewable source, improve access to reliable, sustainable and affordable energy services, and contribute to sustainable economic growth and development.

4.2.2 Eastern Cape Vision 2030 Provincial Development Plan, 2014

The Umsobomvu Development is in line with the Eastern Cape Vision 2030 Provincial Development Plan as it will contribute to the electricity transmission and distribution networks which will accommodate the generation capacity and strengthen the grid capacity.

The Eastern Cape Vision 2030 Provincial Development Plan states the following as a development focal point:

> *"New investments in the electricity transmission and distribution networks are required to accommodate new generation capacity and strengthen grid capacity. This will improve network performance, network flexibility and the quality of supply for both economic and social activities."*

4.2.3 Eastern Cape Strategic Plan, 2020 – 2025

The Umsobomvu Development and the Umsobomvu WEF are likely to beneficially contribute to the Eastern Cape (EC) Strategic Plan 2020-2025 economic plan, which highlights the following among others:

> *"Aligning its economic developmental objectives with national priorities the provincial government has formulated and adopted an economic recovery plan that will focus on:*
>
> *• Working with the private sector to identify and fund credible and high return investment projects in agriculture, light manufacturing, tourism and creative industries, oceans economy and renewable energy;"*

In addition, the EC Strategic Plan 2020-2025 states that:

> *"There is evidence that poverty, unemployment and inequality have been rising in the EC since 2011. Inequality in the EC is less than in SA, but EC rates of poverty and unemployment are the highest in the country. Poverty and unemployment are higher in rural than urban areas. It is unfortunate that state capacity is often weakest and least reliable in the places that most need support. The UN's Sustainable Development Goals (SDGs), SA's NDP and EC's PDP all aim to halve poverty, end hunger and reduce inequality by 2030."*

The Umsobomvu Development and the associated Umsobomvu WEF will create direct short- and medium- to long-term employment opportunities during the construction (short-term) and operational (medium-term

to long-term) phases. In addition, indirect employment opportunities are likely to be created and local economic benefits are likely to occur during the stages of development.

4.3 NATIONAL LEVEL

4.3.1 National Development Plan (NDP): Vision 2030, 2012

The National Development Plan (NDP) aims to promote sustainable and inclusive development in South Africa to reduce and ultimately eliminate poverty. Of the twelve (12) key focus areas of the NDP, the proposed Umsobomvu Development and the Umsobomvu WEF will contribute to (1) an economy which will create more jobs, (2) improving infrastructure, and (3) transition to a low carbon economy.

The NDP prioritises the following infrastructure investments:

> *"Procuring at least 20 000MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000MW of ageing coal-fired power stations and stepping up investments in energy-efficiency."*

4.3.2 National Climate Change Response White Paper, 2012

Climate change has been identified as one (1) of the greatest threats to sustainable development in South Africa. The National Climate Change Response White Paper obligates the country to make a fair contribution to the global effort to achieve the stabilisation of GHG concentrations in the atmosphere.

The proposed Umsobomvu Development and the Umsobomvu WEF are in line with the objectives of the National Climate Change Response White Paper because they will contribute to the generation of electricity from a renewable source of energy and therefore reduce the reliance on non-renewable, fossil fuel-derived electricity. This use of an alternative source of energy, to fossil fuel-derived energy, will contribute to climate change mitigation.

4.4 INTERNATIONAL LEVEL

4.4.1 United Nations Framework Convention on Climate Change (UNFCCC), 1994

The United Nations Framework Convention on Climate Change (UNFCCC) is a framework convention which was adopted at the 1992 Rio Earth Summit. South Africa signed the UNFCCC in 1993 and ratified it in August 1997. One of the primary objectives of the UNFCCC is to:

> *"…achieve… stabilisation of greenhouse gas concentrations in the atmosphere at concentrations at a level that would prevent dangerous anthropogenic interference with the climate system", and to thereby prevent human-induced climate change by reducing the production of greenhouse gases defined as, "those gaseous constituents of the atmosphere both natural and anthropogenic, that absorb and re-emit infrared radiation."*

South Africa's Third National Communication under the UNFCCC (2018) includes the following:

> *"...South Africa's transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society will be well underway by 2030 (NPC, 2012). This transition will be facilitated by:*
> - *Coordinated planning and investment in infrastructure and services that take account of climate change and other environmental pressures;*
> - *Implemented adaptation and national development strategies;*
> - *Focus on becoming a zero-waste society;*
> - *Growth in the renewable energy sector;*
> - *Domestic manufacturing of renewable energy technologies coupled with job creation;*

- *Reducing the country's carbon emissions;*
- *Conservation and restoration of protected areas through policy and regulatory frameworks for land use; and*
- *Public investment in new sustainable technology solutions such as agricultural technologies and the development of resilient and environmentally sustainable strategies."*

The Umsobomvu Development and the Umsobomvu WEF will contribute to the UNFCC framework and it will both directly and indirectly contribute to a number of the abovementioned strategies which will assist South Africa in the transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society.

4.4.2 The Kyoto Protocol, 2002

The Kyoto Protocol, which was adopted in Kyoto (Japan) in 1997 and enforced in 2005, is an international agreement which is linked to the UNFCCC. The Protocol contains internationally binding emission reduction targets, as an instrument to reduce climate change. *"Under the Protocol, countries' actual emissions have to be monitored and precise records have to be kept of the trades carried out."*

The Umsobomvu Development and the Umsobomvu WEF are in line with the Kyoto Protocol as the developments will provide an alternative energy source to fossil fuel-derived energy.

5. PUBLIC PARTICIPATION PROCESS

A Public Participation Plan was submitted to the Competent Authority, the National DFFE, for approval on the 17th of August 2021 and approved on the 19th of August 2021. Please refer to **Appendix H** for a copy of the approved Public Participation Plan and the approval email received from the Competent Authority.

5.1 ACTIVITY ON LAND OWNED BY A PERSON OTHER THAN THE APPLICANT

In accordance with Section 39 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), which states that *"If the proponent [Applicant] is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land."*

The Applicant has engaged with the landowners and received written consent, to undertake the proposed activities on the proposed properties, from the affected landowners.

5.2 OBJECTIVES OF THE PUBLIC PARTICIPATION PROCESS

In accordance with Section 40 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014, as amended), the purpose of public participation is to provide all potential or registered Interested and/or Affected Parties (I&APs), including the Competent Authority, with the opportunity to access the relevant documents and information which could reasonably or potentially influence any decision with regards to the proposed Umsobomvu Development Application for EA. The process aims to –

- Disclose activities planned by the Applicant and steps in the BA Process by the environmental team;
- Identify concerns and grievances raised by the I&APs;
- Respond to all the I&APs grievances and enquiries;
- Identify local expertise, needs and knowledge from the I&APs;
- Identify additional or new stakeholders and people affected by, or interested in, the proposed

project;
- Gather perceptions and comments on the specialist studies;
- Ensure that all issues raised by I&APs have been adequately addressed and/or assessed; and
- Share the findings of the BA Process, such as significant impacts, mitigation measures, management actions, and monitoring programmes.

The PPP must include consultation with the following key members –

- The Competent Authority: National DFFE;
- All state departments which have laws relating to the proposed activity or the proposed location of the activity;
- All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
- The registered and potential I&APs.

5.3 LEGISLATIVE REQUIREMENTS

In accordance with Section 41 (2) of Chapter 6, the person conducting the PPP must provide notice using the following methods –

a) Placing notice boards at visible locations, which are accessible to the public, on the boundary of the affected property and within proximity to the affected property must [please see Section 5.5.4 for photographs of the site notice]. The notice board(s) must –
   - Be at least 60 cm x 42 cm in size;
   - Specify whether a **Basic Assessment Process** or Scoping and EIA Process is triggered by the proposed activity;
   - Indicate the nature and location of the activity to which the application relates;
   - Explain where further information can be obtained; and
   - Stipulate the manner in which and the person to whom correspondence relating to the application or proposed application may be made.

b) Providing written notice to [please see proof included as Appendix F] –
   - The owner and/or occupiers of the proposed site as well as the owner(s) and/or occupiers of the alternative sites;
   - The owners and/or occupiers of the land adjacent to the site as well as the owners and/or occupiers of the land adjacent to the alternative sites;
   - The municipal ward councillor of the affected property and the alternative sites (if different to the preferred alternative) as well as any organisation of ratepayers that represent the community in the affected area;
   - The municipality which has jurisdiction in the area;
   - All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity; and
   - Any other parties as required by the Competent Authority.

c) Placing an advertisement in one (1) local newspaper and/or any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations [please see Section 5.5.8 for proof of advertisements];

d) If necessary, placing an **advertisement in one (1) provincial newspaper or national newspaper if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality** in which it is or will be undertaken [please see Section 5.5.8 for proof of advertisements]; and

e) Using reasonable alternative methods, as agreed to by the Competent Authority, in those instances where a person is interested but not able to participate in the process due to illiteracy, disability or any other disadvantage.

5.4 INTERESTED AND/OR AFFECTED PARTIES

According to Sections 42 to 44 of Chapter 6, the Applicant (or the EAP on behalf of the Applicant) must ensure the opening and maintenance of a register of I&APs and submit such register to the Competent Authority, which register must contain the names, contact details and address of (a) all persons who have submitted comments during the PPP on the proposed Umsobomvu Development, (2) all individuals who have requested to register/registered on the project I&AP Database, and (3) all organs of state which have jurisdiction in respect of the activity to which the application relates. * Please see sections 5.5.1 (Stakeholder Database), 5.5.2 (I&AP Database) and 5.5.3 (Landowners and Surrounding Landowners Database) of this report, which contain the databases for the Umsobomvu Development BA Process. Please note that individuals who registered on the original Umsobomvu WEF I&AP Database (DFFE Reference No.: 14/12/16/3/3/2/730), the proposed Umsobomvu WEF split into Umsobomvu WEF, Coleskop WEF (DFFE Reference No.: 14/12/16/3/3/2/730/1/AM2) and Eskom Infrastructure MTS (DFFE Reference No.: 14/12/16/3/3/2/730/2), the Umsobomvu Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2040) I&AP Database, and the Coleskop Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2039) I&AP Database were automatically registered on the current Umsobomvu Development I&AP Database due to the proximity of the developments to each other and linkages between the developments.

Please refer to **Appendix F** (Proof of PPP) and **Appendix G** (Comments and Response Report) for proof of PPP and copies of all comments received to date – as well as the responses to these comments. These appendices will be updated subsequent to the thirty (30) day public review of the Draft BAR and associated reports.

In addition, and not included in Appendix F (Proof of PPP) and Appendix G (Comments and Response Report), during the Umsobomvu Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2040) and the Coleskop Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2039) BA Processes a notice was sent to the registered Stakeholders and I&APs on the 30th of June 2021 in terms of the Protection of Personal Information Act (or POPI Act) (Act No. 4 of 2013). The notice contained the following information:

> *"**NOTICE:** POPIA (Protection of Personal Information Act) Disclaimer. All Stakeholders and I&AP Databases need to adhere to the Act from 1 July 2021. As the administrators of the Umsobomvu Wind Energy Facility (WEF), Coleskop WEF, Umsobomvu Infrastructure Development, and Coleskop Infrastructure Development combined Stakeholder and I&AP Database, we therefore 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. 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 and contact details) being noticeable to any person interested in this project. 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).*
>
> *(1) Should you wish to remove your name and associated details from the aforementioned Stakeholder and I&AP Database, please respond to this email requesting the removal of your details in writing before 18:00 this Thursday, the 1st of July 2021. Your contact information and any correspondence received from you will be removed from any further reports, which are made available in the public domain.*
> *(2) Should you wish to remain as a registered Stakeholder or I&AP on the current (and any future) Umsobomvu and Coleskop Infrastructure and WEF related Public Participation Processes,*

then there is no need to respond to this notice. Please note that your contact information and any correspondence received from you relating to these developments will be available in the project-related reports, which are made available in the public domain. Should you wish remain as a registered Stakeholder or I&AP on this combined Database, it is your responsibility to inform us of any changes to your contact information."

Please note that those that responded in terms of option (1) of the above notice have been removed from the Stakeholder and I&AP Database and their details have been redacted from this report.

5.5 PROOF OF PUBLIC PARTICIPATION

5.5.1 Stakeholder Database

Table 5.1: Registered Stakeholders (as part of the I&AP Database).

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Department of Forestry, Fisheries and the Environment (DFFE)	Mohammad Essop	[redacted]
	Herman Alberts	
	Zamalanga Langa	
	Bathandwa Ncube	
	Azrah Essop	
	Salome Mambane	
DFFE: Biodiversity & Conservation	Shonisani Munzhedzi	
	Simon Malete	
	BC Admin	
Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) (Eastern Cape)	Nondwe Mdekazi	
	Tim De Jongh	
	Mncedisi Makosonke	
	Alan Southwood	
Department of Nature Conservation and Environmental Affairs (Northern Cape)	Tsholo Makaudi	
Department of Water and Sanitation (DWS) (Eastern Cape)	Lizna Fourie	
DWS (Northern Cape)	Abe Abrahams	
	Ntombizanele Feni	
	Lerato Mokhoantle	
	Mashudu Kgaphola	
	Alexia Hlengani	
	Gawie van Dyk	
Department of Mineral Resources and Energy (DMRE) (Northern Cape)	Ntsundeni Ravhugoni	
	Brenda Monnapula	
DMRE (Eastern Cape)	Brenda Ngebulana	
	Zimkita Tyala	
Department of Agriculture Forestry & Fisheries (DAFF)	Thoko Buthelezi	
	Mashudu Marubini	
Department of Energy	Mokgadi Mathekgana	
Eskom	Eddie Leach	
Eskom: Renewable Energy	John Geeringh	
Eskom: Land & Rights Section	Michelle Nicol	
Pixley District Municipality (Northern Cape)	Sam Diokpala	
Chris Hani District Municipality (Eastern Cape)	Francois Nel	
	Funeka Nxesi	
Umsobomvu Local Municipality (Northern Cape)	Amos Mpela	
Inxuba Yethemba Local Municipality (Eastern Cape)	Mzwandile Sydney Tantsi	
Umsobomvu Local Municipality Ward 2 Councillor	DB Jokka	
Inxuba Yethemba Local Municipality Ward 3 Councillor	Sydney Goniwe	
Inxuba Yethemba Local Municipality Ward 6 Councillor	Siphiwo Njobo	
SALGA Northern Cape	Thatelo Itumeleng	
	Lesang Daniels	
	Johannes Mafereka	
SALGA Eastern Cape	Aseza Dlanjwa	
	Zamikhaya Mpulampula	
	Zona Cokie	

REGISTERED STAKEHOLDERS		
STAKEHOLDER	**CONTACT PERSON**	**CONTACT DETAILS**
Eastern Cape Provincial Heritage Resources Authority (ECPHRA)	Lennox Zote	[redacted]
	Sello Mokhanya	
Ngwao Boswa Kapa Bokoni is the Provincial Heritage Resources Authority of the Northern Cape Province	Timothy Ratha	
South African Heritage Resources Agency (SAHRA)	Natasha Higgitt	
Telkom	Raymond Couch	
Sentech	Alishea Viljoen	
Vodacom	Andre Barnard	
MTN	Krishna Chetty	
Cell C	Hugo Dippenaar	
	Rudi Liebenberg	
	Wiaan Vermaak	
	Dirk Van Der Walt	
	Joshua Engelbrecht	
Noupoort Farmers Association (Northern Cape)	SP van der Walt	
Molteno Agricultural Union (Eastern Cape)	Meyburgh Erasmus	
	Marie Pretorius	
Bamboesberg Agricultural Association (Eastern Cape)	WF Terrblanche	
	Hendrik Venter	
Loperberg Agricultural Association (Eastern Cape)	Kotie van Straaten	
	Stefan Viljoen	
Sandfontein Agricultural Association (Eastern Cape)	Seppie Vermaak	
	Dries Pienaar	
Middelburg District Agricultural Union (Eastern Cape)	Rocco de Villiers	
	Wilna Nel	
Bo-Suurberg Agricultural Association (Eastern Cape)	Eben du Plessis	
Nooitgedacht Argicultural Association (Eastern Cape)	Andries Bester	
	Aletta Erasmus	
Rooihoogte Farmers Association (Eastern Cape)	TP Voster	
	Louzelle Snyman	
Schoombee Farmers Association (Eastern Cape)	Jonathan Southey	
	Riana Southey	
The Willows Agricultural Association (Eastern Cape)	Clift Frewen	
	Bettie Borcherds	
Hofmeyr Agricultural Association (Eastern Cape)	Gerald Fletcher	
	Bronwyn Taljaard	
Civil Aviation Authority (CAA)	Lizelle Stroh	
Air Traffic and Navigation Services (ATNS)	Dylan Fryer	
Roads (SANRAL/Public Works)	Nanna Gouws	
BirdLife South Africa	Daniel Marnewick	
BirdLife South Africa	Hanneline Smit-Robinson	
BirdLife South Africa: Birds and Renewable Energy Manager	Samantha Ralson	
BirdLife South Africa: Policy & Advocacy Manager	Simon Gear	
Endangered Wildlife Trust: CEO	Yolan Friedman	
Endangered Wildlife Trust: Head of Conservation Science	Harriet Davies-Mostert	
Endangered Wildlife Trust: African Crane Conservation Programme Manager	Kerryn Morrison	

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Endangered Wildlife Trust: African Crane Conservation Programme Field Officer	Glenn Ramke	[redacted]
Endangered Wildlife Trust: Wildlife & Energy Programme	Lourens Leeuwner	[redacted]
WESSA NC Regional Representative	Suzanne Erasmus	[redacted]
WESSA EC Regional Representative	Jenny Gon	
Middelburg Agricultural Show	Stefan Erasmus	[redacted]
	Rene Joubert	
Middelburg Fire Protection	Removed due to POPI Act email response	
Middelburg Tourism Bureau	Nettie Kok	[redacted]
Grootfontein Agricultural Development Institute	Joan Oosthuizen	[redacted]
Wildlife Ranching RSA	Ankie Stroebel	[redacted]
East Cape Game Management Association		[redacted]
INDALO	Vanessa Collett	[redacted]

5.5.2 Registered I&AP Database

Table 5.2: Registered I&APs (as part of the I&AP Database).

REGISTERED I&APS		
REGISTERED I&AP	NAME	CONTACT DETAILS
Private Landowner	Andries Keun	[redacted]
Private Landowner	Jannie Evans	
Sherborne Guesthouse	Annatjie Moore	
CABAC	Pierre Jonker	
Private	Bardenhorst	
EWT: Threatened Grassland Species Programme	Bradley Gibbons	
Department of Environmental Affairs	Sonwabile Nkondeshe	
Department of Environment and Nature Conservation (DENC)	Jim Bopape	
Private Landowner	Allen Lange	
ECDC	Rory Haschick	
Integrated Wind Power	Jonathan Visser	
Leads 2 Business	Karen Clark	
G7 Renewable Energies (Pty) Ltd	Veronique Fyfe	
Grass Master CC	Ryan Holmes	
	Wally Holmes	
Mario's Fencing Works	Mario Bratz	
Abo Wind	Mike Mangnall	
Endangered Wildlife Trust	Bradley Gibbons	
Endangered Wildlife Trust	Christie Craig	

5.5.3 Landowners & Surrounding Landowners Database

Table 5.3: Landowners and Surrounding Landowners (as part of the I&AP Database).

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
60/1	Klip Krands	Andre Neser	[redacted]
3/5	Uitzicht		
75/4	Schorpioen Kraal		
133/RE	Holle Fountain	Fauntleroy Bartholomew Gillmer	[redacted]
133/1	Holle Fountain		

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
133/4	Holle Fountain		
118/1	Winterhoek		
119/RE	Vlage Kop		
140/2	Wonder Heuvel		
140/4	Wonder Heuvel		
135/1	Elands Kloof	Lindo van der Merwe	
3/2	Uitzicht		
3/3	Uitzicht		
3/7	Uitzicht		
3/8	Uitzicht		
3/RE	Uitzicht		
3/4	Uitzicht		
61/2	Leeuw Hoek		
133/3	Holle Fountain		
120/RE	Leuwe Kop		
120/1	Leuwe Kop		
3/6	Uitzicht		
61/RE	Leeuw Hoek	Abbott Erasmus	
61/6	Leeuw Hoek		
61/4	Leeuw Hoek		
61/3	Leeuw Hoek		
61/7	Leeuw Hoek		
133/2	Holle Fountain		
62/2	Paarde Valley		
3/1	Uitzicht		
3/11	Uitzicht		
136/RE	Winterhoek	Vivian Stephan van der Merwe	
135/RE	Elands Kloof		
118/RE	Winterhoek		
113/1	Elands Heuvel	Jacobus Andries van der Merwe	
4/RE	Annex Grys Kop	SJV Wild CC	
4/1			
7/2	Gryse Kop		
7/4		Andries Thertius Barnard	
7/3		Hermanus Jacobus Pieterse	
7/9		Paulus Johannes Jacobus Visser	
7/8		Barend Andries Mouton	
7/7		Hermanus Bernardus Swart	
		Allen Mark Lange	
		Michael Frederick Pretorius	
59/RE	Farm59	Francois Felix van der Ryst	
60/7	Klip Krands		
3/10	Uitzicht	Andries Jacobus Bester (Middelburg Nguni Stud CC)	
3/9	Uitzicht		
60/9	Klip Krands	Gideon Jacobus Delport	
78/RE	Farm78		
75/2	Schorpioen Kraal		
76/6	Vogelfontein		
60/8	Klip Krands		
76/3	Vogelfontein		
75/3	Schorpioen Kraal		
76/RE	Vogelfontein		
75/7	Schorpioen Kraal		
75/5	Schorpioen Kraal		

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	**FARM NAME**	**CONTACT PERSON**	**CONTACT DETAILS**
75/RE	Schorpioen Kraal	Gys Steyn (GM Steyn Trust)	[redacted]
60/10	Klip Krands	Cliff	[redacted]
61/1	Leeuw Hoek		
69/2	Vink Fontein		
131/2	Rietfontein		
131/RE	Rietfontein		
140/RE	Annex Fonteintjie		
75/8	Schorpioen Kraal		
75/6	Schorpioen Kraal		
60/3	Klip Krands		
60/4	Klip Krands		
67/RE	Kapok Hoek	Doornvlei Boerdery CC	[redacted]
140/3	Wonder Heuvel	Annette van Lingen (Wonderheuwel Trust)	[redacted]
133/5	Holle Fontein		
140/1	Wonder Heuvel		
121/RE	Mooi Plaats		
65/2	Zaay Fontein	Marais Trust (Nick Joubert (Miemie) - Van Zyls Rust)	[redacted]
67/5	Kapok Hoek		
67/1	Kapok Hoek		
65/RE	Zaay Fontein	Sarel David Theron	[redacted]
65/1	Zaay Fontein	Colin Douglas Kingwell	[redacted]
63/RE	Septembers Kraal		
122/RE	Vlak Plaats	Marthinus Triegaardt du Plessis	[redacted]
146/RE	Elandsheuwel	Hendrikus Jacobus Visser (Visser Familietrust)	[redacted]
146/1	Elandsheuwel		
7/RE	Gryse Kop	Martha Johanna van Heerden & Daniel Jacobus van Heerden	[redacted]
7/6	Gryse Kop		
8/5	Groote Hoek	Laurraine Eugene Miller	[redacted]
8/2	Groote Hoek		
61/5	Leeuw Hoek	Pieter Kuyper Albertyn	[redacted]

5.5.4 Proof of Site Notice

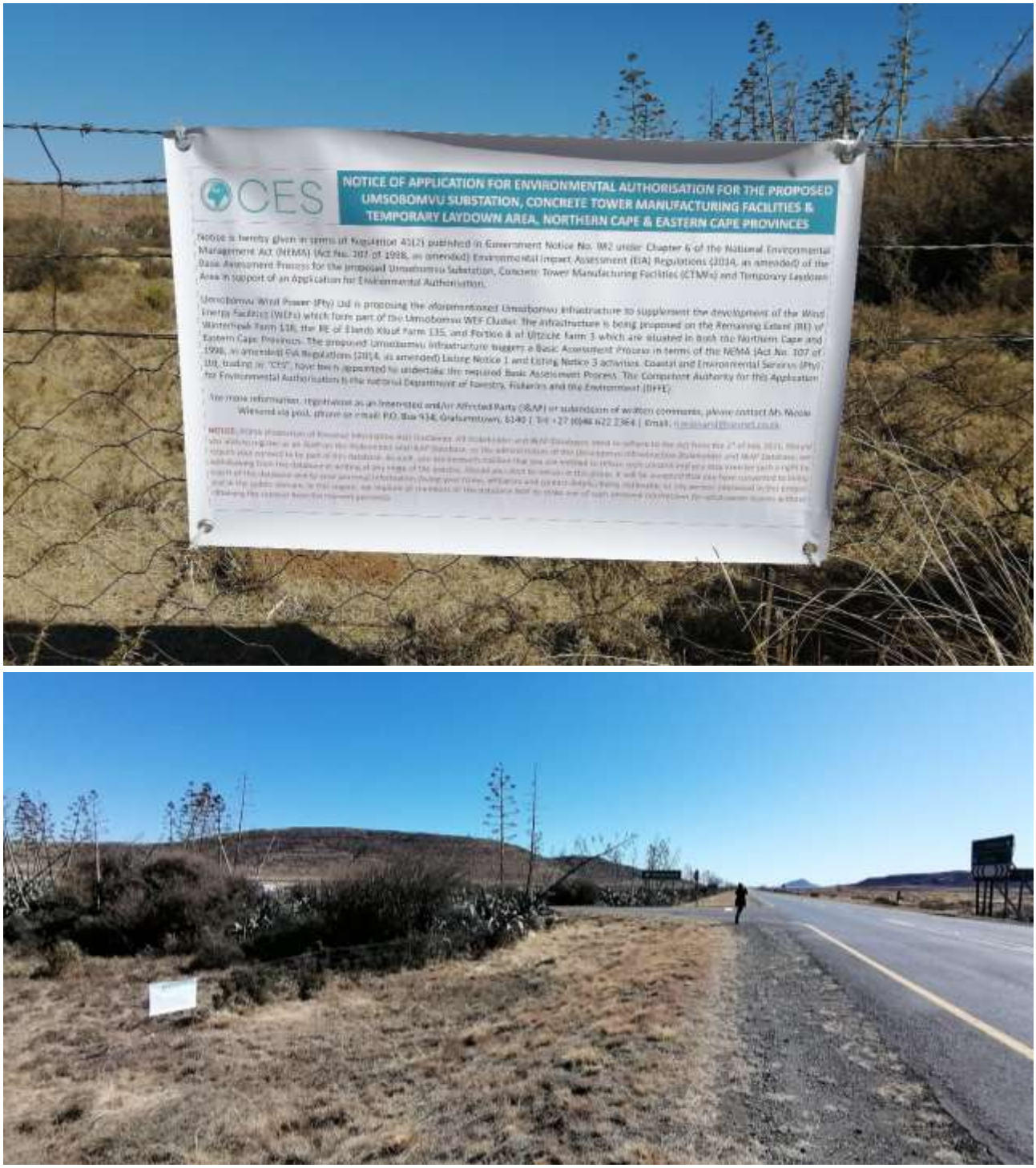

Plate 5.1: Proof of Site Notice, placed at 31°17'49.60"S, 24°51'27.23"E along National Route N10.

5.5.5 Proof of Notification of Application for EA and Public Review of the Draft BAR

Please see Appendix F. The proof of notification of the Draft BAR will be included in the Final BAR.

5.5.6 Copy of Comments Received

Please see Appendix F. Please note that Appendix F will be updated subsequent to the public review of the Draft BAR.

5.5.7 Comments and Response Report

Please see Appendix G. Please note that Appendix G will be updated subsequent to the public review of the Draft BAR.

5.5.8 Proof of Advertisements

Die Burger Newspaper
Friday, 11 February 2022 (Afrikaans version)

See tear-sheet on the following page.

KENNISGEWING VAN AANSOEK VIR OMGEWINGSBEMAGTIGING EN KONSEP BASIESE ASSESSERINGSVERSLAG VIR OPENBARE OORSIG

Kennisgewing geskied hiermee ingevolge regulasie 41(2) gepubliseer in regeringskennisgewing nr. 982 onder hoofstuk 6 van die Nasionale Omgewingsbestuurwet (NEMA) (Wetnr. 107 van 1998, soos gewysig) Omgewingsimpakassessering (EIA)-regulasies (2014, soos gewysig) van die indiening van 'n aansoek vir omgewingsbemagtiging tot die nasionale departement van bosbou, visserye en die omgewing (DFFE).

Umsobomvu Wind Power (Edms) Bpk (die "applikant") stel die ontwikkeling van instruktuur voor om die ontwikkeling van die bemagtigde Wind-energiefasiliteite (WEF) te supplementeer in die omgewing van die infrastruktuurterrein. Die voorgestelde infrastruktuur is geleë by gedeelte 8 van Uitzicht-plaas 3, restante (RE) van Winterhoek-plaas 118, en die RE van Elands Kloof-plaas 135. Hierdie eiendomme is geleë binne die Umsobomvu plaaslike munisipaliteit in die Noord-Kaap Provinsie en die Inxuba Yethemba plaaslike munisipaliteit in die Oos-Kaap provinsie.

Die voorgestelde ontwikkeling is insluitend van die konstruksie van 'n IPP 132 kV-substasie, 'n 132 kV-verspreidingsversameling-substasie, 'n operasie- en instandhoudingsgebou (O&M), 'n 132 kV-oorhoofse lyn (OHL) van tot 400 m in lengte, twee (2) sementtoring-fabrikasiefasiliteite (CTMF) en tydelike stoorgebiede (lay down areas) en die konstruksie van nuwe gedeeltes van pad en die opgradering van bestaande paaie.

Die voorgestelde ontwikkeling benodig 'n Basiese Assesseringsproses ingevolge die NEMA EIG-regulasies (2014, soos gewysig) lyskennisgewing 1- en lyskennisgewing 3-aktiwiteite. Coastal and Environmental Services (Edms) Bpk ("CES") is aangestel om die basiese assessering te onderneem. Die konsep basiese assesseringverslag (BAR) sal vir openbare oorsig beskikbaar wees vir 'n tydperk van dertig (30) dae. 'n Afskrif van die konsep BAR kan verkry word by www.cesnet.co.za/public-documents.

Vir verdere inligting, registrasie as 'n belangstellende en/of geaffekteerde party (I&AP) of indiening van geskrewe kommentaar, kontak asb me. Lunga Mbulana by: l.mbulana@cesnet.co.za | +27 (0)43 726 7809 | Posbus 8145, Nahoon, Oos-Londen 5210.

