

DRAFT BASIC ASSESSMENT REPORT

FOR THE PROPOSED CONSTRUCTION OF THE 6.5 KM IMPALA ZIRCON TEMPORARY BY- PASS 132KV POWERLINE WITH ASSOCIATED INFRASTRUCTURE WITHIN THE UMHLATHUZE MUNICIPALITY, KWA-ZULU NATAL PROVINCE

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6.	Transnet
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9.	South African Heritage Resource Agency
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11.	Air Traffic and Navigation Services SOC Limited (ATNS)
12.	Transnet
13.	Richards Bay Industrial Development Zone Company
14.	South African National Roads Agency SOC Limited (SANRAL)
15.	Wildlife and Environment Society of South Africa (WESSA)
16.	Bird Life South Africa
17.	Department of Electricity and Energy (DEE)
18.	Department of Forestry, Fisheries and the Environmental Directorates - Biodiversity Conservation, Control Biodiversity - Forestry Management - Integrated Coastal Management - Coastal Pollution Management - Protected Areas - Oceans and Coast
19.	KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZNEDTEA) - Environmental Impact Management - Coastal Management - Biodiversity Management

EXECUTIVE SUMMARY

I. PROJECT DESCRIPTION AND LOCATION

The Applicant (Eskom Holdings SOC Limited) intends to Maintain and Refurbish the Impala Zircon 132kV Powerline located in Empangeni, under Richards Bay, KwaZulu-Natal Province. The existing powerline is experiencing severe corrosion and deterioration on tower foundations. Therefore, a temporary bypass powerline is required in order to continue with the Maintenance of the Main powerline. The proposed temporary 132kV bypass powerline will be approximately 6.5 km in length, built on wooden poles and will be in use for a period of 5 years. The bypass powerline will be located within the existing servitude, approximately 15m parallel to the main powerline, traversing predominantly sugarcane farmland and crossing the uMhlathuze River. The proposed bypass powerline is situated within the uMhlathuze Local Municipality under the jurisdiction of the King Cetshwayo District Municipality.

The proposed development falls within the Expanded Eastern Corridor, which is one of the seven Strategic Transmission Corridors (STCs) identified in Government Notice 113, promulgated on 16 February 2018. However, the Screening Tool and the Site Sensitivity Verification process confirmed the presence of Very High and High environmental sensitivities within portions of the study area, necessitating the undertaking of a Basic Assessment Process compliance with the National Environmental Management Act (NEMA) (Act 107 of 1998, as amended) and Appendix 1 of the Environmental Impact Assessment (EIA) Regulations, 2014. Below is the locality map of the proposed powerline:

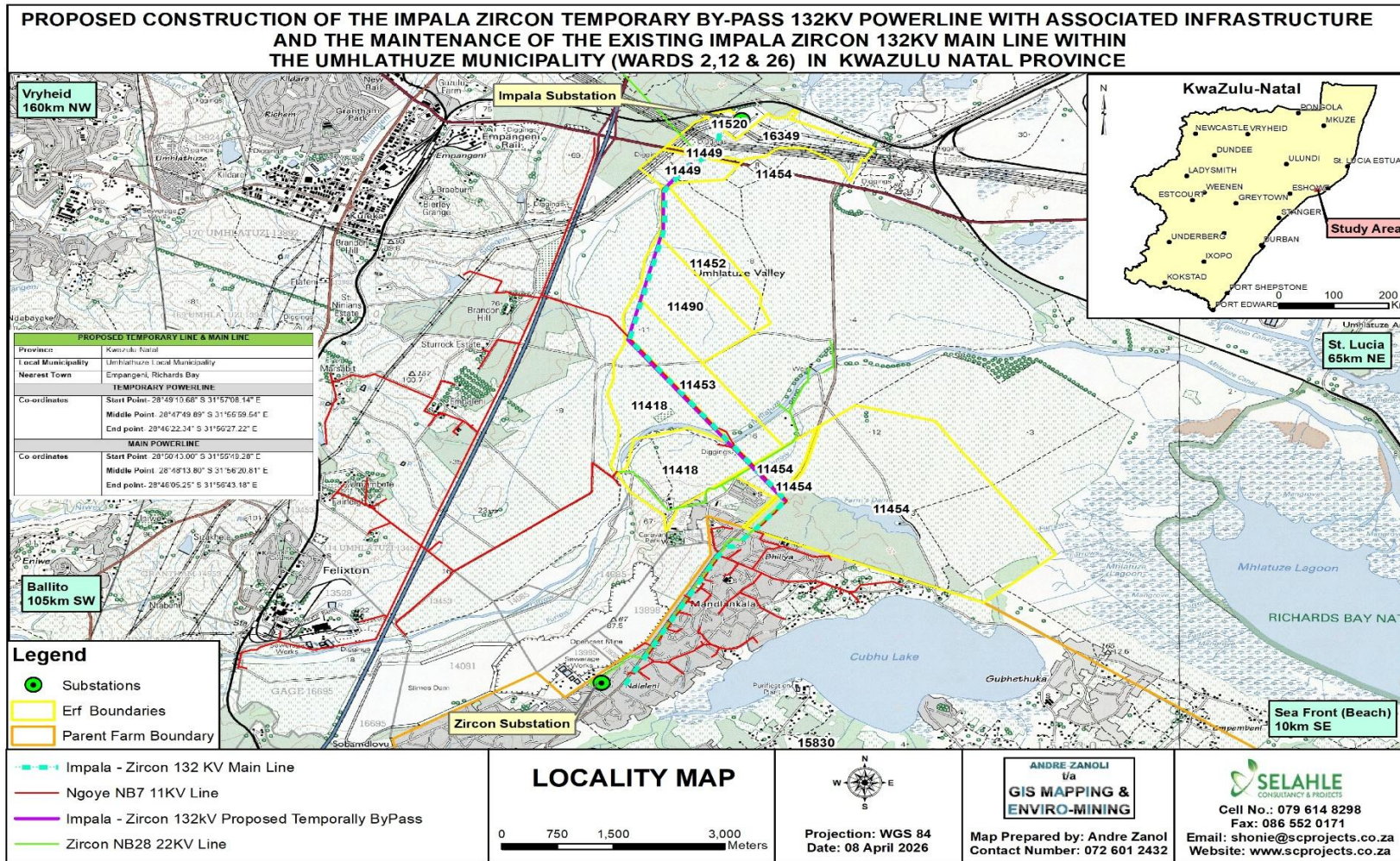


Figure 1: Locality Map for the proposed development

II. TRIGGERED ACTIVITIES

The proposed development triggers the activities listed below in terms of the EIA Regulations, 2014, as amended, promulgated under the National Environmental Management Act (Act No. 107 of 1998).

- Listing Notice 1 – Activity 11 and 19
- Listing Notice 3 – Activity 12(d)(i) and 14(ii)(c)(d)

III. OTHER AUTHORISATIONS REQUIRED

- **The Water Use License**

The proposed Temporary By-Pass Powerline crosses the uMhlathuze River and through Riparian areas. Therefore, the proposed temporary Bypass Powerline requires authorisation under the National Water Act, 1998 (Act No. 36 of 1998). The proposed triggers Section 21(c) and 21(i), relating to the impeding or diverting of water flow and altering watercourse characteristics. The General Authorisation process is currently underway.

- **The Maintenance Management Plan**

The proposed Temporary By-Pass 132 kV Powerline is intended to facilitate the maintenance and refurbishment of the existing Impala Zircon Main Powerline by temporarily transferring the electrical load from the existing line to the bypass line for a period of five (5) years. This approach will enable the safe execution of maintenance activities while ensuring stability of electricity supply to customers. Therefore, a Maintenance Management Plan (MMP) has been prepared for the refurbishment of the existing main powerline in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998), read together with the Environmental Impact Assessment Regulations, 2014, as amended.

IV. NEEDS & DESIRABILITY

The proposed temporary Impala Zircon 132kV Bypass Powerline is both needed and desirable as it will ensure the continued and reliable supply of electricity while enabling the maintenance and refurbishment of the existing Impala Zircon 132kV powerline, which is experiencing severe corrosion and deterioration of its tower foundations. Without the temporary bypass, maintenance activities could compromise electricity supply to the surrounding area and connected customers. The project supports infrastructure reliability, energy security, and service continuity, while its temporary nature and location within the existing powerline servitude minimise environmental disturbance and land-use conflicts. Furthermore, the project aligns with national and regional objectives aimed at maintaining critical electricity infrastructure, supporting economic activities, and ensuring sustainable service delivery within the uMhlathuze Local Municipality and the King Cetshwayo District Municipality.

V. PROJECT ALTERNATIVES

Technology, Operation and the No-go alternatives were investigated for the proposed development.

- **Technology Alternative**

The proposed temporary bypass powerline will utilise wooden pole structures due to their suitability for temporary infrastructure, cost-effectiveness, and lower environmental footprint. Wooden poles can be installed and removed more efficiently than permanent structures.

- **Operation Alternative**

The operational alternative involves temporarily transferring the electrical load from the existing main powerline to the bypass line while maintenance and refurbishment activities are undertaken. This approach ensures a continuous and reliable electricity supply throughout the maintenance period.

- **No-Go Alternative**

The No-Go alternative would involve not constructing the temporary bypass powerline and not undertaking the required maintenance of the existing Impala Zircon 132kV Main Powerline. This alternative is not considered feasible as continued deterioration of the infrastructure could result in power supply disruptions, infrastructure failure, and adverse socio-economic consequences for affected users.

VI. PUBLIC PARTICIPATION PROCESS

The first phase of the PPP was conducted between 9 March 2026 and 7 April 2026, and documents that were submitted to the Organs of State, Stakeholders, and Interested & Affected Parties were:

- Background Information Documents that were accompanied by the comment sheet were distributed between 9 March 2026 and 7 April 2026.
- A mandatory advertisement, to announce the intention to conduct a Basic Assessment process, was published on Zulu Observer newspaper on 9 March 2026.
- Site notices were erected on 10 March 2026.
- Interested and Affected Parties and other key stakeholders were directly informed of the proposed development by e-mail on 11 March 2026