Plate 5.2: Proof of advertisement placed in Die Burger on the 11th of February 2022 in Afrikaans.

Twee susters van Bonteheuwel werk aan hul blink toekoms

Carl Thomas

Twee susters van Bonteheuwel hoop hul ondersteuning, wat gehoors is nie die een nie 'n studiebeurs kon kry nie, word "die hens skoonmaakfiens in die land" en sal ander help "aan die kettings van armoede te breek".

Anathi (18) en Lisa Booysen (18) van Smarty Trees hoërskool Wasout Winslow Wipers op 9 Februarie verlede jaar gedurende die tuperking begin toe Anathi nie 'n beurs by die nasionale finansiële hulpskema vir studente kon kry nie.

"Ons kon ook nie werk kry nie en die winkels het begin toemaak.

"Dit het ons gemotiveer om nie uit ondersteuning te bo gin," sê Anathi, wat in 2020 gematrikuleer het.

Die susters maak die vensters van ondernemings en huise in Bonteheuwel op hul eie af en toe skoon. Lisa sê hulle het al ten gevolge klimm.

Lisa het in 2019 gematrikuleer en sê sy voel gemotiveer om deel te kan wees van die ondersteuning om haar suster met haar studie te kan help.

"Die ondersteuning maak nog nie baie geld nie, maar ons hoop om uit te breë," sê sy.

Hul onkelbroer, Zeldon Booysen (45), werk by 'n inbeslotruim en hulle woon saam met hul twee broërs van 15 en 11 jaar oud in 'n Wendyhuis.

Anathi se pa is dood en Lisa het sers toe sy 17 jaar oud was met haar pa kontak gemaak.

Anathi werk ook by 'n naspa in Bonteheuwel.

"Ek raak moeg, ja, maar daar is nie tyd om daaraan te dink nie, want ek wek meer vir myself en my gesin."

Die susters wil die ondersteuning uitbrei en ander jeugdiges in dieselfde nood.

"Ek hoop om in die toekoms nog ondersteunings te begin wat die koerings van armoede kan breek," sê Anathi.

Lisa wil graag hê hul ondersteuning moet die basis in Suid-Afrika word.

Anathi studeer vir 'n hotelsertifikaat in ondernemingsbestuur aan die Tuhu hoëskool in Worcester, en Lisa studeer vir 'n diploma in elektriese ingenieurswese by die Noordelik-kollege in Bellar.

Die Booysen-susters maak vensters by 'n huis in Bonteheuwel skoon.

Lisa en Anathi Booysen, sienaars van Wasout Winslow Wipers. Foto: VERSAM

LIFE ESIDIMENI-ONDERSOEK

Pasiënte moes in beddens vir kinders slaap

Tebogo Monama, News24

Sy sou dinge graag anders wou doen, het die voormalige adjunk-direkteur-generaal van die Gesondheidsdepartement in die hooggeregshof in Pretoria gesug in die gesogtelike dissiplinêreondersoek na die sterftes in Life Esidimeni.

Sophie Lenkwane was die adjunk-direkteur-generaal van die departement toe 144 pasiënte met geestesgesondheidsprobleme oorgeplaas is na nieregeringsorganisaties (NRO's) wat nie oor die nodige geriewe beskik het nie.

Lenkwane het die vorige dag onder meer gesug volwasse geestesgesondheidspasiënte het in kinderbeddjies geslaap by van die nieregeringsorganisasies.

Ethel Nesbit, die eienaar van die bestukte NRO, het aan Lenkwane gesê dat sy nie verwag het om rolmeubels te ontvang nie.

Adv. Tina Phihlela van Regshulp SA, wat verskeie NRO's in die ondersoek verteenwoordig, wou by Lenkwane uitvind wat sy aan die situasie gedoen het.

"Ek was saam met my kollegas, Nomcebo Sennelo, Mev. Sennelo het dr. Makgabo Manamela (voormalige direkteur van geestesgesondheid in Gauteng) gebel voordat ons na 'n ander plek kon gaan. Sy het aan dr. Manamela gesê dat dit was ons by Precious Angels aangaande het chaotiese is. Daardie plek moes dringend gesluit word."

Die NRO het egter nie sy deure gesluit nie, het Lenkwane gesê.

Phihlela het gesê Nesbit sal getuig sy het Lenkwane, op 23 Junie 2016 ontmoet oor die NRO 22 manlike pasiënte in Randfontein oorvoog het.

"Ek kan nie onthou dat ek Ethel op daardie dag gesien het nie. Ek het nie oens vir Ethel gehoor nie," het Lenkwane gesê.

Phihlela het gesê Nesbit sal ook getuig sienaand van die gesondheidsdepartement het die pasiënte gaanseuwer toe hulle by die NRO aangekom het nie.

Op die vraag wat sy nou anders sou wou doen, het Lenkwane gister gesê: "Was die pasiënte se lêers beoord, sou ek dit deurgelees en gekyk het of al die dokumente en die mediksie verskaf word."

Die hof het Woensdag gehoor die NRO-eienaars sal getuig hulle het pasiënte oorvoog met onvolledige lêers wat nie al die inligting oor hul gesondheidstoestand bevat het nie.

Die pasiënte is ook met 'n klein voorraad mediksie omsluan.

Lenkwane is ook ondervra oor pasiënte wat in staatsgesondheidsgeriewe soos die Cullinan-sorg-en-rehabilitasiesentrum gesterf het. Minstens 15 mense het in staatsgeriewe gesterf.

Op die vraag of die sterftes voor haar deur gebe kan word aangeneem sy in belneer van die paigiatriese hospitale in die provinsie was, het sy geantwoord: "Ek het geen kommentaar nie."

Die geregsaklike dondersoek duur voort.

Noordkaap Bulletin Newspaper
Thursday, 17 February 2022 (English version)

See tear-sheet on the following page.

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND DRAFT BASIC ASSESSMENT REPORT FOR PUBLIC REVIEW

Notice is hereby given in terms of Regulation 41(2) published in Government Notice No. 982 under Chapter 6 of the National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014, as amended) of the submission of an Application for Environmental Authorisation to the national Department of Forestry, Fisheries and the Environment (DFFE).

Umsobomvu Wind Power (Pty) Ltd (the "Applicant") is proposing the development of infrastructure to supplement the development of the authorised Wind Energy Facilities (WEFs) in proximity to the infrastructure site. The proposed infrastructure is situated on Portion 8 of Uitzicht Farm 3, the Remaining Extent (RE) of Winterhoek Farm 118, and the RE of Elands Kloof Farm 135. These properties are situated within the Umsobomvu Local Municipality in the Northern Cape Province and the Inxuba Yethemba Local Municipality in the Eastern Cape Province.

The proposed development includes the construction of an IPP 132 kV Substation, a 132 kV Distribution Collector Substation, an Operation and Maintenance (O&M) Building, a 132 kV Overhead Line (OHL) of up to 400 m in length, two (2) Concrete Tower Manufacturing Facilities (CTMFs) and temporary laydown areas, and both the construction of new sections of road and the upgrade of existing roads.

The proposed development requires a Basic Assessment Process due to the NEMA EIA Regulations (2014, as amended) Listing Notice 1 and Listing Notice 3 Activities. Coastal and Environmental Services (Pty) Ltd ("CES") has been appointed to undertake the Basic Assessment Process. The Draft Basic Assessment Report (BAR) will be available for public review for a thirty (30) day period. A copy of the Draft BAR can be accessed at: www.cesnet.co.za/public-documents.

For more information, registration as an Interested and/or Affected Party (I&AP), or submission of written comments, please contact Ms Lunga Mbulana by email, telephone, or post: l.mbulana@cesnet.co.za / +27 (0)43 726 7809 / P.O. Box 8145, Nahoon, East London, 5210.

15X3COAST-NK170222

Plate 5.3: Proof of advertisement placed in the Noordkaap Bulletin on the 17th of February 2022 in English.

8 NUUS NEWS NoordkaapBulletin 17 Februarie 2022

Jonges verken Wes-Kaap

Gr. 7-leerlinge aan die Hotazel-kollege het in Desember 'n toer na Hartenbos en omgewing meegemaak.

Weens die hewige reën in die begin van Desember is hulle voor Meiringspoort deur 'n vloed opgehou en kon hulle hul eindbestemming eers 26 uur later bereik.

Daarna het gebeure vlot verloop en het die leerlinge verskeie bekens en besienswaardighede besoek, soos die Dias-museum, die Waterworld-pretpark in Mosselbaai, die Kango-grotte by Oudtshoorn en die Birds of Eden- en Monkeyland-park in die Knysna-omgewing. Hulle het ook in 'n boot om robbe-eiland gevaar, kamelo gery, slange vasgehou en olifante besoek.

Die leerlinge is dit eens dat die ervaringe nie maklik vergeet sal word nie.

Gr. 7-leerlinge aan die Hotazel-kollege wat in Desember op toer na Hartenbos en omgewing was, is van links Edrich Claasen, Tristan Babu en Kelebogile Polelo. FOTO: VERSKAF

Vir meer nuus en foto's oor die nuutste gebeure kan nuuskiergies die Facebook-blad Noordkaap koerant (@NoordkaapBulletin) besoek.

DBV kry steun ná inbraak

CHARNÉ KEMP

Skenkers het verlede week ingespring om die DBV in Kimberley by te staan nadat dié organisasie twee weke gelede onder 'n inbraak deurgeloop het en onder meer kluise en rekenaartoerusting kwyt is.

Volgens Alet Steyn, DBV-voorsitter, het die inbrekers toegang verkry deur 'n dakplaat te sny en oop te buig en die plafon te breek. Die kluise is onder meer oopgesny. Benewens skootrekenaars en selfone, is drie dae se kontantinkomste gesteel en die kringtelevisiestelsel verwoes. Verskeie ander artikels is óf gesteel óf beskadig.

Die kantoor was hierna twee dae lank gesluit sodat personeel kon skoonmaak en gegewens in orde bring.

"Ons het al ons elektroniese data verloor en sal papierwerk moet gebruik om weer elektroniese gegewens op te bou. Die eerste dag ná die inbraak was ons kantoorblok onveilig. Terwyl ons gewag het dat die polisie die ondersoek voltooi, kon ons nie opruim of herstelwerk doen nie," sê Steyn.

"Linja Allen van NC Security Solutions het vir ons twee nagwagte gehorg om ons kantoor op te pas totdat polisie genoeg bewyse bymekaar kon maak. Kimberley Aluminium & Glass het die ruite gratis vervang.

" 'n Anonieme sakeman van Kimberley het 'n selfoon en 'n skootrekenaar geskenk. Rudolf Louw van Joz the Key Man het ons beskadigde groot kluis gratis verwyder. Hy het 'n nuwe soortgelyke kluis geskenk en dit gratis ingesit. Gearbox & Diff Centre het die kluise gratis vervoer, en Louis Ferreira het ook 'n kluis geskenk. Hardcore Security het gratis 'n alarmstelsel in werking gestel en sal dit gratis moniteer. Ekapa-myn het twee opgeknapte rekenaars geskenk en gaan nog skenk."

Steyn sê hulle benodig nog nuwe dakplate en plafonplanke, asook 'n houtdeur en heinings. Hond- en katkos is altyd welkom.

paying the right social grant, to the right person, at the right time and place. NJALO!

sassa

SASSA is a dynamic organisation that provides a range of essential services to a diverse group of South Africans. With offices countrywide, our operational structures aspire to embrace all that is state-of-the-art, offices that are modern and an environment designed to stimulate the worker to achieve, enjoy, progress and prosper.

ADVERT: NORTHERN CAPE

Manager: Security Administration (salary level 11)
Salary: R 744 255 - R 876 705 p.a. inclusive of benefits
Location: Northern Cape Regional Office - Kimberley (Ref No. SAS 2201/01)
Preference for the above position will be given to People with Disability / Coloured Female followed by Coloured Male followed by African Female respectively as at the time of appointment

Manager: Supply Chain Management – Re-Advertisement (salary level 11)
Salary: R 744 255 - R 876 705 p.a. inclusive of benefits
Location: Northern Cape Regional Office - Kimberley (Ref No. SAS 2201/02)
EE target for the above position is open to all race and gender

Practitioner: Customer Care – Re-Advertisement: (salary level 08)
Salary: R 321 543 - R 378 765 p.a. exclusive of benefits
Location: Northern Cape Regional Office – Kimberley (Ref No. SAS 2201/03)
EE target for the above position is open to all race and gender

Administrative Clerk: Administrative Support (salary level 05): 2 posts
Salary: R176 310 - R207 681 p.a. exclusive of benefits
Location: John Taolo Gaetsewe District – Churchill Local Office (Ref No.: SAS 2201/04)
Location: Pixley Ka Seme District – Colesberg Local Office (Ref No.: SAS 2201/05)
Employment Equity Preferences are as follows
Churchill Local Office will be given to Coloured Male followed by Coloured Female followed by White Male or White Female respectively as at the time of appointment.
Colesberg Local Office will be given to People with Disability, Coloured Male followed by White Male followed by White Female respectively as at the time of appointment.

Grants Administrator: Grants Administration (salary level 05)
Salary: R176 310 - R207 681 p.a. exclusive of benefits
Location: ZF Mgcawu District – Groblershoop Local Office (Ref No.: SAS 2201/06)
Preference for the above position will be given to People with Disability followed by White Male followed by White Female respectively as at the time of appointment.

Clerks: Personnel Provisioning & Maintenance (salary level 05)
Salary: R176 310 - R207 681 p.a. exclusive of benefits
Location: Northern Cape Regional Office - Kimberley (Ref No. SAS 2201/07)
Preference will be given to Person with disability / Coloured Male followed by White Male respectively as at the time of appointment.

To view the detailed advert which contains the requirements of the posts, compliance and application process, please visit us at www.sassa.gov.za or toll free: 0800 60 10 11

Important notes: Appointment will be subject to a compulsory pre-employment screening in the form of qualification, references, ITC, and criminal checks. It is our intention to promote representativity in terms of race, gender, disability and youth through the filling of these posts and candidates whose appointment will promote representivity will receive preference. It is the applicant's responsibility to have foreign qualifications evaluated by the South African Qualifications Authority (SAQA) prior to the selection process. The Agency is under no obligation to fill a post after the advertisement thereof. Please note: All SASSA staff are subject to compulsory Security Vetting on appointment. No faxed applications will be accepted.

Closing date: 25 February 2022

Applicants interested in applying for the post should send their applications (CV, **New Z83** and attach the highest qualification only) quoting the relevant reference number and position name as per the advert. The subject heading of the email should indicate the name of the position you are applying for. Applicants must ensure that they send their applications to a correct inbox/email indicated on the position. Applications should consist of a comprehensive CV (specifying qualifications - institution obtained from, experience, duties, indicating the respective dates (MM/YY) per position, Identity Number, Race and Gender as well as indicating references with full contact details. Interviews may be conducted via a virtual medium which will be discussed with each shortlisted applicant. Kindly note that copies of qualification, certificate, ID and driver's license etc. should be submitted upon request.

Regional Office posts:	**Attention:** Human Capital Management, Private Bag X6011, Kimberley, 8300 **Or** **E-mail:** ApplicationsRO@sassa.gov.za **Or** **Hand delivery:** 33 Du Toitspan Road, Kimberley	**Enquiries:** Ms Nelisiwe Cele **Tel:** (053) 802 4956
John Taolo Gaetsewe District post:	**Attention:** Human Capital Management, Private Bag X1534, Kuruman, 8460 **Or** **E-mail:** ApplicationsJTG@sassa.gov.za **Or** **Hand delivery:** 13-17 Main Road, Mahindra building, Kuruman.	**Enquiries:** Ms Gomolemo Lelaghe **Tel:** (053) 714 3615/16
Pixley ka Seme District post:	**Attention:** Human Capital Management, Private Bag X1015, De Aar, 7000 **Or** **E-mail:** ApplicationsPKS@sassa.gov.za **Or** **Hand delivery:** Liebenhof building, corner Molver and Voortrekker Street, De Aar	**Enquiries:** Ms Emerly Booysen **Tel:** (053) 632 6034
ZF Mgcawu District post:	**Attention:** Human Capital Management, Private Bag X5911, Upington, 8800 **Or** **E-mail:** ApplicationsZFM@sassa.gov.za **Or** **Hand delivery:** 40 Schröder Street, Upington.	**Enquiries:** Ms Tshegofatso Mmatshaka **Tel:** (054) 337 0447

Correspondence will only be conducted with the short-listed candidates. If you have not been contacted within 3 months after the closing date of the advertisement, please accept that your application has been unsuccessful.

For hand delivery, applications must be submitted to the relevant office before 16h00. Failure to comply with the above will automatically disqualify candidates.

Toll free: 0800 60 10 11
www.sassa.gov.za
SASSA News @OfficialSASSA

NOTICE OF INTENDED PROSPECTING ACTIVITY
DMR REFERENCE: NC 30/5/1/1/2/12996 PR

Notification of the public participation process as required in terms of Section 16(4)(b) of the Mineral and Petroleum Resources Development Act (Act 28 of 2002) (as amended, 2008) and Regulation 40 to 43 of the National Environmental Act, 1998 and the Environmental Impact Assessment Regulation 2014

Uthando Lwethu Investments (Pty) Ltd has submitted an application to prospect for Manganese, Iron and Silica on the farms Park 107, Mangous 108 and Rudesheim 109 situated in the magisterial district of Hay, Northern Cape Province. Which is located 52.2 km west south-west of the town Griekwastad.

The application was submitted on the 27 July 2022 to the Regional Manager, Department of Mineral Resources, 41 Schmidtsdrift Road, Telkom Building, Kimberley Contact number 053 807 1700

The prospecting for the said minerals will involve geological investigations, non-invasive surface sampling, Reverse Circulation drilling and Bulk Sampling.

The prescribed Scoping Report was submitted on 4 February 2022 and is available for insight at the consultant's office or a summary of the project operations on the website www.lwcc.co.za

All interested and/or affected parties are hereby invited to register, provide comments and/or concerns, in writing, 21 March 2022 for the attention of:

LW Consultants
Tel: 072 141 4164 Fax: 086 415 7887
Address: Postnet Suite 20, Private Bag X2 Diamond, 8305
E-mail: lindie@lwcc.co.za

CES

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND DRAFT BASIC ASSESSMENT REPORT FOR PUBLIC REVIEW

Notice is hereby given in terms of Regulation 41(2) published in Government Notice No. 982 under Chapter 6 of the National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014, as amended) of the submission of an Application for Environmental Authorisation to the national Department of Forestry, Fisheries and the Environment (DFFE).

Umsobomvu Wind Power (Pty) Ltd (the "Applicant") is proposing the development of infrastructure to supplement the development of the authorised Wind Energy Facilities (WEFs) in proximity to the infrastructure site. The proposed infrastructure is situated on Portion 8 of Uitzicht Farm 3, the Remaining Extent (RE) of Winterhoek Farm 118, and the RE of Elands Kloof Farm 135. These properties are situated within the Umsobomvu Local Municipality in the Northern Cape Province and the Inxuba Yethemba Local Municipality in the Eastern Cape Province.

The proposed development includes the construction of an IPP 132 kV Substation, a 132 kV Distribution Collector Substation, an Operation and Maintenance (O&M) Building, a 132 kV Overhead Line (OHL) of up to 400 m in length, two (2) Concrete Tower Manufacturing Facilities (CTMFs) and temporary laydown areas, and both the construction of new sections of road and the upgrade of existing roads.

The proposed development requires a Basic Assessment Process due to the NEMA EIA Regulations (2014, as amended) Listing Notice 1 and Listing Notice 3 Activities. Coastal and Environmental Services (Pty) Ltd ("CES") has been appointed to undertake the Basic Assessment Process. The Draft Basic Assessment Report (BAR) will be available for public review for a thirty (30) day period. A copy of the Draft BAR can be accessed at: www.cesnet.co.za/public-documents.

For more information, registration as an Interested and/or Affected Party (I&AP), or submission of written comments, please contact Ms Lunga Mbulana by email, telephone, or post: l.mbulana@cesnet.co.za / +27 (0)43 726 7809 / P.O. Box 8145, Nahoon, East London, 5210.

INCIDENT PUZZLING

Not much is yet known of the cause for several learners screaming, collapsing or falling at the St Boniface High School in Kimberley on Friday (11/02).

After the incident, the school stated in a letter that it had happened in the quad area while preparing for the opening mass celebration.

"There were a lot of uncontrollable screaming and crying," the letter read.

Priests came and prayed over the girls, and blessed the classrooms and offices. Members of the SAPS Spiritual Crime Unit also visited the school.

On social media platforms dirty tap water was pointed out as a possible cause, while another said it was "mass hysteria".

The Northern Cape Department of Education said it was awaiting a report.

No physical harm or injury was reported.

–**Helena Barnard**

6. ALTERNATIVES

6.1 REASONABLE AND FEASIBLE ALTERNATIVES

Alternatives should include consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. In all cases, the no-go alternative must be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether a site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

"Alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- The property on which or location where it is proposed to undertake the activity;
- The type of activity to be undertaken;
- The design or layout of the activity;
- The technology to be used in the activity;
- The operational aspects of the activity; and/or
- The option of not implementing the activity.

6.2 FUNDAMENTAL, INCREMENTAL AND NO-GO ALTERNATIVES

6.2.1 Fundamental Alternatives

Fundamental alternatives are developments which are completely different to the proposed project description and usually include the following:

- Alternative property or location where it is proposed to undertake the activity;
- Alternative type of activity to be undertaken; and
- Alternative technology to be used in the activity.

6.2.2 Incremental Alternatives

Incremental alternatives relate to modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. Incremental alternatives which can be considered, include:

- Alternative design or layout of the activity; and
- Alternative operational aspects of the activity.

6.2.3 No-go Alternative

It is mandatory to consider the "no-go" option in the BA Process. The "no-go" alternative refers to the current status quo, and the risks and impacts associated with it. Some existing activities may carry risks and may be undesirable (e.g. an existing contaminated site earmarked for a development). The no-go is the continuation of the existing land use, i.e. to maintain the status quo.

6.3 ANALYSIS OF ALTERNATIVES

Table 6.1 illustrates the assessment of the identified alternatives, and the method used to assess these alternatives. It includes the assessment of likely and potential advantages and disadvantages associated with each alternative. In addition, it is indicated whether each alternative is reasonable and feasible in the context of the proposed development and provides comment on the preferred alternative, including reasons for the selection of the preferred alternative.

Table 6.1. Alternatives Identified and Considered for the Proposed Umsobomvu Development.

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	REASONABLE & FEASIBLE	COMMENT
PROPERTY OR LOCATION This refers to the fundamental location options, and the environmental risks and impacts associated with such options.	**Alternative location 1**: Current proposed site (Preferred alternative). This site has been selected because the Umsobomvu Development is required within these properties and at these locations to supplement the authorised Umsobomvu WEF development.	• Suitably located to supplement the development of the authorised Umsobomvu WEF; and • The primary land uses within the properties, livestock and wildlife grazing would be able to continue around the Umsobomvu Development footprints.	• Potential environmental and social impacts. The national Screening Tool Report identifies the following themed sensitivities for the proposed location: ○ Agriculture Theme – High Sensitivity ○ Animal Species Theme – High Sensitivity ○ Aquatic Biodiversity Theme – Low Sensitivity ○ Archaeological and Cultural Heritage Theme – High Sensitivity ○ Civil Aviation Theme – Low Sensitivity ○ Defence Theme – Low Sensitivity ○ Palaeontology Theme – Very High Sensitivity ○ Plant Species Theme – Low Sensitivity ○ Terrestrial Biodiversity Theme – Very High Sensitivity	**YES**	The main determining factor for selecting the Preferred Location Alternative, and only Location Alternative, within the proposed properties was because the proposed site is suitably located to supplement the development of the authorised Umsobomvu WEF. No location alternatives have been identified because the Preferred Location Alternative has been identified as a suitable location to supplement the development of the authorised Umsobomvu WEF.
	Alternative location 2: No alternative site locations have been identified.	N/A	N/A	**N/A**	
TYPE OF TECHNOLOGY This refers to the	**Alternative technology 1**: Gravel Access Roads (Preferred alternative)	• Low cost; and • Limited construction period required.	• Low skid resistance; • Not durable; • Not suitable for vehicles with low clearance; and	**YES**	The technology alternatives which have been considered for the access roads are tarred, gravel and concrete access

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	REASONABLE & FEASIBLE	COMMENT
fundamental technology options and the environmental risks and impacts associated with such options.			• High risk of potholes and damage to vehicles.		roads. Both tarred and gravel roads are considered to be reasonable and feasible alternatives. Concrete access roads are not considered suitable for the proposed site. The current preferred alternative is Gravel Access Roads.
	Alternative technology 2: Tarred Access Roads	• High skid resistance; • Durable; • Rapid shedding of rainwater; and • Suitable for all vehicles.	• Moderate construction period required.	**YES**	
	Alternative technology 3: Concrete Access Roads	• High skid resistance; • Very Durable; • Rapid shedding of rainwater; and • Suitable for all vehicles.	• High cost; • Lengthy construction period required; and • Not in line with surrounding roads.	**NO**	
DESIGN OR LAYOUT This relates mostly to alternative ways in which the proposed development or activity can be physically laid out on the ground to minimise or reduce environmental risks or impacts	**Alternative layout 1:** Current proposed layout (Preferred alternative)	• Suitably located to supplement the development of the authorised Umsobomvu WEF.	• Potential environmental and social impacts. The national Screening Tool Report identifies the following themed sensitivities for the proposed layout of the Umsobomvu Development: o Agriculture Theme – High Sensitivity o Animal Species Theme – High Sensitivity o Aquatic Biodiversity Theme – Low Sensitivity o Archaeological and Cultural Heritage Theme – High Sensitivity o Civil Aviation Theme – Low Sensitivity o Defence Theme – Low Sensitivity o Palaeontology Theme – Very High Sensitivity o Plant Species Theme – Low Sensitivity	**YES**	The current proposed layout, which is the Preferred Layout Alternative, has been designed based on the requirements of the authorised Umsobomvu WEF development. The infrastructure is suitably located to supplement the WEF development. In addition, the proposed access roads and new intersection will supplement the construction phase of the Umsobomvu WEF.

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	REASONABLE & FEASIBLE	COMMENT
			○ Terrestrial Biodiversity Theme – Very High Sensitivity		
	Alternative layout 2: No alternative layout alternatives have been considered.	N/A	N/A	**N/A**	
OPERATIONAL ASPECTS This relates mostly to alternative ways in which the development or activity can operate in order to reduce environmental risks or impacts	**Alternative operational activities**	N/A	N/A	**YES**	Operational management actions, mitigation measures, recommendations and management plans will be informed by specialist input and included in the Final EMPr to reduce the likelihood of adverse environmental impacts occurring during the operational phase.
NO-GO OPTION This refers to the current status quo and the risks and impacts associated with it.	The proposed site currently consists of Besemkaree Koppies Shrubland (southern section) and Eastern Upper Karoo (northern section) vegetation. The condition of the site ranges from pristine to degraded and transformed areas. Transformed and degraded areas currently include farm roads, eroded and bare areas and areas with vegetation containing alien vegetation. Pristine areas include rivers and valleys, Koppies, and areas which primarily contain indigenous vegetation. The majority of	• Should the proposed Umsobomvu Development not be authorised, these portions of the site will remain largely undeveloped, however, the Umsobomvu WEF development is likely to still proceed in this area; and • Most of the adverse impacts associated with the proposed Umsobomvu Development are unlikely to occur if the proposed development is not authorised.	• Should the Umsobomvu Development not receive authorisation, the authorised Umsobomvu WEF is likely to be adversely impacted due to the need for the proposed Umsobomvu Development to supplement the construction and operation of the WEF.	**YES**	The No-Go Option has been assessed as an alternative to the proposed Umsobomvu Development. Should the Umsobomvu Development not receive EA, it is likely that the authorised Umsobomvu WEF (DFFE Reference No.: 14/12/16/3/3/2/730) and the authorised Umsobomvu Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2040) will still be constructed on the affected properties and surrounding properties.

ALTERNATIVE LEVEL	ALTERNATIVES	ADVANTAGES	DISADVANTAGES	REASONABLE & FEASIBLE	COMMENT
	the development footprints are classified as both CBA 1 and CBA 2 in terms of the Northern Cape and Eastern Cape CBA. The ecosystem threat status is "Least Threatened" in terms of the National Biodiversity Assessment (SANBI, 2018). The soils are classified as Lithic Leptosols. The primary land uses are currently livestock and wildlife grazing. The land cover within the affected properties includes, but is not limited to, natural grassland, herbaceous and fallow land wetlands, low shrubland, natural rock surfaces and other bare areas, open woodland, and fallow land and old fields according to the SA National Land Cover spatial data (DFFE, 2020).				In addition, the Coleskop WEF (DFFE Reference No.: 14/12/16/3/3/2/730/1/AM2) and the Coleskop Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2039), situated on the same- and surrounding properties, have been authorised and the Coleskop WEF has received preferred bidder status in the Renewable Energy IPP Procurement Programme (REIPPPP) Bid Window 5, as announced on the 28th of October 2021.

7. DESCRIPTION OF THE ENVIRONMENT

The criteria used to assess the sensitivity of the proposed Umsobomvu Development site included climate, South African Geology, SOTERSAF Soils, topography, vegetation (Mucina and Rutherford, 2018), surface water (NFEPA, 2011/14; and NBA, 2018), the Eastern Cape CBAs (ECBCP, 2019) and the Northern Cape CBAs (2016), National Land Cover (DFFE, 2020), protected areas and focus areas (SAPAD, 2021; SACAD, 2021; IBA, 2015; and NPAES Focus Areas 2010/2016), specialist findings and the National Screening Tool Report.

7.1 CLIMATE

Tables 7.1 and 7.2 indicate the climate data of Noupoort (Northern Cape Province) and Middelburg (Eastern Cape Province), the nearest towns to the proposed Umsobomvu Development site.

Noupoort, situated in the Northern Cape Province, has average monthly temperatures which range from 5.2° C in July to 20.6° C in January. On average, Noupoort receives the highest amount of precipitation/rainfall during the month of March and the lowest amount during the month of July (en.climate-data.org, 2018).

Table 7.1: Average Temperatures and Rainfall Data for Noupoort (Source: en.climate-data.org).

	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC
Avg. Temperature (°C)	20.6	19.9	17.6	13.6	9.6	5.5	5.2	7.8	11.6	14.7	17.1	19.5
Min. Temperature (°C)	12.2	12.2	10.3	6.2	2.3	-1.8	-2.4	-0.4	3.2	6.2	8.6	10.9
Max. Temperature (°C)	29	27.7	24.9	21	17	12.9	12.8	16.1	20.1	23.2	25.6	28.1
Precipitation / Rainfall (mm)	59	58	72	40	23	14	11	15	14	27	41	43

Middelburg, situated in the Eastern Cape Province, has average monthly temperatures which range from 8.2° C in June and July to 21.7° C in January. On average, Middelburg receives the highest amount of precipitation/rainfall during the month of March and the lowest amount during the month of July (en.climate-data.org, 2018).

Table 7.2: Average Temperatures and Rainfall Data for Middelburg (Source: en.climate-data.org).

	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC
Avg. Temperature (°C)	21.7	20.8	18.7	14.7	11.1	8.2	8.2	10.1	13.1	15.6	18.1	20.3
Min. Temperature (°C)	13.1	13	11.2	7.3	3.6	0.7	0.2	1.8	4.5	7	9.5	11.6
Max. Temperature (°C)	30.3	28.7	26.2	22.2	18.6	15.8	16.2	18.4	21.8	24.2	26.7	29.1
Precipitation / Rainfall (mm)	47	56	62	31	16	12	11	14	13	27	36	41

7.2 GEOLOGY AND SOILS

The proposed Umsobomvu Development site is underlain by mudstone and/or arenite of the Tarkastad Subgroup (Beaufort Group), as indicated in Figure 7.1. The Tarkastad Subgroup, within the Beaufort Group, consists of the Katberg Formation and the Burgersdorp Formation. The Katberg Formation is a sandstone-rich layer consisting of light brownish-grey to greenish-grey, fine-to medium-grained sandstones containing scattered pebbles of up to 15 cm in diameter. Oval to spherical calcareous concretions, 3-10 cm in diameter,

and intraformational mud-pellet conglomerates are also common. The alternating mudstone units are predominantly red in colour with reptile, amphibian and fish fossils occurring relatively common.

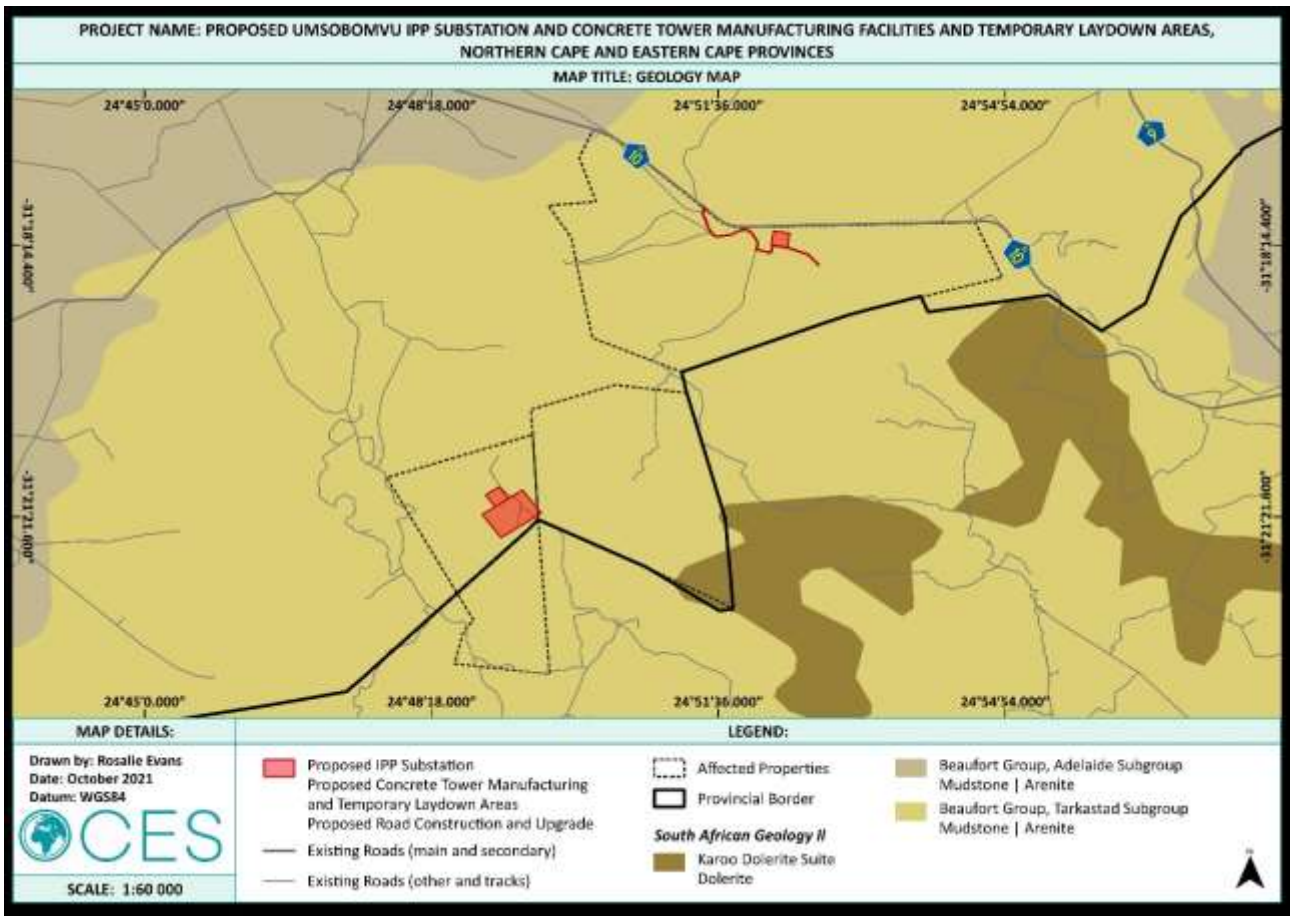

Figure 7.1: Geology Map of the Proposed Umsobomvu Development site.

The soils within the proposed Umsobomvu Development site primarily consist of shallow profiles with minimal development overlying rock. Steeper elevations consist of rock with minimal soil development grading into rocky outcrops. According to the World Reference Base (WRB), the international standard for soil classification system, the soils of the proposed site have been classified as Lithic Leptosols (LP-li). The WRB (2006) describes Leptosols as very shallow soils over continuous rock. These soils are usually extremely gravelly and/or stony, and the parent material consists of various types of continuous rock or of unconsolidated materials with less than 20 % fine earth (WRB, 2006). These soils generally occur in areas of high and/or medium altitude, with strongly dissected topographies.

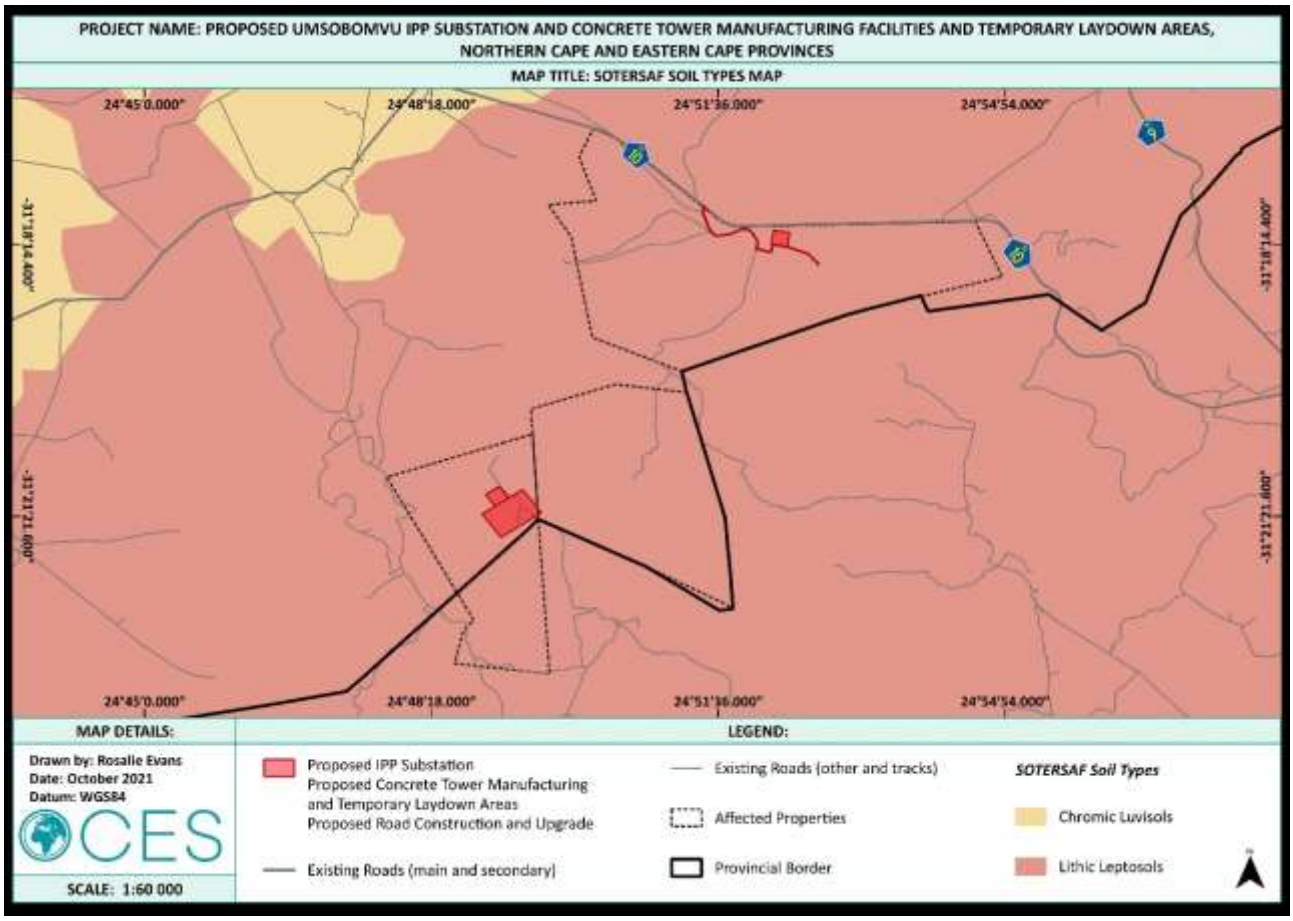

Figure 7.2: Soils Map of the Proposed Umsobomvu Development site.

7.3 TOPOGRAPHY

Figures 7.3(a-b) and 7.4(a-b) consist of Google Earth elevation profiles of the northern section (Figure 7.3) and southern section of the Umsobomvu Development site (Figure 7.4).

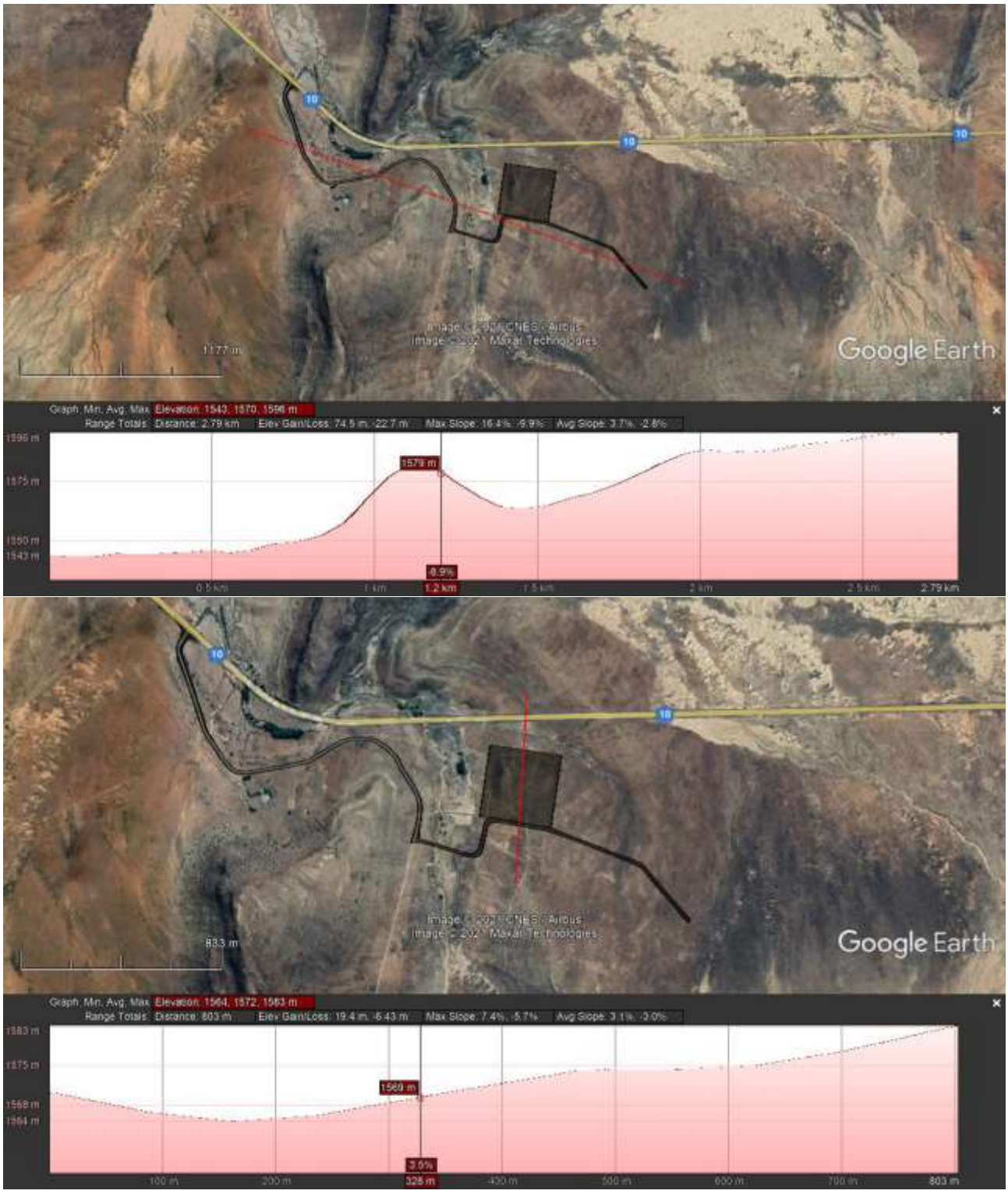

Figure 7.3: Google Earth Elevation Profiles of the northern section of the site (a – roughly east to west, and b – roughly north to south).

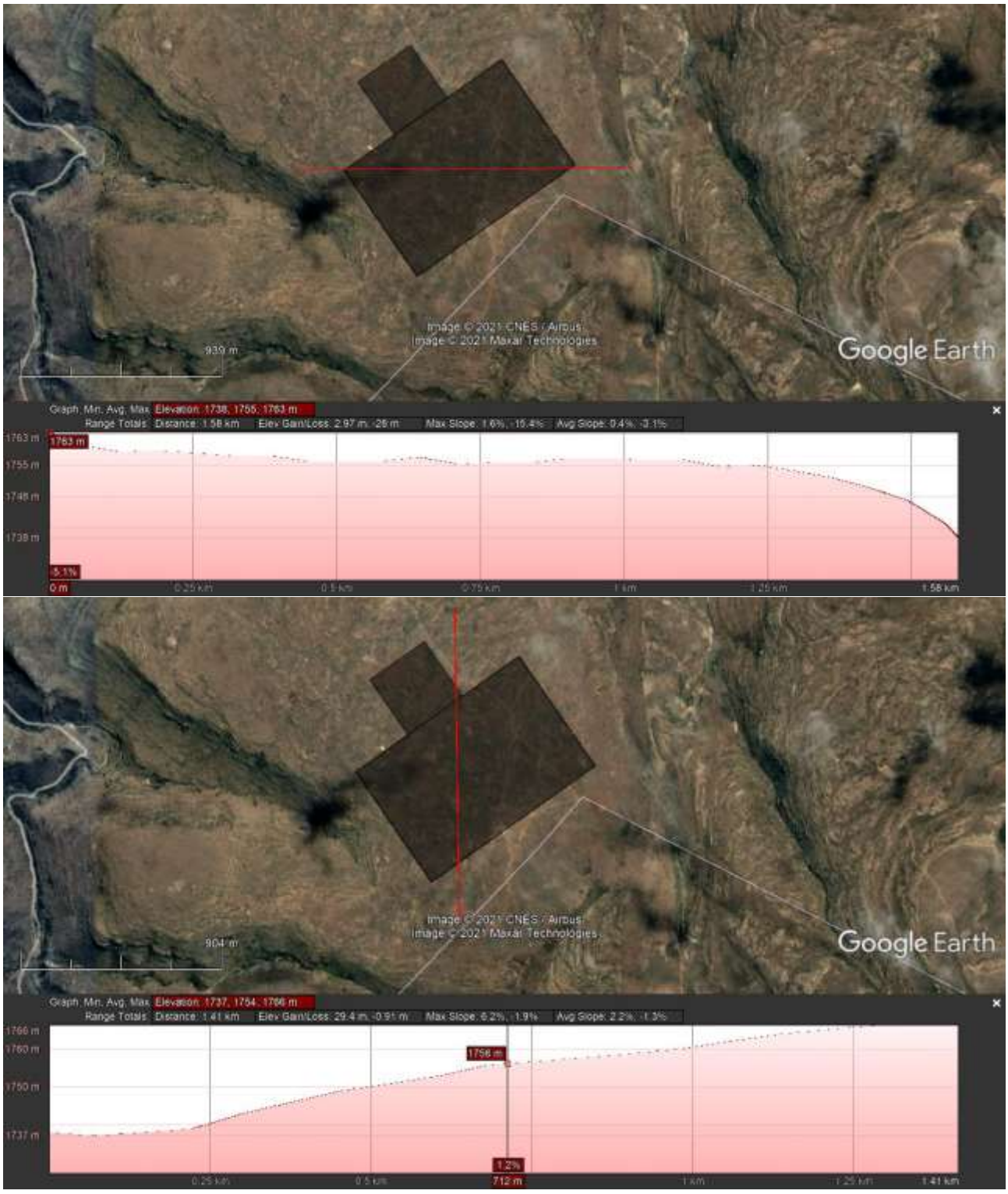

Figure 7.4: Google Earth Elevation Profiles of the southern section of the site (a – roughly east to west, and b – roughly north to south).

Figure 7.5 indicates the elevation of the proposed Umsobomvu Development site. The site elevation ranges between 1 560 m above Mean Sea Level (MSL) and 1 820 m above MSL.

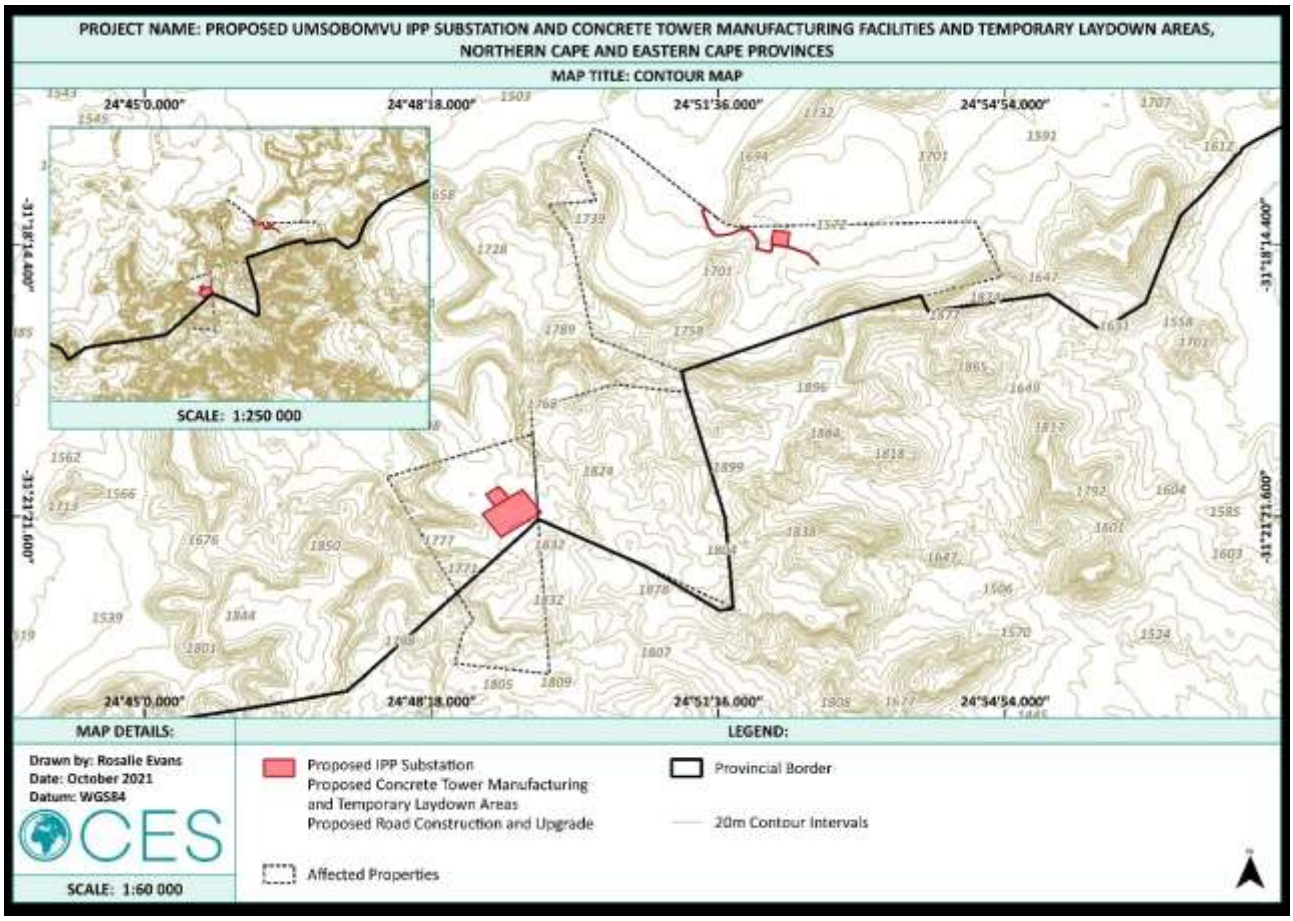

Figure 7.5: Contour Map of the Proposed Umsobomvu Development site.

7.4 VEGETATION

The South African National Biodiversity Institute (SANBI) classifies the vegetation, within the proposed Umsobomvu Development site, as Besemkaree Koppies Shrubland (light green in Figure 7.6) and Eastern Upper Karoo (green in Figure 7.6), according to the Mucina and Rutherford National Vegetation Map (2018).

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 cilliata, 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. According to the National Vegetation Map (Mucina and Rutherford, 2018), this vegetation type dominates the southern section of the proposed site and occurs on slopes and high lying areas of the ridges.

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 also classified as Least Threatened with a conservation target of 21%. A portion of this vegetation type has been conserved in the 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 northern section of the proposed site and will be impacted by the access road, and the northern CTMF and temporary laydown area.

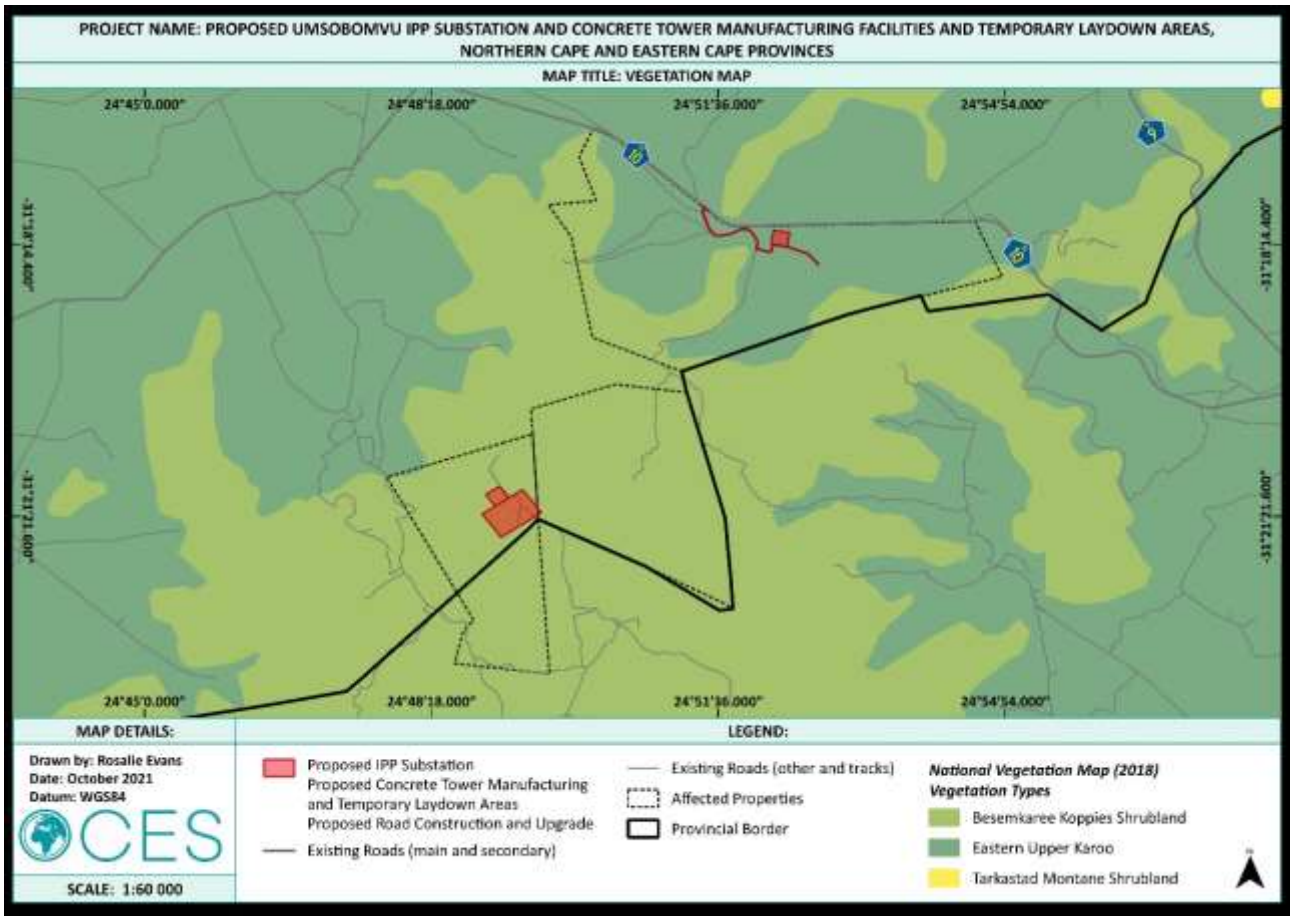

Figure 7.6: Vegetation Map of the Proposed Umsobomvu Development site.

7.5 SURFACE WATER

The affected properties of the proposed Umsobomvu Development site contain a number of watercourses and wetlands. The southern section of the proposed development is situated within the 100 m regulatory buffer of one watercourse, whereas the access road, CMTF and temporary laydown area in the northern section of the site traverses two watercourses and is within the 100 m regulatory of approximately six watercourses as well as within the 500 m regulatory buffer of a wetland (Figure 7.7). Water Use Authorisation (WUA) is required from the Department of Water and Sanitation (DWS) for the proposed Umsobomvu Development.

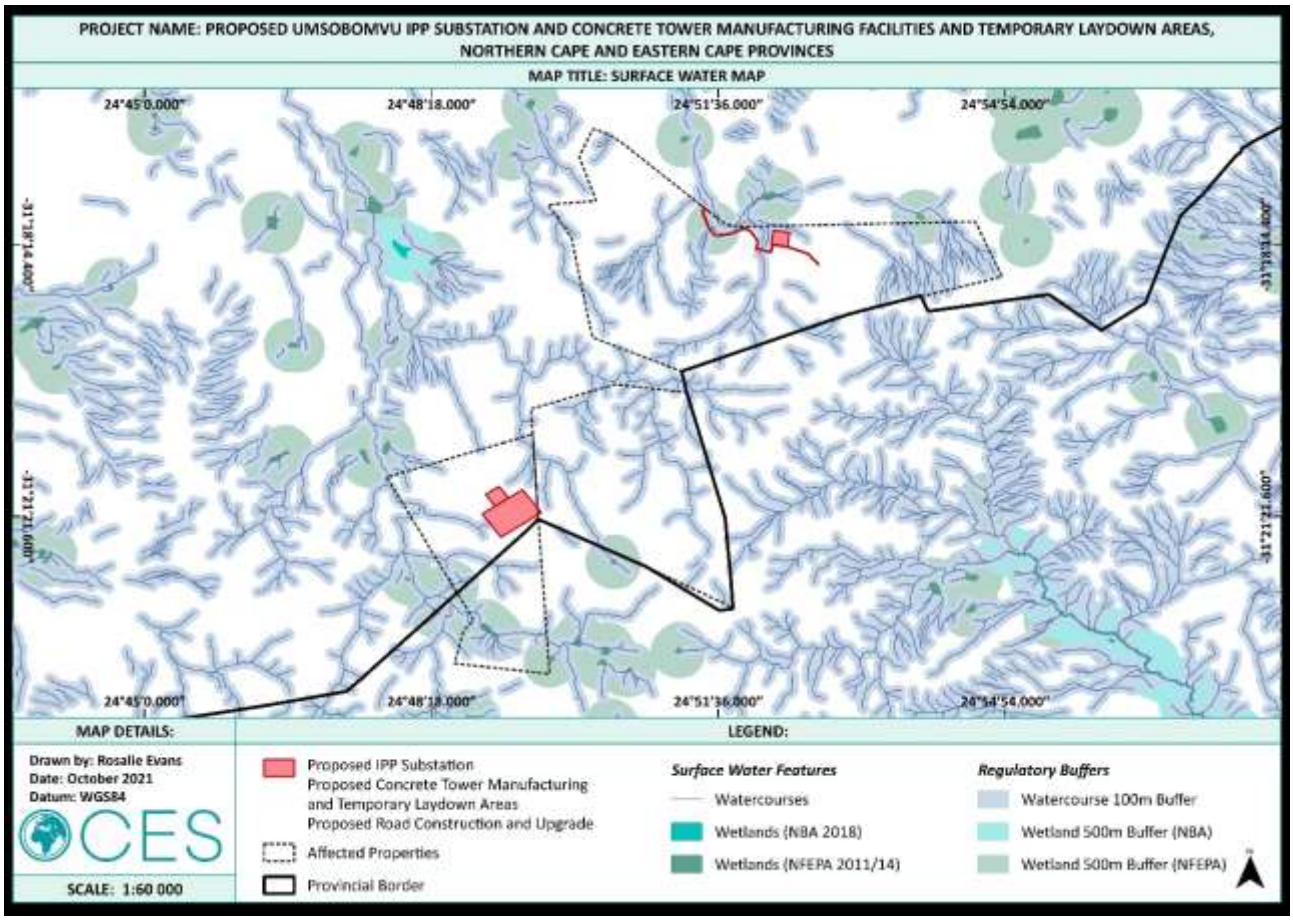

Figure 7.7: Surface Water Map of the Proposed Umsobomvu Development site.

7.6 NATIONAL LAND COVER

The South African National Land Cover (DFFE, 2020) classifies the land cover of the affected properties of the proposed Umsobomvu Development site as natural grassland, natural rock surfaces and other bare areas, low shrubland, fallow land and old fields, open woodland, commercial annuals, and herbaceous and fallow land wetlands (Figure 7.8). The proposed Umsobomvu Development site and surrounds are currently used for agricultural practices, particularly livestock grazing. In general, small livestock, such as sheep and goats are grazed in the high-lying areas, and cattle are grazed in the flat, lower-lying areas. Land uses on the surrounding properties include horse breeding and horse-riding shows, commercial farming and subsistence farming, breeding, and grazing of cattle, sheep and goats, livestock feeding crops (such as Lucerne), and fruit trees/orchards within the farmers' gardens.

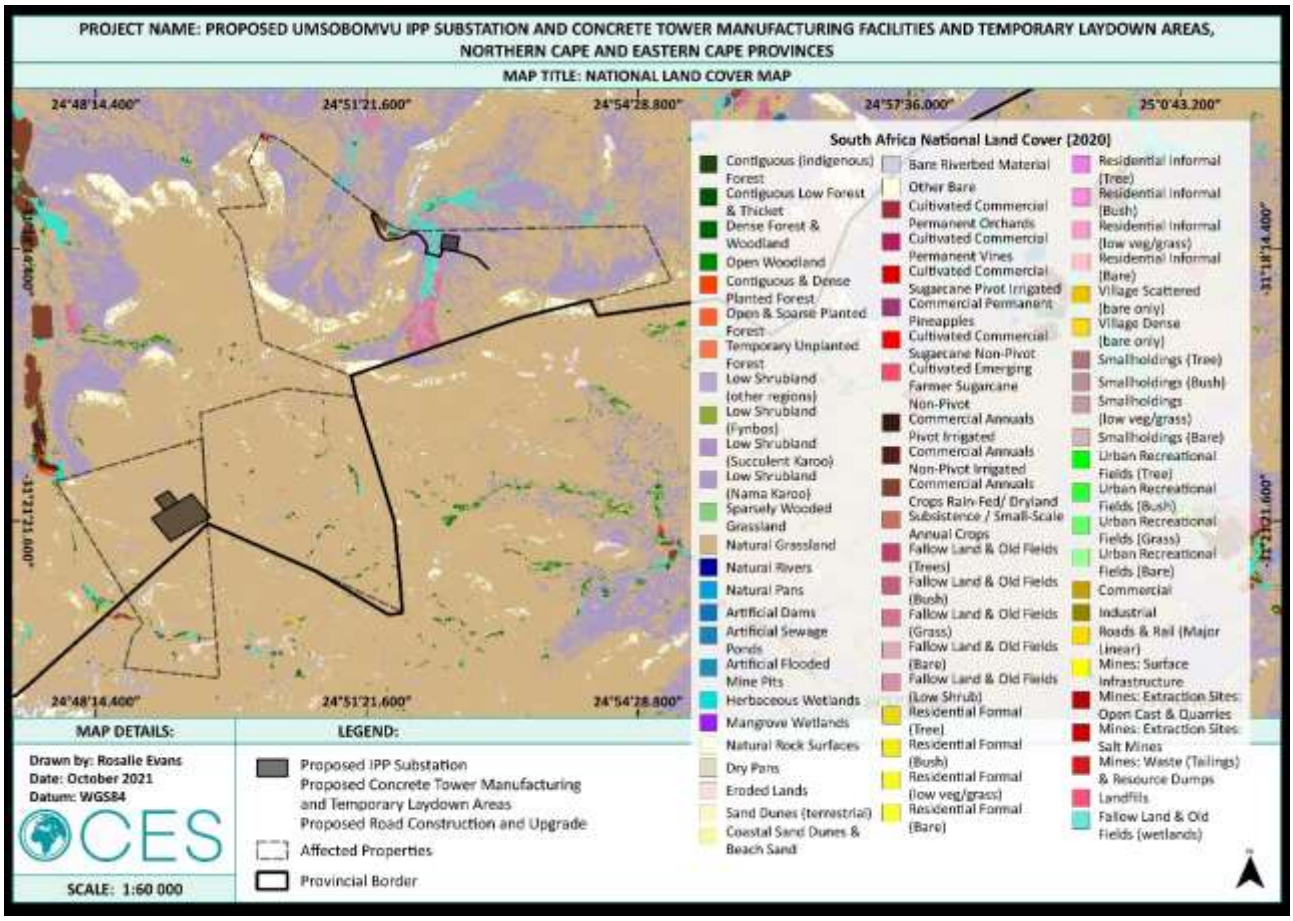

Figure 7.8: National Land Cover Map of the Proposed Umsobomvu Development site.

7.7 CRITICAL BIODIVERSITY AREAS

Eastern Cape Critical Biodiversity Areas

According to the Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019), the sections of the affected properties for the proposed Umsobomvu Development, including more than half of the proposed IPP substation, which are located within the Eastern Cape Province fall within Terrestrial Critical Biodiversity Area (CBA) 2, as indicated in Figure 7.9 on the following page. In addition, the affected properties include Ecological Support Area (ESA) 1 in terms of the ECBCP Aquatic CBAs (2019), however, none of the proposed infrastructure is situated within an ESA nor CBA in terms of the ECBCP Aquatic CBAs (2019), as indicated in Figure 7.10.

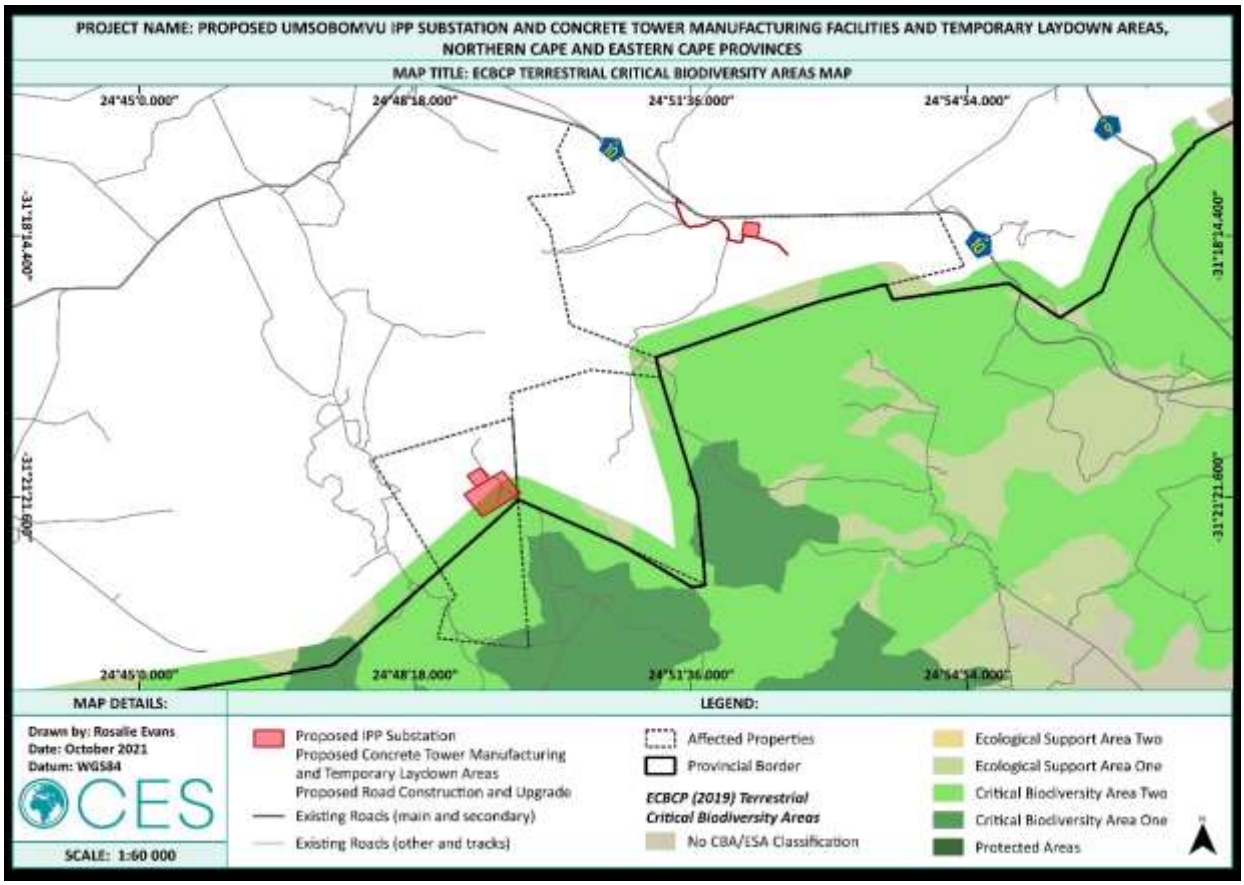

Figure 7.9: ECBCP (2019) Terrestrial CBA Map of the Proposed Umsobomvu Development site.

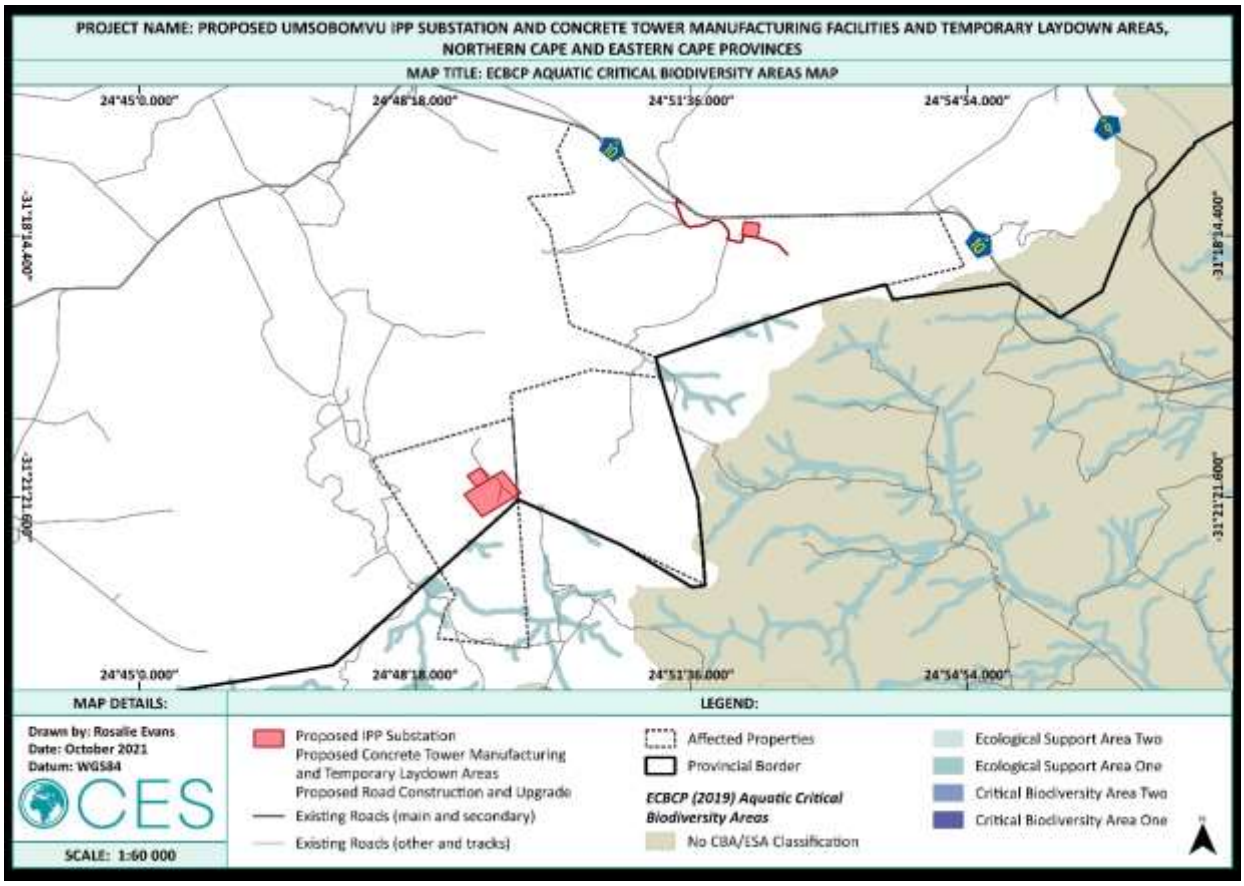

Figure 7.10: ECBCP (2019) Aquatic CBA Map of the Proposed Umsobomvu Development site.

Northern Cape Critical Biodiversity Areas

According to the Northern Cape Biodiversity Plan (2016), the proposed Umsobomvu Development site and associated infrastructure footprints occur within areas classified as CBA 1 and CBA 2, as indicated in Figure 7.11. The proposed road construction and road upgrade, the CTMF and the temporary laydown area in the northern section of the site are classified as CBA 2, whereas the southern section of the site, which includes the proposed IPP substation, distribution substation, O&M building and OHLs of up to 500 m 132 kV, is primarily classified as CBA 2 with the lower sections classified as CBA 1.

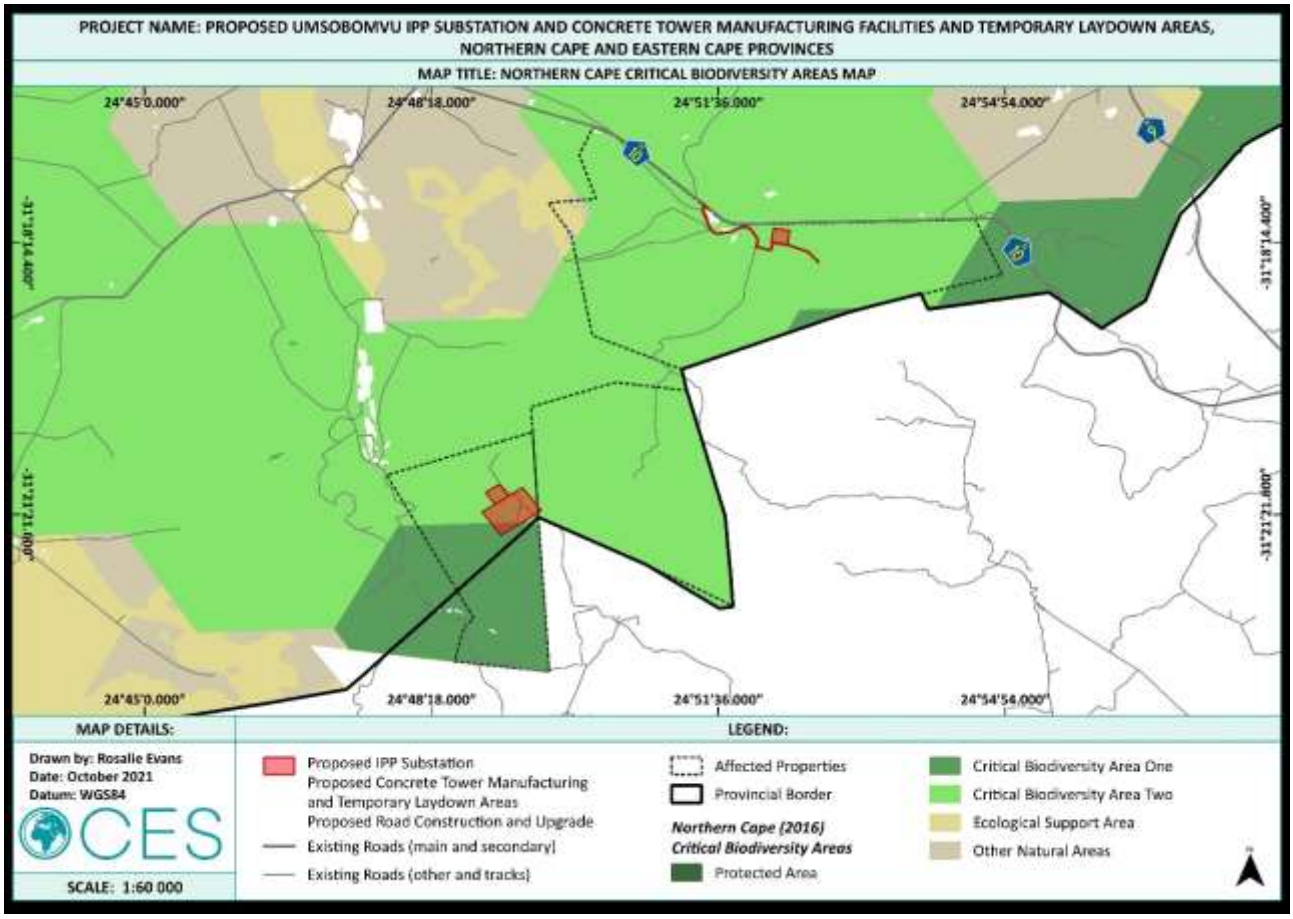

Figure 7.11: Northern Cape DENC (2016) CBA Map of the Proposed Umsobomvu Development site.

7.8 ARCHAEOLOGICAL AND CULTURAL HERITAGE SENSITIVITY

As per the Heritage Survey (Umlando: Archaeological Surveys and Heritage Management, 2013 - 2021), the proposed road construction and upgrade is likely to impact a recorded stone knapping site (UMZ026), as indicated in Figure 7.13. Other recorded heritage sites, including the farm Winterhoek and the related stone walled kraal, will not be affected. The section below contains a description of the recorded stone knapping site (UM026) which was identified by the heritage specialist in September 2021.

> *"UMZ026 is a new site located near the N10. The site appears to be a stone tool knapping site that extends for about 30 m around a hornfels outcrop. The outcrop overlooks the top of a small kloof on the opposite side of the N10. UMZ026 was noted due to the recent fire clearing the undergrowth. I* [the Heritage Specialist] *had previously noted a few tools in the track and thought of them as part of the colluvial deposits of the general area. However, the fire shows that it is restricted to a small area and related to the hornfels outcrop.*
>
> *The stone tools consists of MSA cores, various (utilized) flakes and points (spear heads). Several of these MSA flakes have been re-utilised in the LSA.*

The site was originally not going to be affected; however, the new access road has been proposed. This access road will go through most of the site.

Significance: The knapping area is of low-medium significance. Several have been reported by Sampson (1985) in the general area, e.g. SAM1 (see Anderson 2014).
Mitigation: The site should be sampled and photographed if the access road affects it. A permit to damage this site will be required.
SAHRA Rating: 3B"

Figure 7.12: Heritage Sensitivity of the Southern Section of the Site.

Figure 7.13: Heritage Sensitivity of the Northern Section of the Site.

7.9 PALAEONTOLOGICAL SENSITIVITY

As per the Palaeontological Survey (Natura Viva cc, 2015 - 2021), the Palaeontological Specialist indicated that site visits to both ancillary infrastructure project areas indicate that bedrock exposure is poor in both cases due to extensive cover by superficial deposits (sandy soils, surface gravels) as well as grassy vegetation. Good exposures of potentially fossilferous overbank mudrocks are rare while the bedrocks in general have been intensely baked by nearby dolerite intrusion as well as affected by geologically recent karstic (solution) weathering, compromising any fossils originally preserved within them. The only undoubted fossil recorded here is an isolated, poorly preserved postcranial bone of a small tetrapod that is of low scientific or conservation value. No fossil material was recorded from the Late Caenozoic superficial sediments covering most of the Katberg Formation outcrop area. It is concluded that both of the project areas are in practice of LOW palaeosensitivity; Very High sensitivities indicated here by the National Screening Tool are therefore *contested*.

Southern Project Area

No indubitable fossil remains were recorded within the bedrocks or superficial sediments inside the southern project area during the recent site visit. Potentially fossiliferous mudrock units are not well-exposed at surface here. Any reworked bones and teeth originally preserved within the calcrete-rich channel breccias will probably have been dissolved away as a consequence of dolerite intrusion. A sinuous, 2 cm wide subhorizontal structure observed within baked sandstones well outside (350 m SE) of the project area might be a burrow cast but this remains equivocal, and the structure is provisionally regarded as a pseudofossil. Likewise, the silicified concretions seen within many of the baked sandstones might be mistaken for fossil plant stem or root casts but they are actually sphaeroidal in geometry. It is concluded that the southern project area is generally of LOW palaeosensitivity.

Northern Project Area

The only fossil remains recorded within the northern project area include a single, isolated bone – baked white and largely preserved as a mould – which may be the scapula of a small-bodied tetrapod, probably a therapsid. This isolated, poorly preserved vertebrate fossil is not of high scientific or conservation significance (Proposed Field Rating IIIC. Local Resource) and no mitigation is proposed in regard to this site. No fossils were observed within the Late Caenozoic superficial deposits (alluvium, surface gravels, soils *etc*). It is concluded that the northern project area is generally of LOW palaeosensitivity.

Potential impacts on palaeontologically sensitive areas during the construction phase can be at least partially mitigated through implementation of a Chance Fossil Finds Procedure, as outlined in Appendix 1 of the Site Sensitivity Verification Report: Palaeontological Heritage (Natura Viva, October 2021).

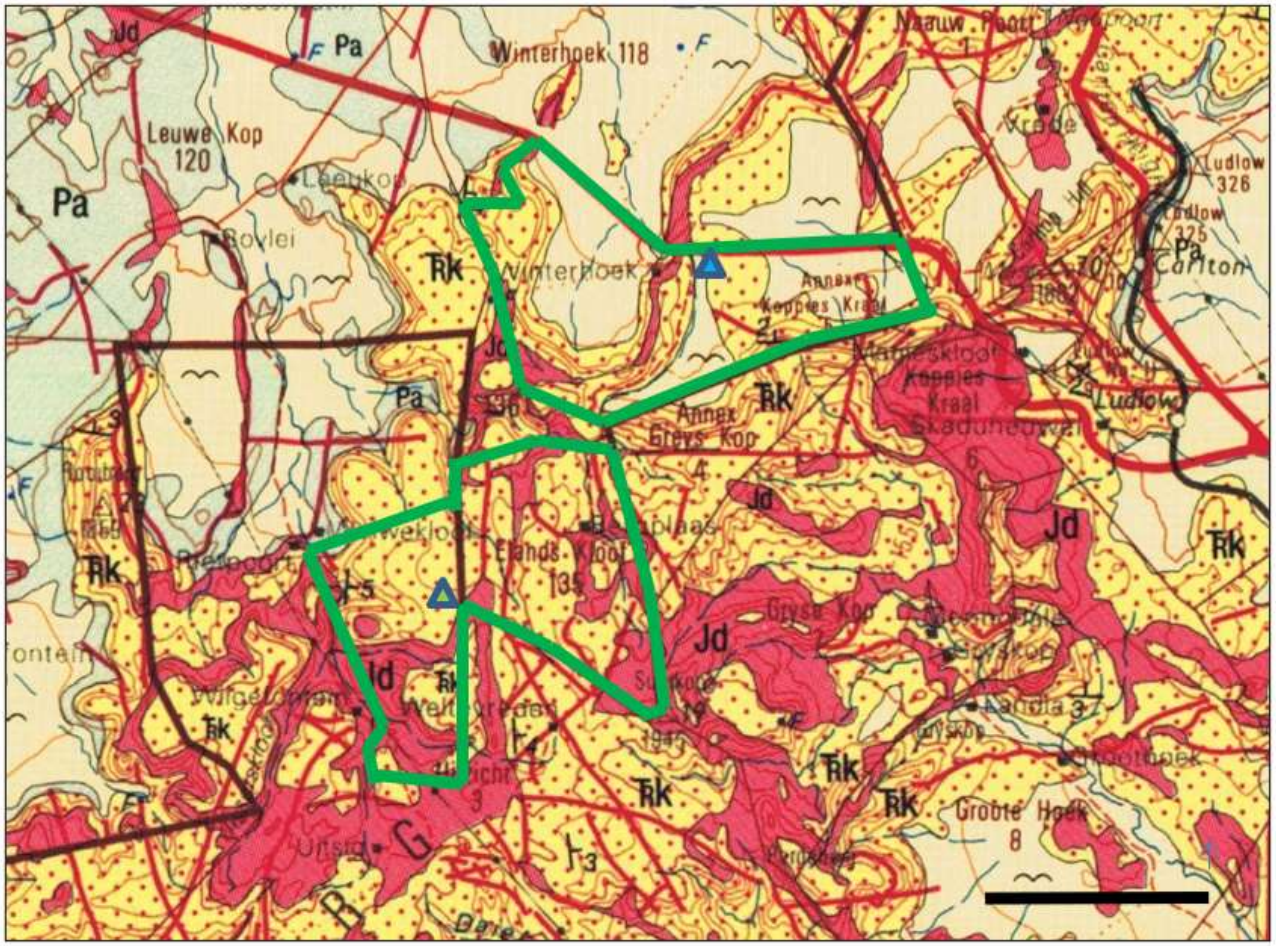

Figure 7.14: *Palaeontological Sensitivity of the Proposed Site.

** Extract from 1: 250 000 geology sheet 3124 Middelburg (Council for Geoscience, Pretoria) showing the approximate outline of the two ancillary infrastructure project areas in the Klein-Renosterberg region to the northwest of Middelburg, Northern and Eastern Cape (green and blue rectangles). Scale bar = 4 km. N towards the top of the map. The main geological units represented here are: Pa (pale blue-green) = Late Permian to Earliest Triassic Adelaide Subgroup (Lower Beaufort Group, Karoo Supergroup); TRk (pale orange with red dots) = Early Triassic Katberg Formation of the Tarkastad Subgroup (Upper Beaufort Group, Karoo Supergroup); Jd (red) = intrusive sills and dykes of the Early Jurassic Karoo Dolerite Suite. Pale yellow areas with "flying bird" symbol = Quaternary to Recent alluvium. N.B. Other Caenozoic superficial deposits such as colluvium (scree etc), soils and surface gravels are not mapped at this scale.*

7.10 NATIONAL SCREENING TOOL SENSITIVITY CLASSIFICATION (2021)

	SCREENING TOOL RECOMMENDED SPECIALIST ASSESSMENT	SCREENING TOOL THEMES	SENSITIVITY CLASSIFICATION OF THEME – WHOLE DEVELOPMENT	SENSITIVITY CLASSIFICATION OF THEME – SUBSTATIONS	SENSITIVITY CLASSIFICATION OF THEME – POWERLINE	SPECIALIST INPUT OBTAINED YES/NO	MOTIVATION
	ACTIVITY CLASSIFICATION:		TRANSFORMATION OF LAND | INDIGENOUS VEGETATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | SUBSTATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | POWERLINE		
1.	Agricultural Impact Assessment	Relative Agriculture Theme	High	Medium	Medium	**NO**	An Agriculture and Soil Impact Assessment was undertaken for the larger Umsobomvu WEF site in 2014-2015 and in 2019. The overall impact assessment significance was rated as low negative. *"All the identified impacts on agriculture are considered to have high reversibility because the land will be able to be returned to agriculture after closure, with very little change in agricultural potential. Impacts on agriculture are also considered to have low irreplaceability of resource loss due to: (1) the small area of land involved; (2) the low suitability for crops; (3) the fact that it is highly unlikely to be irreplaceably lost to agriculture; and (4) the low to medium agricultural potential of the site."* The loss of land with agricultural potential has been assessed in this report. In addition, a number of Agricultural Associations and Unions in the area have been registered as Stakeholders on the project.
2.	Landscape/Visual Impact Assessment		Not Rated		Not Rated	**NO**	A Visual Impact Assessment was undertaken for the larger Umsobomvu WEF site in 2014-2015 and in 2019. The overall significance of the visual impact of the larger Umsobomvu WEF site was classified as moderately negative. The potential visual and aesthetic impacts have been assessed in this report.
3.	Archaeological and Cultural Heritage Impact Assessment	Relative Archaeological and Cultural Heritage Theme	High	Low	Low	**YES**	The assessment of the Archaeological and Cultural Heritage Resources has been included in the Heritage Assessment Statement, which was prepared by a suitably qualified Heritage Specialist.
4.	Palaeontology Impact Assessment	Relative Palaeontology Theme	Very High	Very High	Very High	**YES**	The assessment of the Palaeontological Heritage has been included in the Site Sensitivity Verification Report: Palaeontological Heritage, which was prepared by a suitably qualified Palaeontological Specialist.

	SCREENING TOOL RECOMMENDED SPECIALIST ASSESSMENT	SCREENING TOOL THEMES	SENSITIVITY CLASSIFICATION OF THEME – WHOLE DEVELOPMENT	SENSITIVITY CLASSIFICATION OF THEME – SUBSTATIONS	SENSITIVITY CLASSIFICATION OF THEME – POWERLINE	SPECIALIST INPUT OBTAINED YES/NO	MOTIVATION
		ACTIVITY CLASSIFICATION:	TRANSFORMATION OF LAND | INDIGENOUS VEGETATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | SUBSTATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | POWERLINE		
5.	Terrestrial Biodiversity Impact Assessment	Relative Terrestrial Biodiversity Theme	Very High	Very High	Very High	**YES**	The assessment of the Terrestrial Biodiversity has been included in the Ecological Impact Assessment Report, which was prepared by suitably qualified Botanical and Faunal Specialists.
6.	Aquatic Biodiversity Impact Assessment	Relative Aquatic Biodiversity Theme	Low	Low	Low	**NO**	Due to the low sensitivity rating, an Aquatic Biodiversity Assessment has not been included in this BA Process. However, water use authorisation is required in terms of the National Water Act (Act No. 36 of 1998, as amended) and an Aquatic Biodiversity Assessment may be required as part of the water use application process.
7.	Avian Impact Assessment	Relative Animal Species Theme	High (Animal Species Theme)	High (Animal Species Theme)	High (Animal Species Theme)	**YES**	The assessment of the Avifauna (rated as part of the Animal Species Theme) has been included in the Avifaunal Statement, which was prepared by a suitably qualified Avifaunal Specialist.
8.	Socio-Economic Assessment		Not Rated	Not Rated	Not Rated	**NO**	A Social Impact Assessment was undertaken for the larger Umsobomvu WEF site in 2014-2015 and in 2019. The Socio-Economic Specialist indicated that *"with proper management of the impacts through the recommended mitigation measures the overall socio-economic impact* [of the Umsobomvu WEF development] *will be positive."* The overall significance of the social impact of the larger Umsobomvu WEF site was classified as moderately beneficial. The potential socio-economic impacts have been assessed in this report.
9.	Plant Species Assessment	Relative Plant Species Theme	Low	Low	Low	**YES**	The assessment of the Plant Species forms part of the Ecological Impact Assessment, which was undertaken by a suitably qualified Botanical Specialist.
10.	Animal Species Assessment	Relative Animal Species Theme	High	High	High	**YES**	The assessment of the Animal Species forms part of the Ecological Impact Assessment, which includes an assessment and input by a suitably qualified Faunal Specialist.
11.	Civil Aviation Assessment	Relative Civil Aviation Theme	Low	Low	Low	**NO**	Although the National Screening Tool Report (2021) classifies the potential sensitivity of the site in terms of the Relative Civil Aviation Theme as low, the Civil

	SCREENING TOOL RECOMMENDED SPECIALIST ASSESSMENT	SCREENING TOOL THEMES	SENSITIVITY CLASSIFICATION OF THEME – WHOLE DEVELOPMENT	SENSITIVITY CLASSIFICATION OF THEME – SUBSTATIONS	SENSITIVITY CLASSIFICATION OF THEME – POWERLINE	SPECIALIST INPUT OBTAINED YES/NO	MOTIVATION
		ACTIVITY CLASSIFICATION:	TRANSFORMATION OF LAND | INDIGENOUS VEGETATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | SUBSTATION	UTILITIES INFRASTRUCTURE | ELECTRICITY | DISTRIBUTION AND TRANSMISSION | POWERLINE		
							Aviation Authority (CAA) is a registered Stakeholder on the project. In addition, the CAA has been a registered Stakeholder on the Stakeholder and I&AP Database since the original Umsobomvu WEF (DFFE Reference No.: 14/12/16/3/3/2/730), on the proposed Umsobomvu WEF split into Umsobomvu WEF, Coleskop WEF (DFFE Reference No.: 14/12/16/3/3/2/730/1/AM2) and Eskom Infrastructure MTS (DFFE Reference No.: 14/12/16/3/3/2/730/2), the Umsobomvu Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2040), and the Coleskop Infrastructure Development (DFFE Reference No.: 14/12/16/3/3/1/2039). No sensitivities have been flagged by the CAA and no objections have been received from the CAA for development within this area to date.
12.	RFI Assessment				Not Rated	**NO**	The RFI Themed Sensitivity has not been rated for the proposed site in any of the National Screening Tool Reports (whole site, substations or powerline).
13.		Relative Defence Theme	Low	Low	Low	**NO**	The Defence Themed Sensitivity has been rated as low for the proposed site in all of the National Screening Tool Reports (whole site, substations or powerline).
14.	Geotechnical Assessment			Not Rated	Not Rated	**NO**	Although a Geotechnical Assessment has not been undertaken as part of this BA Process, a Geotechnical Assessment will be undertaken for this site, as part of the Umsobomvu WEF, prior to the commencement of construction.

8. IMPACT ASSESSMENT

8.1 CES ASSESSMENT METHODOLOGY

8.1.1 Pre-Mitigation Evaluation Criteria

This rating scale adopts four (4) key factors to determine the overall significance of the impact prior to mitigation:

1. **Temporal Scale**: This scale defines the duration of any given impact over time. This may extend from the short-term (less than 5 years, equivalent to the construction phase) to permanent. Generally, the longer the impact occurs the greater the significance of any given impact.
2. **Spatial Scale:** This scale defines the spatial extent of any given impact. This may extend from the local area to an impact that crosses international boundaries. The wider the impact extends, the more significant it is likely to be.
3. **Severity/Benefits Scale:** This scale defines how severe negative impacts would be, or how beneficial positive impacts would be. This negative/positive scale is critical in determining the overall significance of any impacts.
4. **Likelihood Scale:** This scale defines the risk or chance of any given impact occurring. While many impacts generally do occur, there is considerable uncertainty in terms of others. The scale varies from unlikely to definite, with the overall impact significance increasing as the likelihood increases.

For each impact, these four (4) scales are ranked and assigned a score. These scores are combined and used to determine the overall impact significance of the potential impacts associated with the Umsobomvu Development prior to the implementation of the recommended mitigation measures and management actions.

Table 8.1: Pre-Mitigation Evaluation Criteria.

TEMPORAL SCALE		
Short-term	Less than 5 years	
Medium-term	Between 5-20 years	
Long-term	Between 20 and 40 years (a generation) and from a human perspective also permanent	
Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there	
SPATIAL SCALE		
Localised	At localised scale and a few hectares in extent	
Study Area	The proposed site and its immediate environs	
Regional	District and Provincial level	
National	Country	
International	Internationally	
SEVERITY SCALE	SEVERITY	BENEFIT
Slight	Slight impacts on the affected system(s) or party(ies)	Slightly beneficial to the affected system(s) and party(ies)
Moderate	Moderate impacts on the affected system(s) or party(ies)	Moderately beneficial to the affected system(s) and party(ies)
Severe/ Beneficial	Severe impacts on the affected system(s) or party(ies)	A substantial benefit to the affected system(s) and party(ies)
Very Severe/ Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) and party(ies)
LIKELIHOOD SCALE		
Unlikely	The likelihood of these impacts occurring is slight	
May Occur	The likelihood of these impacts occurring is possible	
Probable	The likelihood of these impacts occurring is probable	
Definite	The likelihood is that this impact will definitely occur	

Table 8.2: Significance Descriptions.

SIGNIFICANCE RATE		DESCRIPTION
LOW NEGATIVE	LOW POSITIVE	*Impacts of low significance are typically acceptable impacts for which mitigation is desirable but not essential. The impact by itself is insufficient, even in combination with other low impacts, to prevent the development being approved. These impacts will result in negative medium to short term effects on the natural environment or on social systems.*
MODERATE NEGATIVE	MODERATE POSITIVE	*Impacts of moderate significance are impacts that require mitigation. The impact is insufficient by itself to prevent the implementation of the project but in conjunction with other impacts may prevent its implementation. These impacts will usually result in a negative medium to long-term effect on the natural environment or on social systems.*
HIGH NEGATIVE	HIGH POSITIVE	*Impacts that are rated as being high are serious impacts and may prevent the implementation of the project if no mitigation measures are implemented, or the impact is very difficult to mitigate. These impacts would be considered by society as constituting a major and usually long-term change to the environment or social systems and result in severe effects.*
VERY HIGH NEGATIVE	VERY HIGH POSITIVE	*Impacts that are rated as very high are very serious impact which may be sufficient by itself to prevent the implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects or very beneficial effects.*

8.1.2 Post-Mitigation Criteria

Once mitigation measures are proposed, the following three (3) factors are then considered to determine the overall significance of the impact after mitigation.

1. **Reversibility Scale**: This scale defines the degree to which an environment can be returned to its original/partially original state.
2. **Irreplaceable loss Scale:** This scale defines the degree of loss which an impact may cause.
3. **Mitigation potential Scale:** This scale defines the degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

Table 8.3: Post-Mitigation Criteria.

REVERSIBILITY	
Reversible	*The activity will lead to an impact that can be reversed provided appropriate mitigation measures are implemented.*
Irreversible	*The activity will lead to an impact that is permanent regardless of the implementation of mitigation measures.*
IRREPLACEABLE LOSS	
Resource will not be lost	*The resource will not be lost/destroyed provided mitigation measures are implemented.*
Resource will be partly lost	*The resource will be partially destroyed even though mitigation measures are implemented.*
Resource will be lost	*The resource will be lost despite the implementation of mitigation measures.*
MITIGATION POTENTIAL	
Easily achievable	*The impact can be easily, effectively and cost effectively mitigated/reversed.*
Achievable	*The impact can be effectively mitigated/reversed without much difficulty or cost.*
Difficult	*The impact could be mitigated/reversed but there will be some difficultly in ensuring effectiveness and/or implementation, and significant costs.*
Very Difficult	*The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.*

The following assumptions and limitations are inherent in the rating methodology:

→ **Value Judgements**: Although this scale attempts to provide a balance and rigor to assessing the significance of impacts, the evaluation relies heavily on the values of the person making the judgment.

For this reason, impacts of especially a social nature need to reflect the values of the affected society.

- → **Cumulative Impacts**: These affect the significance rating of an impact because it considers the impact in terms of both onsite and off-site sources. This is particularly problematic in terms of impacts beyond the scope of the proposed development and the BA. For this reason, it is important to consider impacts in terms of their cumulative nature.
- → **Seasonality**: Certain impacts will vary in significance based on seasonal change. Thus, it is difficult to provide a static assessment. Seasonality will need to be implicit in the temporal scale and, with management measures being imposed accordingly (e.g. dust suppression measures being implemented during the dry season).

8.2 IDENTIFICATION OF GENERAL AND SPECIALIST IMPACTS AND ASSESSMENT

The overall impacts associated with the current layout (Preferred Layout Alternative) of the proposed Umsobomvu Development as well as the "no-go alternative" have been assessed to evaluate the significance of the "as predicted" impacts (prior to mitigation) and the "residual" impacts (that remain after mitigation measures have been implemented).

PLANNING AND DESIGN PHASE

IMPACT 1: COMPLIANCE WITH RELEVANT LEGISLATION

Cause and Comment: *Preferred Alternative:* 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.
No-Go Alternative: The no-go alternative will not require authorisation or permitting.

Mitigation Measures:

- → Activities, which trigger listed activities in terms of the NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014, and subsequent amendments), must not commence prior to receipt of an EA from the national DFFE.
- → All identified water uses in terms of Section 21 of the NWA (Act No. 36 of 1998, as amended) must not commence prior to receipt of the necessary water use authorisation(s) from the DWS.
- → 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.
- → A suitably qualified Environmental Control Officer (ECO) must be appointed prior to the commencement of the construction phase to monitor compliance with the conditions of all the relevant permits and authorisations.
- → All phases of the Umsobomvu Development must comply with the relevant municipal by-laws and should consider the available best practice guidelines.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Long-Term	Regional/ National	Severe	May Occur	**HIGH NEGATIVE (-)**	Reversible	Resource could be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

CONSTRUCTION PHASE

IMPACT 2: INCREASE IN AIR EMISSIONS (SUCH AS DUST)

Cause and Comment: *Preferred Alternative:* 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.
No-Go Alternative: The no-go alternative will not result in an increase in air emissions in the form of dust.

Mitigation Measures:

- → Exhaust emissions from construction vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.
- → Vegetation clearance must be limited to the approved and demarcated development footprints.
- → If fine building materials, such as sand, are to be transported on the back of trucks, they must be adequately covered.

→ Excavations and other clearing activities must only be done during the agreed-upon working hours and on the agreed-upon days.
→ A speed limit of 40 km per hour must not be exceeded on gravel roads.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Localised	Moderate	Probable	**LOW NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 3: INCREASE IN NOISE LEVELS

Cause and Comment: *Preferred Alternative:* Noise will be created on the site during the construction phase due to the operation of construction equipment, noise generated by construction vehicles both onsite and during travel to and from the site, and noise generated by the construction workers which are all likely to result in an increase in localised noise levels which could potentially be a nuisance to individuals in proximity to the site.
No-Go Alternative: The no-go alternative will not result in an increase in noise levels.

Mitigation Measures:

→ All construction vehicles must be in sound working order and meet the necessary noise level requirements.
→ All relevant municipal by-laws, with regards to noise control, must apply.
→ Construction workers must not make use of portable radios, vehicle radios, whistles, and other items which generate excessive noise, while they are on the construction site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Localised	Slight	Probable	**LOW NEGATIVE (-)**	Reversible	Resource will not be lost	Easily Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 4: STORMWATER MANAGEMENT

Cause and Comment: *Preferred Alternative:* Sediment is likely to be created during the construction phase of the Umsobomvu 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.
No-Go Alternative: The no-go alternative will not result in the need for stormwater management.

Mitigation Measures:

→ A Stormwater Management Plan must be compiled and implemented during the construction phase.
→ Vegetation must be retained, where possible, to avoid soil erosion.
→ Where necessary along the proposed road upgrade and the new section of road, suitable culverts must be installed at water crossings.
→ If slopes are cleared during construction, they must be rehabilitated as soon as possible to minimise soil erosion losses.
→ Construction activities must be demarcated, with vegetation clearing and topsoil removal (if required) limited to these areas.

→ Stockpiled materials must not be stored within 100 m of a watercourse.
→ 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.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Medium-Term	Localised	Moderate	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 5: SITE CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES

Cause and Comment: *Preferred Alternative:* 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.
No-Go Alternative: The no-go alternative will not result in the storage or handling of hazardous substances within the site.

Mitigation Measures:

→ Fuels and hazardous materials must not be stored within 100 m of a watercourse.
→ All hazardous substances, including fuel, oil, and cement, must be stored in a bunded area.
→ The recommendations of the Stormwater Management Plan must be implemented throughout the construction phase.
→ Spill kits must be readily available onsite throughout the construction phase.
→ Drip trays must be placed under all stationary plant.
→ If a spill occurs on a permeable surface (such as soil), a spill kit must be used to reduce the potential spread of the spill immediately. The spill must be remedied to the satisfaction of the ECO.
→ If a spill occurs on an impermeable surface (such as concrete), the surface spill must be contained using oil absorbent materials. The spill must be remedied to the satisfaction of the ECO.
→ 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.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Medium-Term	Localised	Moderate	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 6: LOSS OF RIPARIAN VEGETATION

Cause and Comment: *Preferred Alternative:* During the construction phase, the upgrade of the existing roads and the construction of new sections of road are likely to require the removal of riparian vegetation, which will have adverse effects on the associated aquatic ecosystems.

No-Go Alternative: The no-go alternative will not result in the loss of riparian vegetation.

Mitigation Measures:

- → The removal of riparian vegetation must take place under the supervision of the ECO and must be demarcated prior to removal. The clearance of riparian vegetation should be restricted to the amount required for the upgrade of the existing roads and the construction of the new sections of road.
- → Where necessary along the proposed road upgrade and the new section of road, suitable culverts must be installed at water crossings.
- → The removal of the alien invasive vegetation must be prioritised.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Long-Term	Localised	Severe	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 7: FIRE RISK

Cause and Comment: *Preferred Alternative:* The proposed construction of the Umsobomvu 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.

No-Go Alternative: The risk of fires, particularly during the drier months, exists in the absence of the proposed Umsobomvu Development.

Mitigation Measures:

- → Open fires must not be permitted within the proposed Umsobomvu Development site during the construction phase.
- → Smoking must be restricted to designated smoking areas which have easy access to firefighting equipment.
- → The Contractor, or the appointed fire marshal, must take all reasonable steps to prevent the accidental occurrence of fires and the spreading of fires.
- → The Contractor, or the appointed fire marshal, must ensure that there is adequate firefighting equipment available onsite throughout the construction phase.
- → The Contractor, 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 must ensure that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Short-Term	Study Area	Severe	May Occur	**HIGH NEGATIVE (-)**	Irreversible	Resource will be partly lost	Difficult	**MODERATE NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Localised	Moderate	May Occur	**MODERATE NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 8: SOCIO-ECONOMIC BENEFITS

Cause and Comment: *Preferred Alternative:* During the construction phase of the Umsobomvu Development, direct short-term employment opportunities will be created. These employment opportunities will contribute to the skills development of individuals and a short-term income which will benefit individuals and their families.

No-Go Alternative: The no-go alternative will not result in the creation of additional socio-economic benefits associated with the Umsobomvu Development.

Mitigation Measures:

→ Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.

→ A Community Liaison Officer (CLO) should be appointed for the duration of the construction phase. This individual should have knowledge of the local communities and assist with the employment processes. The CLO should be available and accessible to the general public, the Developer and all individuals employed by the Developer during the construction phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Regional	Moderate	Definite	**Low Positive (+)**	N/A	N/A	Easily Achievable	**Moderate Positive (+)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

Impact 9: Loss of Agricultural Land Due to Development

Cause and Comment: *Preferred Alternative:* The vegetation clearing required for the construction of the Umsobomvu Development will result in the direct and cumulative (due to the vegetation clearing required for the Umsobomvu WEF) loss of grazing land, which is currently used for livestock and wildlife grazing, and the loss of potential agricultural land.

No-Go Alternative: The no-go alternative will result in the loss of agricultural land in the area due to the development of the Umsobomvu WEF and associated infrastructure.

Mitigation Measures:

→ Vegetation clearance must be limited to the authorised and demarcated development footprints.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Long-Term	Localised	Moderate	Definite	**Moderate Negative (-)**	Reversible	Resource will be partly lost	Achievable	**Moderate Negative (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Moderate	Definite	**Moderate Negative (-)**	N/A	N/A	N/A	**N/A**

Impact 10: Waste Management

Cause and Comment: *Preferred Alternative:* 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.

No-Go Alternative: The no-go alternative will not require waste management measures.

Mitigation Measures:

→ All general waste, which is temporarily stored, onsite must be done so in windproof/sealable containers before being disposed of at a registered landfill site.

→ Waste must not be burned onsite.

→ Construction workers must be informed that littering is prohibited within the construction site and surrounding areas.

→ A Waste Management Plan should be compiled and implemented for the duration of the construction phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Study Area	Severe	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 11: VISUAL AND AESTHETIC IMPACTS

Cause and Comment: *Preferred Alternative:* The construction activities associated with the Umsobomvu Development are likely to have an adverse impact on the visual and aesthetic quality of the study area and immediate surrounds. Although the construction of the Umsobomvu Development will primarily be visible to landowners and surrounding landowners (northern and southern sections) as well as National Route N10 road users (northern section), the construction of the Umsobomvu Development paired with the simultaneous construction of the authorised Umsobomvu WEF is likely to have a cumulative adverse impact on the visual and aesthetic quality of the study area and surrounds. *No-Go Alternative:* The no-go alternative will not adversely impact the visual and aesthetic quality of the area. However, the no-go alternative has been rated because the no-go alternative of the proposed Umsobomvu Development is likely to contain the authorised Umsobomvu WEF development, which will have visual and aesthetic impacts on the study area.

Mitigation Measures:

→ All general waste, which is temporarily stored, onsite must be done so in windproof/sealable containers before being disposed of at a registered landfill site.
→ Vegetation clearance must be limited to the authorised and demarcated development footprints.
→ The development footprints of temporary construction areas must be rehabilitated as soon as practically possible.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Short-Term	Study Area	Moderate	Probable	**MODERATE NEGATIVE (-)**	Irreversible	Resource will be partly lost	Difficult	**MODERATE NEGATIVE (-)**
No-Go Alternative	Existing	Short-Term	Study Area	Moderate	Probable	**MODERATE NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 12: LOSS OF NATURAL VEGETATION DUE TO VEGETATION CLEARING

Cause and Comment: *Preferred Alternative:* The clearing of land for the construction of the proposed northern CTMF, Temporary Laydown Area, and Access Road will result in the direct loss of approximately 8.8 ha of Eastern Upper Karoo vegetation while the southern CTMF and IPP Substation will result in the direct loss of approximately 12.75 ha of Besemkaree Koppies Shrubland. Given the small footprint of the proposed development, which has been placed within the authorised footprint of the Umsobomvu and Coleskop WEFs, as well as the extent of remaining intact Eastern Upper Karoo vegetation and Besemkaree Koppies Shrubland outside of and surrounding the project area, it is unlikely that the loss of vegetation associated with the proposed development will impact on the extent and long-term conservation of these vegetation types, which is classified as Least Threatened. The overall significance of the loss of natural vegetation due to vegetation clearing at the sites for the proposed development, provided the recommended mitigation measures are implemented, is classified as moderate negative.

Minor portions of these vegetation types have already been lost mainly due to agriculture, grazing by livestock, and the construction of roads. However, the footprint of the proposed development is relatively small compared to the approved authorised WEFs. The additional (cumulative) loss of vegetation as a consequence of the construction of the Umsobomvu Substation, CTMFs and Temporary Laydown Area is therefore classified as moderate negative.
No-Go Alternative: The site forms part of the authorised Umsobomvu and Coleskop WEFs. If the proposed development is not approved, the current land use impacts such as grazing will continue. The No-go Alternative is therefore classified as low negative.

Mitigation Measures:

- → The clearance of vegetation at any given time should be kept to a minimum and vegetation clearance must be strictly limited to the development footprint.
- → Employees must be prohibited from making fires and harvesting plants.
- → As far as practically possible, existing access roads should be utilised.
- → The development footprint/construction area must be demarcated to prevent encroachment of construction activities into surrounding areas.
- → Ensure that roads on slopes incorporate storm water diversion.
- → Where possible, reserve and store natural vegetation for re-vegetation post-construction.
- → Only indigenous plant species must be used for rehabilitation purposes.
- → Topsoil must be carefully removed and used to rehabilitate the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Permanent	Localised	Moderate	Definite	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Moderate	Definite	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 13: LOSS OF PLANT SPECIES OF CONSERVATION CONCERN (SCC)

Cause and Comment: *Preferred Alternative:* The clearance of vegetation for the construction of the proposed development could result in the loss of plant SCC. However, it should be noted that no threatened SCC have been recorded or are likely to occur within the project area. SCC have likely already been lost as a result of the existing developments within and surrounding the broader area. As such, the loss of SCC associated with the proposed development will likely contribute to the cumulative loss of non-threatened SCC within the region. However, if the mitigation measures as described in this report are implemented and adhered to, this impact can be reduced to low negative.
No-Go Alternative: The no-go alternative will not require the clearance of vegetation and will therefore not result in the loss of plant SCC.

Mitigation Measures:

- → A botanical micro-siting of the development footprint, by an experienced botanist with knowledge of the SCC that have been identified as possibly occurring within the site, must be undertaken in peak flowering season prior to construction. In the unlikely event that population of endangered SCC are found, infrastructure should be shifted to avoid these. Where this is not possible, SCC that are known to survive translocation, must be translocated to the nearest available habitat on the same property.
- → If the translocation or removal of SCC is required, a permit must be obtained from the relevant issuing authority.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Permanent	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Irreversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**

No-Go Alternative	***Not Applicable – Status Quo Remains***

IMPACT 14: DISTURBANCE OF FAUNAL SPECIES AND LOSS OF FAUNAL HABITAT

Cause and Comment: *Preferred Alternative:* During the construction phase, vegetation clearance and associated construction activities (including noise and vehicular movement) could result in the mortality or disturbance of faunal species and the subsequent movement of species out of the area. Additionally, the loss of vegetation coincides with the loss of faunal habitat, reducing feeding, breeding and rearing locales. Other mammal SCC are likely to move away from the areas during construction. The addition of the proposed development will exacerbate the impact on faunal species caused by existing developments and activities (including the traffic, farming, amongst others).
No-Go Alternative: Under the no-go alternative there will be no clearance of habitat within the project area therefore there will be no loss of faunal SCC. The no-go alternative is therefore negligible.

Mitigation Measures:

- → Faunal Search and Rescue to be undertaken directly prior to vegetation clearance.
- → The appointed ECO must be trained in snake removal techniques.
- → The ECO should walk ahead of clearing construction machinery and move slow moving species e.g. tortoises and cryptic species out of harm's way and into suitable neighbouring habitat.
- → Any faunal species that may die as a result of construction must be recorded (photographed, GPS coordinates) and if somewhat intact, preserved and donated to SANBI.
- → Any faunal species observed onsite must be recorded (photographed, GPS coordinates) and loaded onto iNaturalist.
- → Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.
- → It is illegal to remove or kill any of the frogs, toads, tortoises, lizards, chameleons and snakes within the proposed project area that are listed as ether Schedule I or II on the NCNCA List. Not all areas can be avoided, but it is recommended that construction staff are educated with regards to herpetofauna conservation and that all staff employed by the Developer ensure that any herpetofauna encountered are not harmed or killed.
- → Amphibians and/or reptiles encountered must be allowed to move away from the construction area and a permit is required to remove or relocate these species. Amphibians must be released in the same catchment areas while reptiles must be relocated to directly adjacent areas of the proposed development.
- → Speed restrictions (40 km per hour is recommended) must be in place to reduce the chance of road kills, as well as to reduce the amount of dust caused by vehicle movement along the roads.
- → All reasonable and feasible measures should be implemented to reduce noise in ecologically sensitive areas.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Short-Term	Study Area	Moderate	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**MODERATE NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 15: WILDLIFE POACHING

Cause and Comment: *Preferred Alternative:* During the construction phase, the increase in individuals accessing the project area for the proposed development could result in an increase in wildlife poaching (particularly of reptile species). Wildlife poaching, particularly of reptile species, is a serious problem in the Northern Cape Province. Should the

increase in individuals associated with the construction of the proposed development lead to the increase in wildlife poaching, this will exacerbate the loss of faunal species within the broader project area.
No-Go Alternative: The no-go alternative has been classified as low negative as wildlife poaching has been identified as an existing impact in the project area.

Mitigation Measures:

- → All individuals should sign a register prior to accessing the construction site, including construction workers.
- → Construction workers must not be housed onsite.
- → Animals must not be killed or injured as a result of the construction of the proposed development and presence of construction staff.
- → The appointed ECO should inquire and undertake an overview inspection of the site for the evidence of snares during the construction phase.
- → Hunting, baiting and/or trapping must not be allowed within the affected properties or surrounding properties by construction staff.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct, Indirect & Cumulative	Short-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Localised	Moderate	Definite	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 16: DISTURBANCE OF SENSITIVE AREAS [IN TERMS OF ECOLOGICAL SENSITIVITY]

Cause and Comment: *Preferred Alternative:* During the construction phase, negligent construction activities within the 100 m regulatory buffer of a drainage line (non-perennial river) could cause the erosion, sedimentation, or subsequent degradation of nearby watercourses and the associated riparian vegetation. However, considering the footprint of the proposed development, impact associated therewith has been classified as moderate. Disturbance of sensitive areas such as watercourses has already occurred within the broader project area due to the construction of roads, agricultural practises which have caused erosion and degradation of watercourses (including drainage lines) and riparian vegetation, amongst others. Therefore, should the proposed development lead to the further disturbance of sensitive areas such as watercourses, this could impact the characteristics of the greater catchment area. However, considering the footprint of the proposed development, the cumulative impact associated therewith has been classified as moderate.
No-Go Alternative: Disturbance of sensitive areas such as watercourses has already occurred within the broader project area due to the construction of roads, agricultural practises which have caused erosion and degradation of watercourses (including drainage lines) and riparian vegetation, amongst others. Therefore, the no-go alternative has been classified as moderate.

Mitigation Measures:

- → It is recommended that the construction area is demarcated and fenced off, where possible, to prevent the encroach of construction activities into nearby sensitive areas.
- → Stormwater must be managed in accordance with the recommendations outlined in the EMPr to ensure that runoff does not enter nearby surrounding watercourses or drainage lines.
- → All erosion control mechanisms should be regularly maintained. The appointed ECO must conduct regular checks for signs of erosion.
- → Re-vegetation of disturbed surfaces must occur immediately after the construction activities have been completed.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation

Preferred Alternative	Direct, Indirect & Cumulative	Long-Term	Localised	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Localised	Moderate	Definite	**MODERATE NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 17: ESTABLISHMENT OF ALIEN PLANT SPECIES

Cause and Comment: *Preferred Alternative:* 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. Failure to successfully rehabilitate land to its natural state will exacerbate this impact. Scattered alien invasive species have already established in the broader area surrounding the proposed development footprint. Therefore, should the proposed development lead to the further establishment of alien invasive species in the project area, the invasion by alien species could be exacerbated.
No-Go Alternative: There is already evidence of scattered alien invasive species in the broader area surrounding the proposed development footprint. Under the no-go alternative these species are likely to continue multiplying if left unchecked. The current no-go alternative is thus low negative.

Mitigation Measures:

- → The site must be checked regularly for the presence of alien invasive species.
- → The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to.
- → The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- → Any alien seedlings which establish within the construction area must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct, Indirect & Cumulative	Long-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Slight	Probable	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 18: FOSSIL HERITAGE RESOURCES

Cause and Comment: *Preferred Alternative:* Potential impacts on palaeontological heritage resources due to the proposed Umsobomvu Development are likely to be of low to very low significance. Pending the discovery of significant new fossil finds before or during construction, no further specialist palaeontological studies, monitoring or mitigation are recommended for these developments. Provided that the Chance Fossil Finds Protocol tabulated in Appendix 1 [Site Sensitivity Verification Report: Palaeontological Heritage (Natura Viva, 2021)] is incorporated into the EMPr and fully implemented during the construction phase of the infrastructure developments, there are no objections on palaeontological heritage grounds to their authorisation.
No-Go Alternative: The no-go alternative will not require ground clearance or bedrock excavations.

Mitigation Measures:

→ 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.
→ A Chance Fossil Finds Procedure is recommended by the Palaeontological Specialist and appended to Appendix 1 of the Site Sensitivity Verification Report: Palaeontological Heritage (Natura Viva, 2021).

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Permanent	Localised	Severe	May Occur	**LOW NEGATIVE (-)**	Irreversible	Resource will be lost	Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 19: SENSITIVE HERITAGE RESOURCES

Cause and Comment: *Preferred Alternative:* The proposed access road upgrade and construction will affect a newly recorded stone knapping site (UMZ026) that was noted during the September heritage walkthrough: UMZ026. The farm Winterhoek and the related stone walled kraal will not be affected. UMZ026 is a new site located near the N10. The site appears to be a stone tool knapping site that extends for about 30m around a hornfels outcrop. The outcrop overlooks the top of a small kloof on the opposite side of the N10. UMZ026 was noted due to the recent fire clearing the undergrowth. A few tools in the track had previously been noted and seemed to be part of the colluvial deposits of the general area. However, the fire shows that it is restricted to a small area and related to the hornfels outcrop. The stone tools consist of MSA cores, various (utilized) flakes and points (spear heads). Several of these MSA flakes have been re-utilised in the LSA. The knapping area is of low-medium significance. Several have been reported by Sampson (1985) in the general area, e.g. SAM1 (see Anderson 2014).
No-Go Alternative: The no-go alternative will not result in potential damage to the identified heritage sites.

Mitigation Measures:

→ Should the proposed road upgrade and construction affect the UMZ026 heritage site (SAHRA Rating: 3B), a permit will be required prior to the commencement of the construction phase.
→ The necessary permit must be obtained from SAHRA prior to the commencement of vegetation clearing.
→ The identified heritage site and any other identified heritage sites must be monitored by an archaeologist during the construction phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Permanent	Localised	Severe	Probable	**MODERATE NEGATIVE (-)**	Irreversible	Resource will be lost	Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 20: HABITAT DESTRUCTION DURING CONSTRUCTION [IN TERMS OF AVIFAUNAL SENSITIVITY]

Cause and Comment: *Preferred Alternative:* During construction phase, vegetation is altered or moved for the project footprint. This destroys avifauna habitat, makes it less useful to birds, or less attractive to sensitive species.
No-Go Alternative: The no-go alternative will not require the alteration of vegetation within the project footprint.

Mitigation Measures:

→ No unnecessary alteration or removal of any remaining natural vegetation should take place during construction.

→ All construction activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.

→ All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Permanent	Localised	Slight	Definite	**LOW NEGATIVE (-)**	Reversible	Resource will be partly lost	Very Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 21: DISTURBANCE OF BIRDS DURING CONSTRUCTION AND OPERATION

Cause and Comment: *Preferred Alternative:* Birds are disturbed by construction or operations activities and their survival or reproduction is compromised. This is most applicable with breeding sensitive bird species.
No-Go Alternative: The no-go alternative will not require the alteration of vegetation within the project footprint.

Mitigation Measures:

→ All construction activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Short-Term	Study Area	Slight	May Occur	**LOW NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

OPERATIONAL PHASE

IMPACT 22: STORMWATER MANAGEMENT AND SOIL EROSION

Cause and Comment: *Preferred Alternative:* The creation of impermeable surfaces during the operation of the Umsobomvu Development is likely to 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.
No-Go Alternative: The no-go alternative will not result in an increase in impermeable surfaces.

Mitigation Measures:

→ The Stormwater Management Plan, compiled and implemented during the construction phase, must include operational phase management measures for implementation throughout the operational phase.
→ The site must be monitored for signs of erosion and remedial action must be taken at the first signs of erosion.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Long-Term	Study Area	Slight	May Occur	**LOW NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 23: FIRE RISK

Cause and Comment: *Preferred Alternative:* The operation of the Umsobomvu Development could result in an increased fire risk in the area.
No-Go Alternative: The risk of fires, particularly during the drier months, exists in the absence of the operation of the Umsobomvu Development.

Mitigation Measures:

→ The maintenance personnel, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.
→ The maintenance personnel, or the appointed fire marshal, must ensure that there is firefighting equipment available onsite during the operational phase.
→ 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.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Long-Term	Study Area	Severe	May Occur	**HIGH NEGATIVE (-)**	Irreversible	Resource will be partly lost	Difficult	**MODERATE NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 24: SOCIO-ECONOMIC BENEFITS

Cause and Comment: *Preferred Alternative:* The operation of the Umsobomvu 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.
No-Go Alternative: The no-go alternative will not result in the creation of additional socio-economic benefits related to the Umsobomvu Development.

Mitigation Measures:

→ Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation

Preferred Alternative	Direct	Long-Term	Regional	Moderate	Definite	**MODERATE POSITIVE (+)**	N/A	N/A	Easily Achievable	**MODERATE POSITIVE (+)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 25: WASTE MANAGEMENT

Cause and Comment: *Preferred Alternative:* The inadequate management of waste, which is produced during the operational phase, such as litter, is likely to result in the pollution of the study area and immediate surrounds.
No-Go Alternative: The no-go alternative will not require waste management measures.

Mitigation Measures:

→ Maintenance staff must be informed that littering is prohibited within the development site and surrounding areas.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Long-Term	Study Area	Slight	May Occur	**LOW NEGATIVE (-)**	Reversible	Resource will not be lost	Easily Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 26: VISUAL AND AESTHETIC IMPACTS

Cause and Comment: *Preferred Alternative:* The operation of the Umsobomvu Development could have an adverse impact on the visual and aesthetic quality of the study area and immediate surrounds. However, proposed the Umsobomvu Development will only be visible to a limited number of individuals due to the location of the development. Although the operation of the Umsobomvu Development will primarily be visible to landowners and surrounding landowners (northern and southern sections) as well as National Route N10 road users (northern section), the operation of the Umsobomvu Development paired with the operation of the authorised Umsobomvu WEF is likely to have a cumulative adverse impact on the visual and aesthetic quality of the study area and surrounds.
No-Go Alternative: The no-go alternative will not adversely impact the visual and aesthetic quality of the area.

Mitigation Measures:

→ All general waste, including litter, must be stored in windproof/sealable containers before being disposed of at a registered landfill site.
→ The rehabilitation of disturbed areas must be monitored to ensure successful rehabilitation and the resultant decrease in the visual impact.
→ The components of the Umsobomvu Development must be maintained to reduce the risk of degradation of the infrastructure.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Long-Term	Study Area	Moderate	Probable	**MODERATE NEGATIVE (-)**	Irreversible	Resource will be partly lost	Very Difficult	**MODERATE NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 27: SUPPORT FOR THE FUNCTIONING OF RENEWABLE ENERGY INFRASTRUCTURE

Cause and Comment: *Preferred Alternative:* The operation of the Umsobomvu Development components will contribute to the construction and operation of the authorised Umsobomvu WEF.
No-Go Alternative: The no-go alternative will not contribute to the construction and operation of the Umsobomvu WEF.

Mitigation Measures:

→ The Umsobomvu Development components must be maintained to reduce the risk of degradation and to ensure that the infrastructure adequately contributes to the construction and functioning of the Umsobomvu WEF.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Long-Term	Study Area	Slight	Definite	**LOW POSITIVE (+)**	N/A	N/A	Easily Achievable	**LOW POSITIVE (+)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 28: ESTABLISHMENT OF ALIEN PLANT SPECIES

Cause and Comment: *Preferred Alternative:* During the operational phase, failure to remove and manage alien vegetation could result in the permanent establishment of alien vegetation in the study area. Failure to successfully rehabilitate land to its natural state will exacerbate this impact and lead to the permanent degradation of ecosystems as well as allow invasion by alien plant species. Scattered alien invasive species have already established in the broader area surrounding the proposed development footprint. Therefore, should the proposed development lead to the further establishment of alien invasive species in the project area, the invasion of alien species could be exacerbated.
No-Go Alternative: There is already evidence of scattered alien invasive species surrounding the proposed development footprint. Under the no-go alternative these species are likely to continue multiplying if left unchecked. The current no-go alternative is thus low negative.

Mitigation Measures:

→ The site must be checked regularly for the presence of alien invasive species.
→ The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to during the operational phase.
→ Monitoring of the establishment of alien seedlings within the boundaries of the proposed development should continue throughout the operational phase. Any alien seedlings should be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.
→ The Rehabilitation Management Plan, compiled for the authorised Umsobomvu and Coleskop WEFs, must be implemented and adhered to during the operational phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct, Indirect & Cumulative	Long-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Slight	Probable	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 29: IMPACTS OF NOISE AND LIGHTING ON FAUNAL POPULATIONS

Cause and Comment: *Preferred Alternative:* During the operational phase, noise and lighting associated with the proposed development (including maintenance activities) could cause a disturbance to surrounding faunal populations within the project area. The addition of the noise and lighting associated with the proposed development will exacerbate the impact on faunal species caused by existing developments and activities (including the traffic).
No-Go Alternative: The nearby roads, and the noise and lighting associated with the passing traffic, already impacts surrounding faunal population. As such, the no-go alternative is low negative.

Mitigation Measures:

- → Regular maintenance and checks of the infrastructure must be undertaken.
- → The mitigation measures specified in the Noise Impact Assessment conducted for the Coleskop and Umsobomvu WEFs must be implemented and adhered to during the operational phase of the proposed development.
- → External lighting should be avoided where possible. However, if required, lighting should be down lighting and low wattage.
- → Where possible, minimise access to the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Long-Term	Localised	Moderate	Definite	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Slight	Definite	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 30: DISTURBANCE OF BIRDS DURING CONSTRUCTION AND OPERATION

Cause and Comment: *Preferred Alternative:* Birds are disturbed by construction or operations activities and their survival or reproduction is compromised. This is most applicable with breeding sensitive bird species.
No-Go Alternative: The no-go alternative will not require the alteration of vegetation within the project footprint.

Mitigation Measures:

- → All operational activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Short-Term	Study Area	Slight	May Occur	**LOW NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 31: ELECTROCUTION OF BIRDS ON OVERHEAD POWERLINE AND IN SUBSTATIONS

Cause and Comment: *Preferred Alternative:* During the operational phase, large birds are likely to be electrocuted whilst perched on pylons or in the substations, by bridging the critical clearances between phases or phase–earth hardware.

No-Go Alternative: The no-go alternative will not increase the risk of electrocution of birds. However, the existing powerlines within the site and surrounds currently pose a the risk of electrocution of birds.

Mitigation Measures:

→ The powerline must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds (such as Verreaux's and Martial Eagle) to perch on them in safety.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Permanent	International	Slight	May Occur	**LOW NEGATIVE (-)**	Irreversible	Resource will be lost	Very Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Permanent	International	Slight	May Occur	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 32: COLLISION OF BIRDS WITH OVERHEAD POWERLINES

Cause and Comment: *Preferred Alternative:* Birds in flight collide with overhead cables (conductors or earth wires) whilst in mid-flight. This occurs when they don't see the cables until too late to take evasive action.

No-Go Alternative: The no-go alternative will not increase the risk of collision of birds with overhead cables. However, the existing overhead powerlines within the site and surrounds currently pose a risk of collision of birds.

Mitigation Measures:

→ No mitigation provided.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Permanent	International	Slight	May Occur	**LOW NEGATIVE (-)**	Irreversible	Resource will be lost	Very Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	Existing	Permanent	International	Slight	May Occur	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

DECOMMISSIONING PHASE

The proposed CTMFs and Laydown Areas will be temporary and decommissioned after the construction phase of the authorised Umsobomvu WEF. However, it is unlikely that the proposed substations, OHL and access road will be decommissioned in the near future. Should the substations, OHL and access road be decommissioned, the impacts associated with the decommissioning phase would be similar to those for the construction phase and most of the mitigation measures stipulated for the construction phase will, therefore, be relevant. The EMPr must include additional decommissioning phase recommendations and mitigation measures relating to the ecological environment based on case studies of the decommissioning of the relevant infrastructure components and it must consider the relevant legislation, policies and guidelines at the time of decommissioning.

IMPACT 33: INCREASE IN AIR EMISSIONS

Cause and Comment: *Preferred Alternative:* During the decommissioning of the temporary infrastructure, 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.
No-Go Alternative: The no-go alternative will not result in an increase in air emissions in the form of dust.

Mitigation Measures:

- → Exhaust emissions from heavy vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.
- → Decommissioning activities must only be done during the agreed-upon working hours and agreed-upon days.
- → A speed limit of 40 km per hour must not be exceeded on gravel roads.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Localised	Slight	Probable	**LOW NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 34: INCREASE IN NOISE LEVELS

Cause and Comment: *Preferred Alternative:* Noise will be created on the site during the decommissioning of the temporary infrastructure due to the operation of machinery, noise generated by heavy vehicles both onsite 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.
No-Go Alternative: The no-go alternative will not result in an increase in noise levels.

Mitigation Measures:

- → All vehicles must be in sound working order and meet the necessary noise level requirements.
- → All relevant municipal by-laws, with regards to noise control, must apply.
- → Workers must not make use of portable radios, vehicle radios, whistles, and other items which generate excessive noise, while they are on the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Localised	Slight	Probable	**LOW NEGATIVE (-)**	Reversible	Resource will not be lost	Easily Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 35: SITE CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES

Cause and Comment: *Preferred Alternative:* During the decommissioning of the temporary infrastructure, 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.

No-Go Alternative: The no-go alternative will not result in the storage or handling of hazardous substances within the site.

Mitigation Measures:

- → The storage of fuels and hazardous materials must be located away from all identified sensitive water resources.
- → All hazardous substances, including fuel and oil, must be stored in a bunded area.
- → Spill kits must be readily available on site throughout the decommissioning phase.
- → Drip trays must be placed under all stationary plant.
- → 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.
- → If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.
- → 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.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Short-Term	Localised	Moderate	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 36: FIRE RISK

Cause and Comment: *Preferred Alternative:* The decommissioning of the temporary infrastructure could increase the risk of fires, which could potentially result in the loss of crops, grazing and livestock. In addition, fires could result in injury to employees within the site and the potential damage to or loss of property.
No-Go Alternative: The risk of fires, particularly during the drier months, exists in the absence of the decommissioning of the temporary infrastructure.

Mitigation Measures:

- → Open fires must not be permitted within the proposed site during the decommissioning phase.
- → Smoking must be restricted to designated smoking areas which have easy access to firefighting equipment.
- → The Contractor, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.
- → The Contractor, or the appointed fire marshal, must ensure that there is firefighting equipment available onsite during the decommissioning phase.
- → The Contractor, 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.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Indirect	Short-Term	Study Area	Severe	May Occur	**HIGH NEGATIVE (-)**	Irreversible	Resource will be partly lost	Difficult	**MODERATE NEGATIVE (-)**
No-Go Alternative	Existing	Long-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

IMPACT 37: SOCIO-ECONOMIC BENEFITS

Cause and Comment: *Preferred Alternative:* The decommissioning of the temporary infrastructure, which forms part of the Umsobomvu Development, 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.
No-Go Alternative: The no-go alternative will not result in the creation of additional socio-economic benefits.

Mitigation Measures:

→ Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Regional	Slight	Definite	**LOW POSITIVE (+)**	N/A	N/A	Easily Achievable	**LOW POSITIVE (+)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 38: WASTE MANAGEMENT

Cause and Comment: *Preferred Alternative:* 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.
No-Go Alternative: The no-go alternative will not require waste management measures.

Mitigation Measures:

→ 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.
→ Waste must not be burned on site.
→ Workers must be informed that littering is prohibited within the site and surrounding areas.
→ The Waste Management Plan should include relevant decommissioning waste management measures, and it should be implemented for the duration of the decommissioning phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Study Area	Severe	Probable	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 39: VISUAL AND AESTHETIC IMPACTS

Cause and Comment: *Preferred Alternative:* The activities associated with the decommissioning of the temporary infrastructure, which forms part of the Umsobomvu Development, 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.

No-Go Alternative: The no-go alternative will not adversely impact the visual and aesthetic quality of the area.

Mitigation Measures:

→ 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.
→ Rehabilitation of the decommissioned footprints must take place as soon as practically possible.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct	Short-Term	Study Area	Slight	Probable	**LOW NEGATIVE (-)**	Irreversible	Resource will be partly lost	Difficult	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 40: INADEQUATE REHABILITATION

Cause and Comment: *Preferred Alternative:* The inadequate rehabilitation of the development footprint could result in unsuccessful site re-vegetation and resultant long-term ecological degradation. Minor ecological degradation has already taken place due to agriculture, grazing by livestock, and the construction of roads within the project area. The additional (cumulative) ecological degradation as a consequence of inadequate rehabilitation of temporary disturbed areas is therefore classified as moderate negative.
No-Go Alternative: The no-go alternative will not result in environmental disturbance and will therefore not require the rehabilitation.

Mitigation Measures:

→ A portion of the Operational Phase earnings should be set aside for costs associated with the landscaping and re-vegetation of the development footprint.
→ All temporary disturbed areas that do not form part of development, must be rehabilitated using only indigenous vegetation.
→ All impacted areas must be restored as per the EMPr requirements.
→ The Rehabilitation Management Plan, compiled for the authorised Umsobomvu and Coleskop WEFs, must be implemented and adhered to during the Decommissioning Phase.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Long-Term	Localised	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will be lost	Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 41: INFESTATION OF ALIEN PLANT SPECIES

Cause and Comment: *Preferred Alternative:* Disruption of habitats often results in the infestation of alien species unless these are controlled. Should this happen, the impact will be of moderate significance as the alien species could result in the displacement of indigenous species and possible local extinctions of plant SCC. Scattered alien invasive species have already established in the broader area surrounding the proposed development footprint. Therefore, should the decommissioning of the proposed development lead to the further establishment of alien invasive species in the project area, the invasion of alien species could be exacerbated.

No-Go Alternative: There is already evidence of scattered alien invasive species in the broader area surrounding the proposed development footprint. Under the no-go alternative these species are likely to continue multiplying if left unchecked. The current no-go alternative is thus low.

Mitigation Measures:

- → The site must be checked regularly for the presence of alien invasive species. Any alien seedlings which establish within the site must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.
- → The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to.
- → The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- → The project site must be rehabilitated in accordance with the approved EMPr and a Rehabilitation Plan.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Long-Term	Study Area	Moderate	May Occur	**MODERATE NEGATIVE (-)**	Reversible	Resource will be partly lost	Easily Achievable	**LOW NEGATIVE (-)**
No-Go Alternative	***Not Applicable – Status Quo Remains***									

IMPACT 42: IMPACTS OF DECOMMISSIONING NOISE ON SURROUNDING FAUNAL POPULATIONS

Cause and Comment: *Preferred Alternative:* Faunal species will be disturbed during decommissioning due to noise and vibrations of heavy plant and machinery. Faunal Species that vacate the immediate area may return following completion of the decommissioning phase or new individuals or species may inhabit the area. Heavy plant or machinery may cause unintentional mortalities of faunal species. The addition of the noise associated with the decommissioning of the development will exacerbate the impact on faunal species caused by existing developments and activities (including the traffic).
No-Go Alternative: The nearby roads, and the noise and lighting associated with the passing traffic, already impacts surrounding faunal population. As such, the no-go alternative is low negative.

Mitigation Measures:

- → Vehicles and machinery must meet best practice standards.
- → Staff and Contractors' vehicles must comply with speed limits of 40 km/hr.
- → Decommissioning activities must start and be completed within the minimum timeframe. i.e. may not be started and left incomplete.
- → The mitigation measures specified in the Noise Impact Assessment conducted for the Coleskop and Umsobomvu WEFs must be implemented and adhered to during the decommissioning phase of the proposed development.
- → External lighting should be avoided where possible. However, if required, lighting should be down lighting and low wattage.
- → Where possible, minimise access to the site.

Significance Assessment:

Impact	Nature	Duration	Extent	Severity	Likelihood	Significance Before Mitigation	Reversibility	Irreplaceable Loss	Mitigation Potential	Significance After Mitigation
Preferred Alternative	Direct & Cumulative	Short-Term	Localised	Moderate	Definite	**MODERATE NEGATIVE (-)**	Reversible	Resource will not be lost	Easily Achievable	**LOW NEGATIVE (-)**

No-Go Alternative	Existing	Long-Term	Localised	Slight	Definite	**LOW NEGATIVE (-)**	N/A	N/A	N/A	**N/A**

9. RECOMMENDATIONS AND CONCLUSIONS

9.1 RECOMMENDATIONS

It is recommended that the following general and specialist mitigation measures and management actions are included in the EMPr for each of the phases of the Umsobomvu Development.

PLANNING & DESIGN PHASE MITIGATION MEASURES AND MANAGEMENT ACTIONS FOR INCLUSION IN THE EMPR

- Activities, which trigger listed activities in terms of the NEMA (Act No. 107 of 1998, as amended) EIA Regulations (2014, and subsequent amendments), must not commence prior to receipt of an EA from the national DFFE.
- All identified water uses in terms of Section 21 of the NWA (Act No. 36 of 1998, as amended) must not commence prior to receipt of the necessary water use authorisation(s) from the DWS.
- 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.
- A suitably qualified Environmental Control Officer (ECO) must be appointed prior to the commencement of the construction phase to monitor compliance with the conditions of all the relevant permits and authorisations.
- All phases of the Umsobomvu Development must comply with the relevant municipal by-laws and should consider the available best practice guidelines.

CONSTRUCTION PHASE MITIGATION MEASURES AND MANAGEMENT ACTIONS FOR INCLUSION IN THE EMPR

- Exhaust emissions from construction vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.
- Vegetation clearance must be limited to the approved and demarcated development footprints.
- If fine building materials, such as sand, are to be transported on the back of trucks, they must be adequately covered.
- Excavations and other clearing activities must only be done during the agreed-upon working hours and on the agreed-upon days.
- A speed limit of 40 km per hour must not be exceeded on gravel roads.
- All construction vehicles must be in sound working order and meet the necessary noise level requirements.
- All relevant municipal by-laws, with regards to noise control, must apply.
- Construction workers must not make use of portable radios, vehicle radios, whistles, and other items which generate excessive noise, while they are on the construction site.
- A Stormwater Management Plan must be compiled and implemented during the construction phase.
- Vegetation must be retained, where possible, to avoid soil erosion.
- Where necessary along the proposed road upgrade and the new section of road, suitable culverts must be installed at water crossings.
- If slopes are cleared during construction, they must be rehabilitated as soon as possible to minimise soil erosion losses.
- Construction activities must be demarcated, with vegetation clearing and topsoil removal (if required) limited to these areas.
- Stockpiled materials must not be stored within 100 m of a watercourse.

- 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.
- Fuels and hazardous materials must not be stored within 100 m of a watercourse.
- All hazardous substances, including fuel, oil, and cement, must be stored in a bunded area.
- The recommendations of the Stormwater Management Plan must be implemented throughout the construction phase.
- Spill kits must be readily available onsite throughout the construction phase.
- Drip trays must be placed under all stationary plant.
- If a spill occurs on a permeable surface (such as soil), a spill kit must be used to reduce the potential spread of the spill immediately. The spill must be remedied to the satisfaction of the ECO.
- If a spill occurs on an impermeable surface (such as concrete), the surface spill must be contained using oil absorbent materials. The spill must be remedied to the satisfaction of the ECO.
- 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.
- The removal of riparian vegetation must take place under the supervision of the ECO and must be demarcated prior to removal. The clearance of riparian vegetation should be restricted to the amount required for the upgrade of the existing roads and the construction of the new sections of road.
- Where necessary along the proposed road upgrade and the new section of road, suitable culverts must be installed at water crossings.
- The removal of the alien invasive vegetation must be prioritised.
- Open fires must not be permitted within the proposed Umsobomvu Development site during the construction phase.
- Smoking must be restricted to designated smoking areas which have easy access to firefighting equipment.
- The Contractor, or the appointed fire marshal, must take all reasonable steps to prevent the accidental occurrence of fires and the spreading of fires.
- The Contractor, or the appointed fire marshal, must ensure that there is adequate firefighting equipment available onsite throughout the construction phase.
- The Contractor, 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 must ensure that all site personnel have access to the relevant contact details of the nearest Fire and Emergency Services.
- Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.
- A Community Liaison Officer (CLO) should be appointed for the duration of the construction phase. This individual should have knowledge of the local communities and assist with the employment processes. The CLO should be available and accessible to the general public, the Developer and all individuals employed by the Developer during the construction phase.
- Vegetation clearance must be limited to the authorised and demarcated development footprints.
- All general waste, which is temporarily stored, onsite must be done so in windproof/sealable containers before being disposed of at a registered landfill site.
- Waste must not be burned onsite.
- Construction workers must be informed that littering is prohibited within the construction site and surrounding areas.
- A Waste Management Plan should be compiled and implemented for the duration of the construction phase.
- All general waste, which is temporarily stored, onsite must be done so in windproof/sealable containers before being disposed of at a registered landfill site.
- Vegetation clearance must be limited to the authorised and demarcated development footprints.
- The development footprints of temporary construction areas must be rehabilitated as soon as practically possible.

- The clearance of vegetation at any given time should be kept to a minimum and vegetation clearance must be strictly limited to the development footprint.
- Employees must be prohibited from making fires and harvesting plants.
- As far as practically possible, existing access roads should be utilised.
- The development footprint/construction area must be demarcated to prevent encroachment of construction activities into surrounding areas.
- Ensure that roads on slopes incorporate storm water diversion.
- Where possible, reserve and store natural vegetation for re-vegetation post-construction.
- Only indigenous plant species must be used for rehabilitation purposes.
- Topsoil must be carefully removed and used to rehabilitate the site.
- A botanical micro-siting of the development footprint, by an experienced botanist with knowledge of the SCC that have been identified as possibly occurring within the site, must be undertaken in peak flowering season prior to construction. In the unlikely event that population of endangered SCC are found, infrastructure should be shifted to avoid these. Where this is not possible, SCC that are known to survive translocation, must be translocated to the nearest available habitat on the same property.
- If the translocation or removal of SCC is required, a permit must be obtained from the relevant issuing authority.
- Faunal Search and Rescue to be undertaken directly prior to vegetation clearance.
- The appointed ECO must be trained in snake removal techniques.
- The ECO should walk ahead of clearing construction machinery and move slow moving species e.g. tortoises and cryptic species out of harm's way and into suitable neighbouring habitat.
- Any faunal species that may die as a result of construction must be recorded (photographed, GPS coordinates) and if somewhat intact, preserved and donated to SANBI.
- Any faunal species observed onsite must be recorded (photographed, GPS coordinates) and loaded onto iNaturalist.
- Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.
- It is illegal to remove or kill any of the frogs, toads, tortoises, lizards, chameleons and snakes within the proposed project area that are listed as ether Schedule I or II on the NCNCA List. Not all areas can be avoided, but it is recommended that construction staff are educated with regards to herpetofauna conservation and that all staff employed by the Developer ensure that any herpetofauna encountered are not harmed or killed.
- Amphibians and/or reptiles encountered must be allowed to move away from the construction area and a permit is required to remove or relocate these species. Amphibians must be released in the same catchment areas while reptiles must be relocated to directly adjacent areas of the proposed development.
- Speed restrictions (40 km per hour is recommended) must be in place to reduce the chance of road kills, as well as to reduce the amount of dust caused by vehicle movement along the roads.
- All reasonable and feasible measures should be implemented to reduce noise in ecologically sensitive areas.
- All individuals should sign a register prior to accessing the construction site, including construction workers.
- Construction workers must not be housed onsite.
- Animals must not be killed or injured as a result of the construction of the proposed development and presence of construction staff.
- The appointed ECO should inquire and undertake an overview inspection of the site for the evidence of snares during the construction phase.
- Hunting, baiting and/or trapping must not be allowed within the affected properties or surrounding properties by construction staff.
- It is recommended that the construction area is demarcated and fenced off, where possible, to prevent the encroach of construction activities into nearby sensitive areas.

- Stormwater must be managed in accordance with the recommendations outlined in the EMPr to ensure that runoff does not enter nearby surrounding watercourses or drainage lines.
- All erosion control mechanisms should be regularly maintained. The appointed ECO must conduct regular checks for signs of erosion.
- Re-vegetation of disturbed surfaces must occur immediately after the construction activities have been completed.
- The site must be checked regularly for the presence of alien invasive species.
- The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to.
- The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- Any alien seedlings which establish within the construction area must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.
- 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.
- A Chance Fossil Finds Procedure is recommended by the Palaeontological Specialist and appended to Appendix 1 of the Site Sensitivity Verification Report: Palaeontological Heritage (Natura Viva, 2021).
- Should the proposed road upgrade and construction affect the UMZ026 heritage site (SAHRA Rating: 3B), a permit will be required prior to the commencement of the construction phase.
- The necessary permit must be obtained from SAHRA prior to the commencement of vegetation clearing.
- The identified heritage site and any other identified heritage sites must be monitored by an archaeologist during the construction phase.
- No unnecessary alteration or removal of any remaining natural vegetation should take place during construction.
- All construction activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.
- All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.
- All construction activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.

OPERATIONAL PHASE MITIGATION MEASURES AND MANAGEMENT ACTIONS FOR INCLUSION IN THE EMPR

- The Stormwater Management Plan, compiled and implemented during the construction phase, must include operational phase management measures for implementation throughout the operational phase.
- The site must be monitored for signs of erosion and remedial action must be taken at the first signs of erosion.
- The maintenance personnel, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.
- The maintenance personnel, or the appointed fire marshal, must ensure that there is firefighting equipment available onsite during the operational phase.
- 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.
- Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.

- Maintenance staff must be informed that littering is prohibited within the development site and surrounding areas.
- All general waste, including litter, must be stored in windproof/sealable containers before being disposed of at a registered landfill site.
- The rehabilitation of disturbed areas must be monitored to ensure successful rehabilitation and the resultant decrease in the visual impact.
- The components of the Umsobomvu Development must be maintained to reduce the risk of degradation of the infrastructure.
- The Umsobomvu Development components must be maintained to reduce the risk of degradation and to ensure that the infrastructure adequately contributes to the construction and functioning of the Umsobomvu WEF.
- The site must be checked regularly for the presence of alien invasive species.
- The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to during the operational phase.
- Monitoring of the establishment of alien seedlings within the boundaries of the proposed development should continue throughout the operational phase. Any alien seedlings should be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.
- The Rehabilitation Management Plan, compiled for the authorised Umsobomvu and Coleskop WEFs, must be implemented and adhered to during the operational phase.
- Regular maintenance and checks of the infrastructure must be undertaken.
- The mitigation measures specified in the Noise Impact Assessment conducted for the Coleskop and Umsobomvu WEFs must be implemented and adhered to during the operational phase of the proposed development.
- External lighting should be avoided where possible. However, if required, lighting should be down lighting and low wattage.
- Where possible, minimise access to the site.
- All operational activities should be strictly managed according to generally accepted environmental best practice standards, to avoid any unnecessary impact on the receiving environment.
- The powerline must be built on an Eskom approved bird-friendly pole structure which provides ample clearance between phases and phase-earth to allow large birds (such as Verreaux's and Martial Eagle) to perch on them in safety.

DECOMMISSIONING PHASE MITIGATION MEASURES AND MANAGEMENT ACTIONS FOR INCLUSION IN THE EMPR

The proposed CTMFs and Laydown Areas will be temporary and decommissioned after the construction phase of the authorised Umsobomvu WEF. However, it is unlikely that the proposed substations, OHL and access road will be decommissioned in the near future. Should the substations, OHL and access road be decommissioned, the impacts associated with the decommissioning phase would be similar to those for the construction phase and most of the mitigation measures stipulated for the construction phase will, therefore, be relevant. The EMPr must include additional decommissioning phase recommendations and mitigation measures relating to the ecological environment based on case studies of the decommissioning of the relevant infrastructure components and it must consider the relevant legislation, policies and guidelines at the time of decommissioning.

- Exhaust emissions from heavy vehicles must be minimised by ensuring that all vehicles are properly equipped and serviced.
- Decommissioning activities must only be done during the agreed-upon working hours and agreed-upon days.
- A speed limit of 40 km per hour must not be exceeded on gravel roads.

- All vehicles must be in sound working order and meet the necessary noise level requirements.
- All relevant municipal by-laws, with regards to noise control, must apply.
- Workers must not make use of portable radios, vehicle radios, whistles, and other items which generate excessive noise, while they are on the site.
- The storage of fuels and hazardous materials must be located away from all identified sensitive water resources.
- All hazardous substances, including fuel and oil, must be stored in a bunded area.
- Spill kits must be readily available on site throughout the decommissioning phase.
- Drip trays must be placed under all stationary plant.
- 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.
- If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.
- 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.
- Open fires must not be permitted within the proposed site during the decommissioning phase.
- Smoking must be restricted to designated smoking areas which have easy access to firefighting equipment.
- The Contractor, or the appointed fire marshal, must take all responsible steps to prevent the accidental occurrence and the spreading of fires.
- The Contractor, or the appointed fire marshal, must ensure that there is firefighting equipment available onsite during the decommissioning phase.
- The Contractor, 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.
- Where suitable, preference should be given to the employment of individuals residing in the communities which are located close to the site.
- 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.
- Waste must not be burned on site.
- Workers must be informed that littering is prohibited within the site and surrounding areas.
- The Waste Management Plan should include relevant decommissioning waste management measures, and it should be implemented for the duration of the decommissioning phase.
- 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.
- Rehabilitation of the decommissioned footprints must take place as soon as practically possible.
- A portion of the operational phase earnings should be set aside for costs associated with the landscaping and re-vegetation of the development footprint.
- All temporary disturbed areas that do not form part of development, must be rehabilitated using only indigenous vegetation.
- All impacted areas must be restored as per the EMPr requirements.
- The Rehabilitation Management Plan, compiled for the authorised Umsobomvu and Coleskop WEFs, must be implemented and adhered to during the Decommissioning Phase.
- The site must be checked regularly for the presence of alien invasive species. Any alien seedlings which establish within the site must be removed and disposed of as per the Working for Water Guidelines relating to the management of invasive alien plants.
- The Alien Invasive Management Plan compiled for the authorised Umsobomvu and Coleskop WEFs must be implemented and adhered to.

- → The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- → The project site must be rehabilitated in accordance with the approved EMPr and a Rehabilitation Plan.
- → Vehicles and machinery must meet best practice standards.
- → Staff and Contractors' vehicles must comply with speed limits of 40 km/hr.
- → Decommissioning activities must start and be completed within the minimum timeframe. i.e. may not be started and left incomplete.
- → The mitigation measures specified in the Noise Impact Assessment conducted for the Coleskop and Umsobomvu WEFs must be implemented and adhered to during the decommissioning phase of the proposed development.
- → External lighting should be avoided where possible. However, if required, lighting should be down lighting and low wattage.
- → Where possible, minimise access to the site.

9.2 CONCLUSIONS

Table 9.1 below consists of a summary of the potential impacts associated with the different phases of the proposed Umsobomvu Development.

Table 9.1: Summary of the Potential Impacts.

IMPACT	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	PRIOR TO MITIGATION	POST-MITIGATION	
PLANNING AND DESIGN PHASE			
IMPACT 1: COMPLIANCE WITH RELEVANT LEGISLATION	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
CONSTRUCTION PHASE			
IMPACT 2: INCREASE IN AIR EMISSIONS (SUCH AS DUST)	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 3: INCREASE IN NOISE LEVELS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 4: STORMWATER MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 5: SITE CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 6: LOSS OF RIPARIAN VEGETATION	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 7: FIRE RISK	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 8: SOCIO-ECONOMIC BENEFITS	LOW POSITIVE (+)	MODERATE POSITIVE (+)	NOT APPLICABLE
IMPACT 9: LOSS OF AGRICULTURAL LAND DUE TO DEVELOPMENT	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 10: WASTE MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 11: VISUAL AND AESTHETIC IMPACTS	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 12: LOSS OF NATURAL VEGETATION DUE TO VEGETATION CLEARING	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 13: LOSS OF PLANT SPECIES OF CONSERVATION CONCERN (SCC)	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 14: DISTURBANCE OF FAUNAL SPECIES AND LOSS OF FAUNAL HABITAT	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 15: WILDLIFE POACHING	MODERATE	LOW NEGATIVE (-)	LOW NEGATIVE (-)

IMPACT	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	PRIOR TO MITIGATION	POST-MITIGATION	
	NEGATIVE (-)		
IMPACT 16: DISTURBANCE OF SENSITIVE AREAS [IN TERMS OF ECOLOGICAL SENSITIVITY]	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 17: ESTABLISHMENT OF ALIEN PLANT SPECIES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 18: FOSSIL HERITAGE RESOURCES	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 19: SENSITIVE HERITAGE RESOURCES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 20: HABITAT DESTRUCTION DURING CONSTRUCTION [IN TERMS OF AVIFAUNAL SENSITIVITY]	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 21: DISTURBANCE OF BIRDS DURING CONSTRUCTION AND OPERATION	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
OPERATIONAL PHASE			
IMPACT 22: STORMWATER MANAGEMENT AND SOIL EROSION	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 23: FIRE RISK	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 24: SOCIO-ECONOMIC BENEFITS	MODERATE POSITIVE (+)	MODERATE POSITIVE (+)	NOT APPLICABLE
IMPACT 25: WASTE MANAGEMENT	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 26: VISUAL AND AESTHETIC IMPACTS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 27: SUPPORT FOR THE FUNCTIONING OF RENEWABLE ENERGY INFRASTRUCTURE	LOW POSITIVE (+)	LOW POSITIVE (+)	NOT APPLICABLE
IMPACT 28: ESTABLISHMENT OF ALIEN PLANT SPECIES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 29: IMPACTS OF NOISE AND LIGHTING ON FAUNAL POPULATIONS	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 30: DISTURBANCE OF BIRDS DURING CONSTRUCTION AND OPERATION	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 31: ELECTROCUTION OF BIRDS ON OVERHEAD POWERLINES AND IN SUBSTATIONS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 32: COLLISION OF BIRDS WITH OVERHEAD POWERLINES	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
DECOMMISSIONING PHASE			
THE PROPOSED CTMFS AND LAYDOWN AREAS WILL BE TEMPORARY AND DECOMMISSIONED AFTER THE CONSTRUCTION PHASE OF THE AUTHORISED UMSOBOMVU WEF. HOWEVER, IT IS UNLIKELY THAT THE PROPOSED SUBSTATIONS, OHL AND ACCESS ROAD WILL BE DECOMMISSIONED IN THE NEAR FUTURE. SHOULD THE SUBSTATIONS, OHL AND ACCESS ROAD BE DECOMMISSIONED, THE IMPACTS ASSOCIATED WITH THE DECOMMISSIONING PHASE WOULD BE SIMILAR TO THOSE FOR THE CONSTRUCTION PHASE AND MOST OF THE MITIGATION MEASURES STIPULATED FOR THE CONSTRUCTION PHASE WILL, THEREFORE, BE RELEVANT. THE EMPR MUST INCLUDE ADDITIONAL DECOMMISSIONING PHASE RECOMMENDATIONS AND MITIGATION MEASURES RELATING TO THE ECOLOGICAL ENVIRONMENT BASED ON CASE STUDIES OF THE DECOMMISSIONING OF THE RELEVANT INFRASTRUCTURE COMPONENTS AND IT MUST CONSIDER THE RELEVANT LEGISLATION, POLICIES AND GUIDELINES AT THE TIME OF DECOMMISSIONING.			
IMPACT 33: INCREASE IN AIR EMISSIONS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 34: INCREASE IN NOISE LEVELS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 35: SITE CONTAMINATION DUE TO THE STORAGE AND HANDLING OF HAZARDOUS SUBSTANCES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 36: FIRE RISK	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 37: SOCIO-ECONOMIC BENEFITS	LOW POSITIVE (+)	LOW POSITIVE (+)	NOT APPLICABLE
IMPACT 38: WASTE MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 39: VISUAL AND AESTHETIC IMPACTS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 40: INADEQUATE REHABILITATION	MODERATE	LOW NEGATIVE (-)	NOT APPLICABLE

IMPACT	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	PRIOR TO MITIGATION	POST-MITIGATION	
	NEGATIVE (-)		
IMPACT 41: INFESTATION OF ALIEN PLANT SPECIES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 42: IMPACTS OF DECOMMISSIONING NOISE ON SURROUNDING FAUNAL POPULATIONS	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)

The development of the proposed Umsobomvu Development has potential negative impacts associated each of the phases of development. However, the significance of the majority of these adverse impacts can be reduce to low negative with the implementation of the recommended mitigation measures and management actions. In addition, a few benefits are associated with the proposed Umsobomvu Development. These include socio-economic benefits due to the creation of employment opportunities during the various phases of development and support for the Umsobomvu WEF. The location and the scale of the activity is unlikely to pose significant environmental and social impacts on the receiving environment, provided that the mitigation measures and management actions, which have been recommended by the EAP and the specialists, are adequately adhered to throughout the relevant phases of the development.

REFERENCE LIST

In addition to the specialist input, which is included in Appendix C, and the relevant legislation, the following list (non-exhaustive) of sources were consulted during the compilation of this BAR:

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APPENDIX A: *CURRICULUM VITAE* OF THE PROJECT TEAM

- Dr Alan Carter (CES, Executive Director)
- Ms Caroline Evans (CES, Principal Environmental Consultant)
- Ms Lunga Mbulana (CES, Environmental Consultant)

ALAN ROBERT CARTER
Curriculum Vitae

CES
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CONTACT DETAILS

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Professional Body

- SACNASP: South African Council for Natural Scientific Profession
- EAPASA: Environmental Assessment Practitioners Association of South Africa
- IWMSA: Institute Waste Management Southern Africa
- TSBCPA: Texas State Board of Certified Public Accountants (USA)
- AICPA: American Institute of Certified Public Accountants (USA)
- Exemplar Global: Environmental Management Systems Auditor

Key areas of expertise

- Environmental Impact Assessment
- Marine Ecology
- Environmental and coastal management
- Waste management
- Climate change and emissions inventories
- Financial accounting and project feasibility studies
- Environmental management systems, auditing and due-diligence

PROFILE

Alan 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 marine ecology. He is also a certified ISO14001 EMS auditor with Exemplar Global (formerly the American National Standards Institute). Alan has been responsible for leading and managing numerous and varied environmental and financial consulting projects over the past 30 years.

ALAN ROBERT CARTER

Curriculum Vitae

CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

EMPLOYMENT EXPERIENCE

- January 2001 – Present: Executive Director (Coastal & Environmental Services, East London, South Africa)
- January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)
- December 1996 – December 1998: Senior Accountant/Auditor (Ernst & Young LLP, Public Accounting Firm, Austin, Texas, USA).)
- January 1994 – December 1996: Senior Accountant/Auditor (Ernst & Young, Charteris & Barnes, Chartered Accountants, East London, South Africa)
- July 1991 – December 1994: Associate Consultant (Coastal & Environmental Services, East London, South Africa)
- March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)

ACADEMIC QUALIFICATIONS

- Ph.D. Plant Science (Marine) - Rhodes University 1987
- B. Compt. Hons. Accounting Science - University of South Africa 1997
- B. Com. Financial Accounting - Rhodes University 1995
- B.Sc. Hons. Plant Science - Rhodes University 1983
- B.Sc. Plant Science & Zoology - Rhodes University 1982

COURSES

- Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000) .
- ISO 14001:2015 Implementing Changes - British Standards Institute (2015)
- Numerous other workshops and training courses.

CONSULTING EXPERIENCE

Environmental Impact Assessment

- Managed numerous environmental impact assessment (EIA) projects (estimated at over 200 EIAs) and prepared EIA reports in terms of relevant EIA legislation and regulations (including World Bank and IFC Standards) for development proposals including: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (over 20 solar facilities and over 20 wind farms), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.
- Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).

Feasibility and Pre-feasibility Assessments

- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, aquaculture, infrastructure projects, etc.
- Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).
- Managed the following aquaculture feasibility studies:
  - Mariculture Zone at Qoloha on the South African Wild Coast (2013).
  - Mariculture Zone within the Coega Industrial Development Zone (2014).
  - Aquaponics Zone within the Coega Industrial Development Zone (2017).
  - Finfish cage farming within the Port of Richards Bay (2019).

- Multispecies aquaculture hatchery and demonstration facility in the Eastern Cape Province (2019).

- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).

Strategic Environmental Assessment

- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).

Climate change, emissions trading and renewable energy

- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).
- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016.
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate Change Risk Strategy (2009).
- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.

ALAN ROBERT CARTER
Curriculum Vitae

CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

- Participated in the preparation of CDM applications for two solar PV projects in the Eastern Cape.

Waste Management

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Managed project to develop Integrated Waste Management Plans for four local municipalities on behalf of Alfred Nzo District Municipality in the Eastern Cape Province (2015).
- Managed project to develop Integrated Waste Management Plans for eight local municipalities on behalf of Chris Hani District Municipality in the Eastern Cape Province (2011).
- Managed a project to develop a zero-waste strategy for a community development in the Eastern Cape Province (2010).
- Managed waste management status quo analysis for a District Municipality in the Eastern Cape Province (2003).
- For three consecutive years, managed elements of the evaluation of the environmental financial reserves of the three largest solid waste companies (Waste Management, Inc., Republic Services, Inc., Allied Waste, Inc.) and number of smaller waste companies in the USA as part of the annual financial audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.
- Managed elements of the evaluation of the environmental financial reserves of the largest hazardous waste company in the USA (Safety-Kleen, Inc.), as part of the audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.

Environmental auditing and compliance

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Lead auditor for numerous Environmental Control Officer (ECO) projects, including construction of wind and solar farms, road infrastructure, bulk water and sewage infrastructure, port infrastructure, cemeteries, etc.
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).
- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.

Environmental Due Diligence and Business Risk

- Participated in project on behalf of the CDC Group (UK) to conduct a due diligence on the ESG systems and mechanisms in place for an agro-industry investment entity with considerable agricultural investments throughout Africa (2021).
- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011).
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban

as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

Policy and Guidelines
- Managed project to develop an Estuarine Management Plan for the Quinera Estuary for the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (2021).
- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters Discharge Permits, Dumping of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated with the implementation of the Integrated Coastal Management Act (2007).
- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).
- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 20010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

Environmental & Social Management Systems

ALAN ROBERT CARTER
Curriculum Vitae

PUBLICATIONS

- Managed project to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for an agricultural equipment supplier in Malawi on behalf of Norfund (2021).
- Managed projects to develop Environmental Management Systems (EMS) in line with ISO14001 EMS Standard for a South African water utility (2019).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for four (4) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013).
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation.

Public financial accounting

- While with Ernst & Young LLP, (USA), functioned as lead financial auditor for various public and private companies, mostly in the technology business segment of up to $200 million in annual sales. Client experience included assistance in a $100 million debt offering, a $100 million IPO and SEC annual and quarterly reporting requirements.
- Completed three years of articles (training contract) in fulfilment of the certification requirements of the South African Institute of Chartered Accountants which included auditing, accounting and preparation of tax returns for many small to medium sized commercial entities.

Refereed Publications

- Carter, A.R. 1985. Reproductive morphology and phenology, and culture studies of *Gelidium pristoides* (Rhodophyta) from Port Alfred in South Africa. Botanica Marina 28: 303-311.
- Carter, A.R. 1993. Chromosome observations relating to bispore production in *Gelidium pristoides* (Gelidiales, Rhodophyta). Botanica Marina 36: 253-256.
- Carter, A.R. and R.J. Anderson. 1985. Regrowth after experimental harvesting of the agarophyte *Gelidium pristoides* (Gelidiales: Rhodophyta) in the eastern Cape Province. South African Journal of Marine Science 3: 111-118.
- Carter, A.R. and R.J. Anderson. 1986. Seasonal growth and agar contents in *Gelidium pristoides* (Gelidiales, Rhodophyta) from Port Alfred, South Africa. Botanica Marina 29: 117-123.
- Carter, A.R. and R.H. Simons.1987. Regrowth and production capacity of *Gelidium pristoides* (Gelidiales, Rhodophyta) under various harvesting regimes at Port Alfred, South Africa. Botanica Marina 30: 227-231.
- Carter, A.R. and R.J. Anderson. 1991. Biological and physical factors controlling the spatial distribution of the intertidal alga *Gelidium pristoides* in the eastern Cape Province, South Africa. Journal of the Marine Biological Association of the United Kingdom 71: 555-568.

Published reports

- Water Research Commission. 2006. Profiling Estuary Management in Integrated Development Planning in South Africa with Particular Reference to the Eastern Cape. Project No. K5/1485.
- Turpie J., N. Sihlophe, A. Carter, T, Maswime and S. Hosking. 2006. Maximising the socio-economic benefits of estuaries through integrated planning and management: A

rationale and protocol for incorporating and enhancing estuary values in planning and management. Un-published Water Research Commission Report No. K5/1485

Conference Proceedings

- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting for environmental closure costs and remediation liabilities in the South African mining industry. Proceedings of the Mining and Sustainable Development Conference. Chamber of Mines of South Africa, Vol. 2: 6B1-5
- Carter, A.R. and S. Fergus. 2004. Sustainability analysis of wastewater treatment options on the West Bank of East London, Buffalo City. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate: Pages 295-301.
- Carter, A., L. Greyling, M. Parramon and K. Whittington-Jones. 2007. A methodology for assessing the risk of incurring environmental costs associated with port activities. Proceedings of the 1st Global Conference of the Environmental Management Accounting Network.
- Hawley, GL, AR McMaster and AR Carter. 2009. Carbon, carbon stock and life-cycle assessment in assessing cumulative climate change impacts in the environmental impact process. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate.
- Hawley, GL, AR McMaster and AR Carter. 2010. The Environmental and Social Impact Assessment and associated issues and challenges. African, Caribbean and Pacific Group of States (ACP), Science and Technology Programme, Sustainable Crop Biofuels in Africa.
- Carter, AR. 2011. A case study in the use of Life Cycle Assessment (LCA) in the assessment of greenhouse gas impacts and emissions in biofuel projects. 2nd Environmental Management Accounting Network- Africa Conference on Sustainability Accounting for Emerging Economies. Abstracts: Pages 69-70.

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

ALAN ROBERT CARTER Date: 28 January 2022

CAROLINE ANN BEER (NÉE EVANS)

Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**CES – Environmental and Social Advisory Services**
Designation	Makhanda (Grahamstown) Branch
Profession	Principal Environmental Consultant
Years with firm	Eight (8) Years
E-mail	c.evans@cesnet.co.za
Office number	+27 (0)46 622 2364
Nationality	South African
Voluntary Affiliations	International Association for Impact Assessment (IAIA) Member No. 5798
Key areas of expertise	➢ Project Management ➢ Specialist Management ➢ Report Reviews ➢ Report Writing ➢ Renewable Energy ➢ Agricultural Developments

PROFILE

Ms Caroline Evans

Ms Caroline Evans is a Principal Environmental Consultant with more than eight (8) years' experience, and she is based in the Makhanda (Grahamstown) branch. She holds a BSc degree in Zoology and Environmental Science (with distinction) and a BSc Honours degree in Environmental Science (with distinction), both from Rhodes University. Caroline has completed accredited courses in environmental impact assessments and wetland assessments.

Caroline's primary focuses include Project Management, the general Environmental Impact Assessment Process, Visual Impact Assessments and Wetland Impact Assessments. Examples of fields in which Caroline was the project manager and lead report writer include Wind Energy Facilities and the associated infrastructure (including powerlines), Solar PV, Waste Water Treatment Works, Housing Developments and Agricultural Developments. Her experience with wind energy facilities and associated infrastructure includes the project management and report writing for the Umsobomvu WEF, Dassiesridge WEF, Scarlet Ibis WEF, Albany WEF, Waaihoek WEF and the Great Kei WEF.

Caroline is well versed in South African policy and legislation relating to development, particularly in the Eastern Cape Province. In addition, Caroline's project management experience has helped her gain knowledge and experience in the technical and financial management and coordination of large specialist teams, competent authority and stakeholder engagement, and client liaison.

CAROLINE ANN BEER (NÉE EVANS)

Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

EMPLOYMENT EXPERIENCE

Coastal & Environmental Services, Principal Environmental Consultant
August 2020 - Present
- Project Management
- Specialist Management
- Renewable Energy Consultant
- Report Reviews
- Report Writing

Coastal & Environmental Services, Senior Environmental Consultant
August 2016 – July 2020
- Project Management
- Specialist Management
- Renewable Energy Consultant
- Report Writing
- Wetland Specialist

Coastal & Environmental Services, Environmental Consultant
November 2013 – July 2016
- Report Writing
- Renewable Energy Consultant
- Wetland Specialist Input

Rhodes University, Department of Environmental Science, Graduate Assistant
January 2010 – January 2012

ACADEMIC QUALIFICATIONS

Rhodes University, Eastern Cape, South Africa
B.Sc. Honours Environmental Science *(with distinction)*
2011

Rhodes University, Eastern Cape, South Africa
B.Sc. Zoology & Environmental Science *(with distinction)*
2007-2010

COURSES

- Rhodes University, Eastern Cape
"Environmental Impact Assessment" 2013. *(with distinction)*
- Rhodes University, Eastern Cape
"Tools for Wetland Assessment" 2010. *(with distinction)*
- Rhodes University, Eastern Cape
"Urban Ecology" 2010. *(with distinction)*
- Rhodes University, Eastern Cape
"Post Graduate Statistics" 2010. *(with distinction)*

CONSULTING EXPERIENCE

ENVIRONMENTAL IMPACT ASSESSMENTS:
- Project: Albany Wind Energy Facility (Grahamstown, EC)

CAROLINE ANN BEER (NÉE EVANS)
Curriculum Vitae

CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Role: Project Manager and Report Production

- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)
  Role: Project Manager and Report Production
- Project: Waainek Wind Energy Facility Post-Construction Bird and Bat Monitoring (Grahamstown, EC)
  Role: Project Manager and Report Production
- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)
  Role: Project Manager and Report Production
- Project: Waalhoek Wind Energy Facility (Utrecht, KZN)
  Role: Project Manager and Report Production
- Project: Waalhoek Wind Energy Facility (Utrecht, KZN)
  Role: Project Manager and Report Production
- Project: Great Kei Wind Energy Facility (Komga, EC)
  Role: Assistant Project Manager and Report Production
- Project: Doorndraai Citrus Plantation (Cookhouse, EC)
  Role: Project Manager and Report Production
- Project: Fishwater Flats WWTW Biogas (Port Elizabeth, EC)
  Role: Report Production
- Project: Olivewood Golf and Residential Estate (Chintsa, EC)
  Role: Report Production

BASIC ASSESSMENTS:

- Project: Albany Powerline (Grahamstown, EC)
  Role: Project Manager and Report Production
- Project: Scarlet Ibis Wind Energy Facility (NMBM, EC)
  Role: Project Manager and Report Production
- Project: Grey Jade Waterfall Feedlot Biogas (Berlin, EC)
  Role: Project Manager and Report Production
- Project: Black Lite Solar 5MW PV (Berlin, EC)
  Role: Project Manager and Report Production
- Project: Sitrusrand Kirkwood Citrus (Kirkwood, EC)
  Role: Project Manager
- Project: Kareekrans Middleton Pivot (Middleton, EC)
  Role: Project Manager
- Project: Uitsig Boerdery Kirkwood Citrus (Kirkwood, EC)

CAROLINE ANN BEER (NÉE EVANS)
Curriculum Vitae

CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Role: Project Manager

OTHER REPORTS:

- Project: Eastern Cape Biofuels Strategic Environmental Assessment (EC)
  Role: Report Production
- Project: Coega Industrial Development Zone (EC)
  Role: Report Production
- Project: Umsobomvu WEF EA Amendments (EC & NC)
  Role: Project Manager and Report Production
- Project: Dassiesridge WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Great Kei WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Ukomeleza WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Motherwell WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Golden Valley II WEF EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Peddie WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Nqamakwe WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Thomas River Renewable Energy Facility EA Amendments (EC)
  Role: Project Manager and Report Production
- Project: Qunu WEF and PV EA Amendments (EC)
  Role: Project Manager and Report Production

SPECIALIST REPORTS:

- Project: Umsobomvu Wind Energy Facility (Middelburg, EC / Noupoort, NC)
  Role: Visual Impact Assessment
- Project: Dassiesridge Wind Energy Facility (Uitenhage, EC)
  Role: Visual Impact Assessment
- Project: Great Kei Wind Energy Facility (Komga, EC)
  Role: Visual Impact Assessment
- Project: Waaihoek Wind Energy Facility (Utrecht, KZN)

CAROLINE ANN BEER (NÉE EVANS)
Curriculum Vitae

CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Role: Visual Impact Assessment & Wetland Impact Assessment

- Project: Olivewood Golf and Residential Estate (Chintsa, EC)
  Role: Visual Impact Assessment
- Project: Oyster Bay Wind Energy Facility (Oyster Bay, EC)
  Role: Wetland Impact Assessment

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

CAROLINE ANN EVANS Date: February 2022

LUNGA MBULANA
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**CES – Environmental and Social Advisory Services**
Designation	Environmental Consultant East London
Profession	Environmental consultant
Years with firm	1 (One) Year
E-mail	l.mbulana@cesnet.co.za
Office number	+27 (0)43 726-7809
Mobile	+27 (0)83 379-9861
Nationality	South African
Professional Body	➢ SACNASP: South African Council for Natural Scientific Profession
Key areas of expertise	➢ Environmental Impact Assessments ➢ Basic Assessment reports ➢ Water Quality Monitoring ➢ Environmental Management Plans ➢ Public Participation Process ➢ Environmental management systems, auditing and due-diligence

PROFILE

Lunga is an environmental consultant in the East London branch of CES. In addition, Lunga holds a BSc degree with majors in environmental and water science, geology and biodiversity and conservation as well as a BSc Honours degree in Environmental and Water Science from the University of Western Cape. Lunga's research provided an understanding of geomorphic processes of hillslope-channel relationships in the Silvermine valley catchment, Western Cape. She is a registered scientist with SACNASP. She has assisted in Basic Assessment Reports, Environmental Management Plans as well as the Public Participation Processes.
Lunga is interested in all aspects of environmental quality management.

LUNGA MBULANA
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

EMPLOYMENT EXPERIENCE

- January 2022 – Present: Environmental Consultant (EOH Coastal & Environmental Services, East London, South Africa)
- January 2019- December 2021: Environmental Officer (Eastern Cape Department of Public Works and Infrastructure- Joe Gqabi region, South Africa)
- December 2017- December 2018: Environmental Science Trainee (Eastern Cape Department of Economic Development, Environmental Affairs and Tourism- Joe Gqabi, South Africa)
- April 2016 – December 2017: Environmental Science Graduate (Eastern Cape Department of Public Works- Joe Gqabi region, South Africa)

ACADEMIC QUALIFICATIONS

B.Sc. Hons. Environmental and Water Science – University of the Western Cape 2016
- B.Sc. Environmental and Water Science- University of the Western Cape 2014

EMPLOYMENT EXPERIENCE

Project Management
- Conducted the coordination of appointed consultants and engineer project teams.
- Performed project administration duties which included compiling tender documentation, score sheets and presentations to BID committees.
- Committed and submitted payments to finance. Environmental auditing
- Project administration of projects via tendering processes and presenting project to BID committees for approval.
- Performed an environmental perspective advisory role for landscaping projects
- Assessed implementation of existing integrated environmental, health and safety management system:
- Maintained, reviewed and reported on safety performance in the department
- Applied NEMA legislation during the rehabilitation of construction projects post the close-out stage.

Environmental Management
- Utilised GIS (Geographical Information Systems) to assess project impacts and project no-go areas by implementing GIS buffer zones.
- Conducted environmental impact assessment reviews of environmental impact assessment reports and applications for environmental authorisation.
- Completed administration of all incumbent environmental impact assessment applications on NEAS.
- Conducted review of compliance audit reports of environmentally authorised projects.
- Liaised with and advised municipalities regarding compliance to environmental legislation and provided inputs on municipal operational documentation i.e., Spatial Development Framework, Land-Use Management Schemes, municipal by-laws etc.
- Conducted environmental awareness campaigns including environmental legislation dissemination contact sessions to inform stakeholders of technical, legislative and policy changes.

LUNGA MBULANA
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Waste Management

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Reviewed waste applications and municipal waste management documentation such as Waste By-Laws, Integrated Waste Management Plans.
- Monitored compliance progress of Waste License Holders on SAWIC.
- Coordinated monitoring of waste management funded projects.
- Planned and implemented training for waste data collection at landfill without weighbridge to determine daily, monthly, and annual waste tonnage.
- Conducted waste management facilities audits.

CONSULTING EXPERIENCE

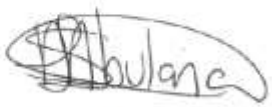
In the environmental management and assessment field Hlumela has been team member for the following projects -

General:

- East London Industrial Development Zone- Water Quality Monitoring project (Fieldwork and report writing)
- Proposed Residence at Lido Avenue Nahoon River (Report writing)
- Proposed Residence at Bonnie Doon, Nahoon River (Report writing)
- Proposed refurbishment of the Senqu Rural Water Supply Scheme (assistance with PPP)

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



LUNGA MBULANA Date: January 2022

APPENDIX B: EAP DECLARATION

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Umsobomvu Substations, Concrete Tower Manufacturing Facilities and Temporary Laydown Area, situated in the Umsobomvu Local Municipality (Northern Cape Province) and the Inxuba Yethemba Local Municipality (Eastern Cape Province).

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP Company Name:	Coastal and Environmental Services (Pty) Ltd			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	1	Percentage Procurement recognition	135%
EAP name:	Dr Alan Carter			
EAP Qualifications:	PhD, Plant Sciences, Rhodes University 1987 B.Compt Hons. Accounting Science, University of South Africa 1997 BSc (Honours), Plant Science, Rhodes University 1983 BSc, Plant Science & Zoology, Rhodes University 1982			
Professional affiliation/registration:	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioner Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA) IAIA: International Association of Impact Assessment			
Physical address:	39 Harewood Drive, Nahoon Mouth, East London			
Postal address:	P.O. Box 8145. Berea, East London			
Postal code:	5214	Cell:	+27 (0)83 379 9861	
Telephone:	+27 (0)43 726 7809	Fax:	+27 (0)43 726 8352	
E-mail:	a.carter@cesnet.co.za			

The appointed EAP must meet the requirements of Regulation 13 of GN R982 of 04 December 2014, as amended.

2. DECLARATION BY THE EAP

I, **Dr Alan Carter**, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the Environmental Assessment Practitioner

Coastal and Environmental Services (Pty) Ltd
Name of Company:

15TH NOVEMBER 2021
Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Dr Alan Carter**, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Environmental Assessment Practitioner

Coastal and Environmental Services (Pty) Ltd
Name of Company

15TH NOVEMBER 2021
Date

Signature of the Commissioner of Oaths

15TH NOVEMBER 2021
Date

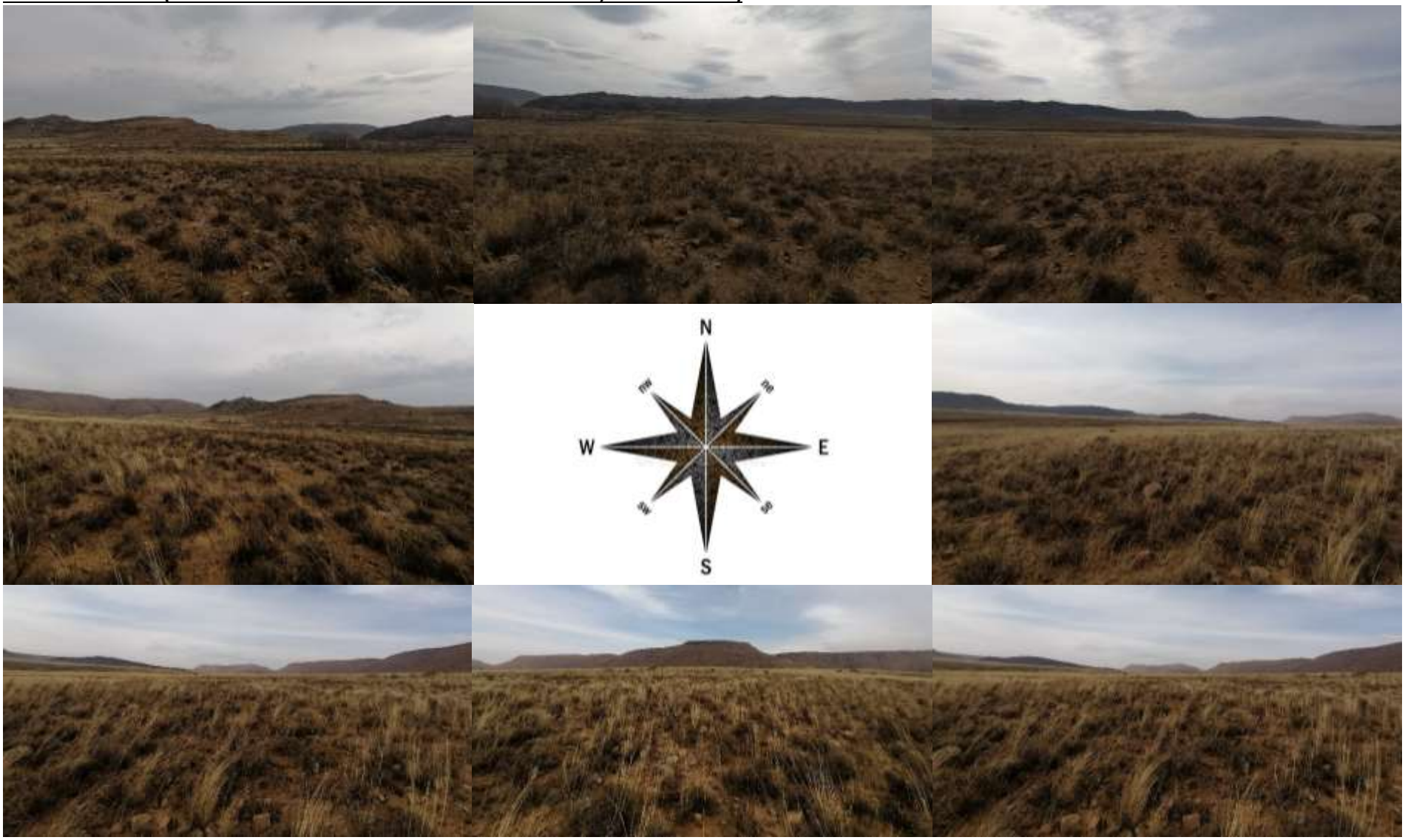
LYNN SMIT
COMMISSIONER OF OATHS
REFERENCE NUMBER: 9/1/8/2 EAST LONDON
25 TECOMA STREET, BEREA
EAST LONDON, 5214

APPENDIX C: SPECIALIST INPUT

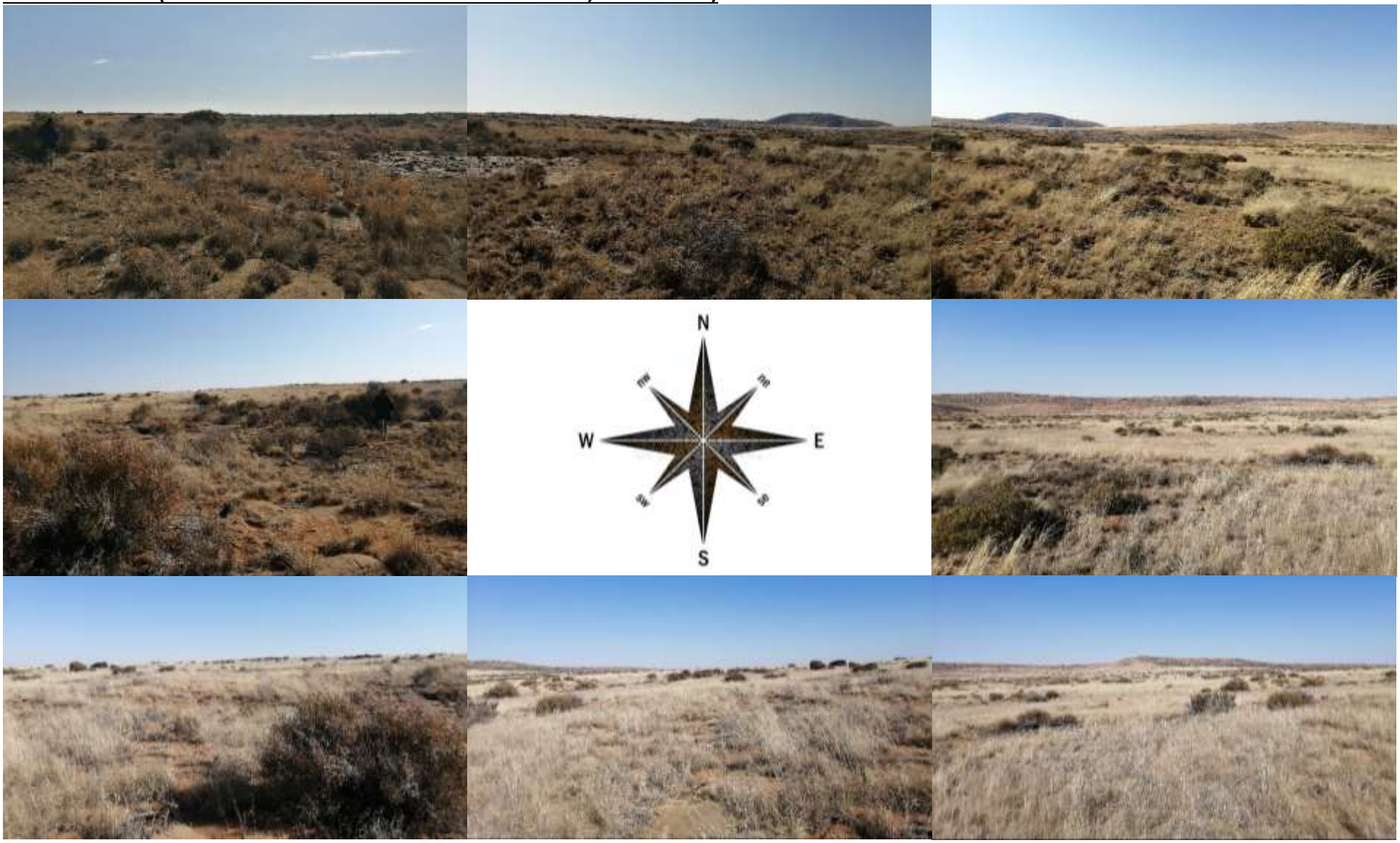
- Avifaunal Statement: WildSkies Ecological Services (October 2021)
- Ecological Impact Assessment Report (botanical and faunal): CES (November 2021)
- Heritage Assessment Statement: Umlando (October 2021)
- Site Sensitivity Verification Report: Palaeontological Heritage: Natura Viva (October 2021)

APPENDIX D: SITE PHOTOGRAPHS

NORTHERN SECTION (PHOTOGRAPH LOCATION COORDINATES: 31°18'9.41"S, 24°52'19.40"E)



SOUTHERN SECTION (PHOTOGRAPH LOCATION COORDINATES: 31°21'6.73"S, 24°49'4.21"E)



APPENDIX E: ENVIRONMENTAL MANAGEMENT PROGRAMMES

PLEASE SEE THE SEPARATE EMPRS:

1. STANDARD EMPR

2. GENERIC EMPR – POWERLINE

3. GENERIC EMPR – SUBSTATION

APPENDIX F: PROOF OF PUBLIC PARTICIPATION

THIS SECTION WILL BE UPDATED SUBSEQUENT TO THE 30-DAY PUBLIC REVIEW PERIOD.

APPENDIX G: COMMENTS AND RESPONSE REPORT

PLEASE SEE THE SEPARATE COMMENTS AND RESPONSE REPORT. THIS SECTION WILL BE UPDATED SUBSEQUENT TO THE 30-DAY PUBLIC REVIEW PERIOD.

APPENDIX H: APPROVED PUBLIC PARTICIPATION PLAN

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17 August 2021

PROPOSED UMSOBOMVU SUBSTATIONS, CONCRETE TOWER MANUFACTURING FACILITIES AND LAYDOWN AREA, SITUATED IN THE UMSOBOMVU LOCAL MUNICIPALITY (NORTHERN CAPE PROVINCE) AND THE INXUBA YETHEMBA LOCAL MUNICIPALITY (EASTERN CAPE PROVINCE).

DFFE REFERENCE NO.: TBC

1. BACKGROUND & INTRODUCTION

Umsobomvu Wind Power (Pty) Ltd is proposing the development of infrastructure to supplement the development of the authorised Wind Energy Facilities (WEFs) in proximity to the infrastructure site. The proposed infrastructure is situated on Portion 8 of Uitzicht Farm 3, the Remaining Extent (RE) of Winterhoek Farm 118, and the RE of Elands Kloof Farm 135. These properties are situated within the Umsobomvu Local Municipality in the Northern Cape Province and the Inxuba Yethemba Local Municipality in the Eastern Cape Province.

The proposed development includes:

- The assessment of one (1) 600 m x 900 m area which will include:
  - An IPP 132 kV Substation up to 22 500 m^2;
  - 132 kV Distribution Substation (collector substation) up to 22 500 m^2;
  - Operation and Maintenance (O&M) Building up to 22 500 m^2; and
  - A 132 kV Overhead Line (OHL) of up to 400 m in length.
- The assessment of two (2) 300 m x 300 m areas which will include:
  - Area 1: A Concrete Tower Manufacturing Facility (CTMF) and Temporary Laydown Area of up to 60 000 m^2; and
  - Area 2: A CTMF and Temporary Laydown Area of up to 60 000 m^2.

Please refer to the Locality Map (Figure 1) on the following page.

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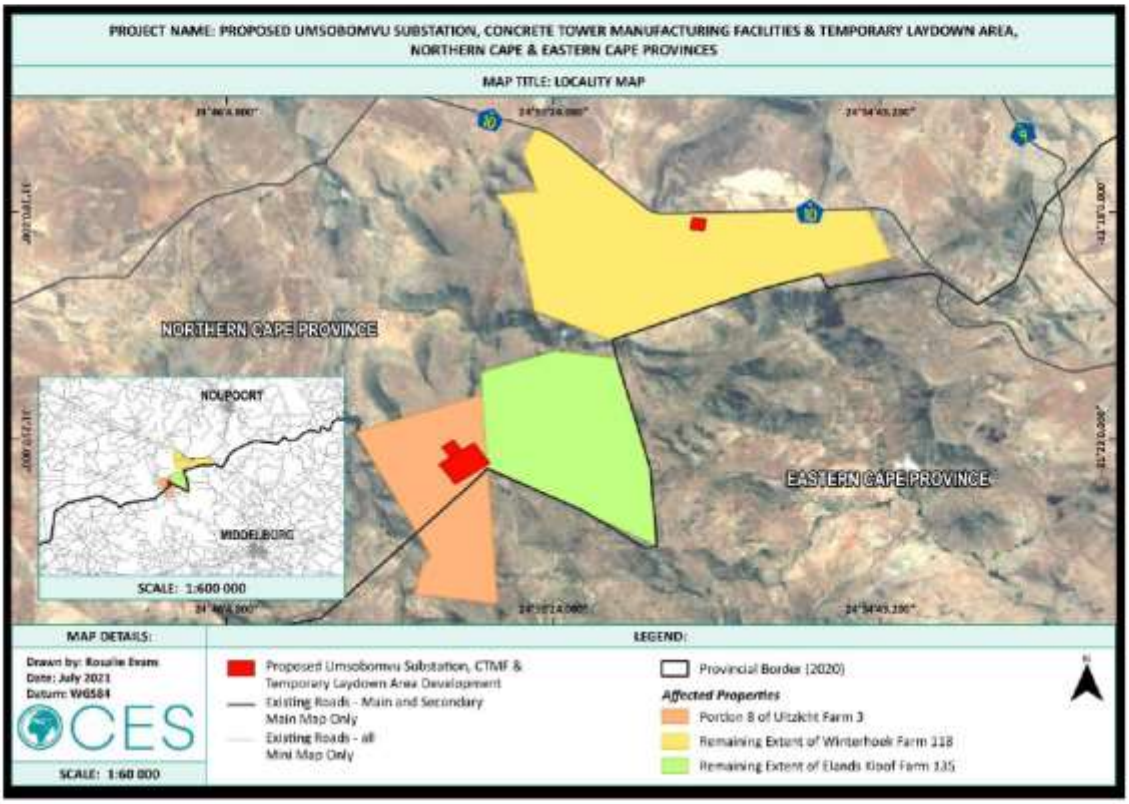

Figure 1: Locality Map of the Proposed SS, CTMF and Temporary Laydown Area Development.

2. ENVIRONMENTAL AUTHORISATION REQUIREMENTS

The proposed Umsobomvu Development triggers a Basic Assessment Process due to the National Environmental Management Act (NEMA) (Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014, as amended) Listing Notice 1 and 3 activities.

3. PUBLIC PARTICIPATION PROCESS

Table 1 has been compiled in accordance with Regulations 40 to 44 of the EIA Regulations (2014, as amended).

Table 1: Public Participation legislated requirements.

	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
1.	(40)(1) The public participation process to which the – (a) Basic assessment report and EMPr, ~~and where applicable the closure plan,~~ submitted in terms of regulation 19;	The Draft Basic Assessment Report BAR (BAR), Environmental Management Programmes (EMPrs) (standard and generic) and specialist input (ecological – botanical and faunal, archaeological,

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	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
	Must give all potential or registered interested and affected parties, including the competent authority, a period of at least 30 days to submit comments on each of the basic assessment report, EMPr, ~~scoping report and environmental impact assessment report, and where applicable the closure plan, as well as the report contemplated in regulation 32,~~ if such reports or plans are submitted at different times.	palaeontological, and avifaunal) will be available for public review for a thirty (30) day public review period. A soft copy will be made available on the CES website (www.cesnet.co.za/public-documents) and the registered Stakeholders and Interested and/or Affected Parties (I&APs) will receive a link to the location of these draft reports. In addition, the draft reports will be uploaded to SAHRIS (https://sahris.sahra.org.za/) for heritage competent authority and further public review.
2.	(40)(2) The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application unless access to that information is protected by law and must include consultation with – (a) The competent authority; (b) Every State department that administers a law relating to a matter affecting the environment relevant to an application for an environmental authorisation; (c) All organs of state which have jurisdiction in respect of the activity to which the application relates; and (d) All potential, or, where relevant, registered interested and affected parties.	An initial Stakeholder and I&AP Database was compiled and managed during the Scoping and EIA Process for the Umsobomvu Wind Energy Facility (WEF) development (DFFE Reference Number: 14/12/16/3/3/2/730) between 2014 and 2016. This same Database was used for- and updated during the Part 2 Environmental Authorisation Amendment Process in 2019. This Database was also used for- and updated during the Basic Assessment (BA) Processes for the Umsobomvu Infrastructure Development (DFFE Reference Number: 14/12/16/3/3/1/2040) and the Coleskop Infrastructure Development (DFFE Reference Number: 14/12/16/3/3/1/2039), for which the Final Amended BARs were submitted to the DFFE in July 2021. This Stakeholder and I&AP Database, which was compiled in 2014 and updated up until 2021, will be used for the current BA Process. Any additional Stakeholders and/or I&APs, that register during the PPP on the Draft BAR, will be added to this Database. Please refer to the latest version of this Stakeholder and I&AP Database in Appendix 1.
3.	(40)(3) Potential or registered interested and affected parties. Including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but must be provided with an opportunity to comment on such reports once the application has been submitted to the competent authority.	The Draft BAR, EMPrs (standard and generic) and specialist input will be available for public review for a thirty (30) day public review period. A soft copy will be made available on the CES website (www.cesnet.co.za/public-documents) and the registered Stakeholders and I&APs will receive a link to the location of these draft reports. In addition, the draft reports will be uploaded to SAHRIS

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	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
		(https://sahris.sahra.org.za/) for heritage competent authority and further public review. Email notifications and registered mail (for the I&APs for which email addresses are not available) will be sent to all registered Stakeholders and I&APs to notify them of the availability of the Draft BAR for public review, which will include details on how a copy of the draft reports can be accessed, the duration for which the draft reports will be available for public review, the contact person for the submission of any comments or queries, etc.
4.	(41)(2)(a) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of - (i) The site where the activity to which the application or proposed application relates is or is to be undertaken; and (ii) Any alternative site.	A site notice board was placed at the entrance to the proposed development site on the 21st of July 2021. No alternative sites have been identified for the proposed development.
5.	(41)(2)(b) Giving written notice, in any of the manners provided for in Section 47D of the Act, to - (i) The occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken; (ii) Owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken; (iii) The municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area; (iv) The municipality which has jurisdiction in the area; (v) Any organ of state having jurisdiction in respect of any aspect of the activity; and (vi) Any other party as required by the competent authority.	The Draft BAR, EMPrs (standard and generic) and specialist input will be available for public review for a thirty (30) day public review period. A soft copy will be made available on the CES website (www.cesnet.co.za/public-documents) and the registered Stakeholders and I&APs will receive a link to the location of these draft reports. In addition, the draft reports will be uploaded to SAHRIS (https://sahris.sahra.org.za/) for heritage competent authority and further public review. Email notifications and registered mail (for the I&APs for which email addresses are not available) will be sent to all registered Stakeholders and I&APs to notify them of the availability of the Draft BAR for public review, which will include details on how a copy of the draft reports can be accessed, the duration for which the draft reports will be available for public review, the contact person for the submission of any comments or queries, etc. Advertisements, notifying the public of the availability of the Draft BAR for public review, will be placed in the Volksblad (Northern Cape) and Die Burger (Eastern Cape) at the onset of (or a few days

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	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
		prior to) the release of the Draft BAR for public review. As explained in Row 2 of this Table, the existing Stakeholder and I&AP Database will be used for the notification of the relevant Stakeholders and the registered I&APs, and this Database will be updated during the current BA Process.
6.	(41)(2)(c) Placing an advertisement in - (i) One local newspaper; or (ii) Any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations.	Advertisements, notifying the public of the availability of the Draft BAR for public review, will be placed in the Volksblad (Northern Cape) and Die Burger (Eastern Cape) at the onset of (or a few days prior to) the release of the Draft BAR for public review.
7.	(41)(2)(d) Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph.	
8.	(41)(2)(e) Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to- (i) Illiteracy; (ii) Disability; or (iii) Any other disadvantage.	Due to the Covid-19 pandemic, no physical public meetings will be held during the release of the Draft BAR for the thirty (30) day public review period. However, all comments received via telephone will be included in the Comments and Response Report to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background will be provided verbally during telephone discussions, where requested. Individual or focus group Virtual Meetings via an online platform, such as Microsoft Teams, will made available as an option to registered Stakeholders and I&APs during the public review period on the Draft BAR.
9.	(42) A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such register to the	As explained in Row 2 of this Table, the existing Stakeholder and I&AP Database will be used for the notification of the relevant Stakeholders and the

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	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
	competent authority, which register must contain the names, contact details and addresses of – (a) All persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP; (b) all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and (c) all organs of state which have jurisdiction in respect of the activity to which the application relates.	registered I&APs, and this Database will be updated during the current BA Process.
10.	(43)(1) A registered interested and affected party is entitled to comment, in writing, on all reports or plans submitted to such party during the public participation process contemplated in these Regulations and to bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.	The Draft BAR, EMPrs (standard and generic) and specialist input will be available for public review for a thirty (30) day public review period. A soft copy will be made available on the CES website (www.cesnet.co.za/public-documents) and the registered Stakeholders and I&APs will receive a link to the location of these draft reports. In addition, the draft reports will be uploaded to SAHRIS (https://sahris.sahra.org.za/) for heritage competent authority and further public review. Email notifications and registered mail (for the I&APs for which email addresses are not available) will be sent to all registered Stakeholders and I&APs to notify them of the availability of the draft reports for public review, which will include details on how a copy of the draft reports can be accessed, the duration for which the draft reports will be available for public review, the contact person for the submission of any comments or queries, etc.
11.	(43)(2) In order to give effect to section 24O of the Act, any State department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days.	All registered Stakeholders and I&APs in the current Database, including the State departments which administer laws relating to matters affecting the environment, will be notified of the availability of the draft reports for a thirty (30) day public review period via email notification or registered mail. In addition, the draft reports will be uploaded to SAHRIS (https://sahris.sahra.org.za/) for heritage competent authority and further public review.
12.	44(1) The applicant must ensure that the comments of interested and affected parties are recorded in reports and plans and that such written comments, including	A Comments and Response Report will be compiled and updated throughout the public review period on the draft reports. All comments received, and the

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	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED UMSOBOMVU SUBSTATION, CTMF AND TEMPORARY LAYDOWN AREA BA PROCESS
	responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.	responses to these comments as well as the comments received and the responses during any Virtual Meetings. In addition, meeting minutes and attendance registers of any Virtual Meetings and copies of all written correspondence will be included in the Final BAR.
13.	44(2) Where a person desires but is unable to access written comments as contemplated in subregulation (1) due to – (a) A lack of skills to read or write; (b) Disability; or (c) Any other disadvantage; Reasonable alternative methods of recording comments must be provided for.	Due to the Covid-19 pandemic, no physical public meetings will be held during the release of the Draft BAR for the thirty (30) day public review period. However, all comments received via telephone will be included in the Comments and Response Report to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background will be provided verbally during telephone discussions, where requested. Individual or focus group Virtual Meetings via an online platform, such as Microsoft Teams, will made available as an option to registered Stakeholders and I&APs during the public review period on the Draft BAR.

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APPENDIX 1

EXISTING STAKEHOLDER & I&AP DATABASE *(LATEST VERSION, LAST UPDATED IN JULY 2021)*

1. *Stakeholder Database*

Registered Stakeholders (as part of the I&AP Database).

REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Department of Forestry, Fisheries and the Environment (DFFE)		
DFFE: Biodiversity & Conservation		
Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) (Eastern Cape)		
Department of Nature Conservation and Environmental Affairs (Northern Cape)		
Department of Water and Sanitation (DWS) (Eastern Cape)		
DWS (Northern Cape)		
Department of Mineral Resources and Energy (DMRE) (Northern Cape)		
DMRE (Eastern Cape)		
Department of Agriculture Forestry & Fisheries (DAFF)		
Department of Energy		
Eskom		
Eskom: Renewable Energy		
Eskom: Land & Rights Section		
Pixley District Municipality (Northern Cape)		
Chris Hani District Municipality (Eastern Cape)		

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REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
	Funeka Nxesi	fnxesi@chrishanidm.gov.za
Umsobomvu Local Municipality (Northern Cape)		
Inxuba Yethemba Local Municipality (Eastern Cape)		
Umsobomvu Local Municipality Ward 2 Councillor		
Inxuba Yethemba Local Municipality Ward 3 Councillor		
Inxuba Yethemba Local Municipality Ward 6 Councillor		
SALGA Northern Cape		
SALGA Eastern Cape		
Eastern Cape Provincial Heritage Resources Authority (ECPHRA)		
Ngwao Boswa Kapa Bokoni is the Provincial Heritage Resources Authority of the Northern Cape Province		
South African Heritage Resources Agency (SAHRA)		
Telkom		
Sentech		
Vodacom		
MTN		
Cell C		
Noupoort Farmers Association (Northern Cape)		
Molteno Agricultural Union (Eastern Cape)		
Bamboesberg Agricultural Association (Eastern Cape)		
Loperberg Agricultural Association (Eastern Cape)		
Sandfontein Agricultural Association (Eastern Cape)		
Middelburg District Agricultural Union (Eastern Cape)		

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REGISTERED STAKEHOLDERS		
STAKEHOLDER	CONTACT PERSON	CONTACT DETAILS
Bo-Suurberg Agricultural Association (Eastern Cape)		
Nooitgedacht Argicultural Association (Eastern Cape)		
Rooihoogte Farmers Association (Eastern Cape)		
Schoombee Farmers Association (Eastern Cape)		
The Willows Agricultural Association (Eastern Cape)		
Hofmeyr Agricultural Association (Eastern Cape)		
Civil Aviation Authority (CAA)		
Air Traffic and Navigation Services (ATNS)		
Roads (SANRAL/Public Works)		
BirdLife South Africa		
BirdLife South Africa		
BirdLife South Africa: Birds and Renewable Energy Manager		
BirdLife South Africa: Policy & Advocacy Manager		
Endangered Wildlife Trust: CEO		
Endangered Wildlife Trust: Head of Conservation Science		
Endangered Wildlife Trust: African Crane Conservation Programme Manager		
Endangered Wildlife Trust: African Crane Conservation Programme Field Officer		
Endangered Wildlife Trust: Wildlife & Energy Programme		
WESSA NC Regional Representative		
WESSA EC Regional Representative		
Middelburg Agricultural Show		
Middelburg Fire Protection		
Middelburg Tourism Bureau		
Grootfontein Agricultural Development Institute		
Wildlife Ranching RSA		
East Cape Game Management Association		
INDALO		

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2. Registered I&AP Database

Registered I&APs (as part of the I&AP Database).

REGISTERED I&APS		
REGISTERED I&AP	NAME	CONTACT DETAILS
Private Landowner	Andries Keun	akeun@gmail.com
Private Landowner		
Sherborne Guesthouse		
CABAC		
Private		
EWT: Threatened Grassland Species Programme		
DFFE		
Department of Environment and Nature Conservation (DENC)		
Private Landowner		
ECDC		
Integrated Wind Power		
Leads 2 Business		
G7 Renewable Energies (Pty) Ltd		
Grass Master CC		
Mario's Fencing Works		
ABO Wind		
Endangered Wildlife Trust		

3. Landowners & Surrounding Landowners Database

Landowners and Surrounding Landowners (as part of the I&AP Database).

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
60/1	Klip Krands		
3/5	Uitzicht		
75/4	Schorpioen Kraal		
133/RE	Holle Fountain		
133/1	Holle Fountain		
133/4	Holle Fountain		
118/1	Winterhoek		
119/RE	Vlage Kop		
140/2	Wonder Heuvel		
140/4	Wonder Heuvel		
135/1	Elands Kloof		
3/2	Uitzicht		
3/3	Uitzicht		
3/7	Uitzicht		
3/8	Uitzicht		

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REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
3/RE	Uitzicht		
3/4	Uitzicht		
61/2	Leeuw Hoek		
133/3	Holle Fountain		
120/RE	Leuwe Kop		
120/1	Leuwe Kop		
3/6	Uitzicht		
61/RE	Leeuw Hoek		
61/6	Leeuw Hoek		
61/4	Leeuw Hoek		
61/3	Leeuw Hoek		
61/7	Leeuw Hoek		
133/2	Holle Fountain		
62/2	Paarde Valley		
3/1	Uitzicht		
3/11	Uitzicht		
136/RE	Winterhoek		
135/RE	**Elands Kloof**		
118/RE	**Winterhoek**		
113/1	Elands Heuvel		
4/RE	Annex Grys Kop		
4/1			
7/2	Gryse Kop		
7/4			
7/3			
7/9			
7/8			
7/7			
59/RE	Farm59		
60/7	Klip Krands		
3/10	Uitzicht		
3/9	Uitzicht		
60/9	Klip Krands		
78/RE	Farm78		
75/2	Schorpioen Kraal		
76/6	Vogelfontein		
60/8	Klip Krands		
76/3	Vogelfontein		
75/3	Schorpioen Kraal		
76/RE	Vogelfontein		
75/7	Schorpioen Kraal		
75/5	Schorpioen Kraal		

Coastal and Environmental Services (Pty) Ltd
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67 African Street, Makhanda (Grahamstown), 6140
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CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

REGISTERED LANDOWNERS AND SURROUNDING LANDOWNERS			
FARM NUMBER/ PORTION	FARM NAME	CONTACT PERSON	CONTACT DETAILS
75/RE	Schorpioen Kraal		
60/10	Klip Krands		
61/1	Leeuw Hoek		
69/2	Vink Fontein		
131/2	Rietfontein		
131/RE	Rietfontein		
140/RE	Annex Fonteintjie		
75/8	Schorpioen Kraal		
75/6	Schorpioen Kraal		
60/3	Klip Krands		
60/4	Klip Krands		
67/RE	Kapok Hoek		
140/3	Wonder Heuvel		
133/5	Holle Fontein		
140/1	Wonder Heuvel		
121/RE	Mooi Plaats		
65/2	Zaay Fontein		
67/5	Kapok Hoek		
67/1	Kapok Hoek		
65/RE	Zaay Fontein		
65/1	Zaay Fontein		
63/RE	Septembers Kraal		
122/RE	Vlak Plaats		
146/RE	Elandsheuwel		
146/1	Elandsheuwel		
7/RE	Gryse Kop		
7/6	Gryse Kop		
8/5	Groote Hoek		
8/2	Groote Hoek		
61/5	Leeuw Hoek		

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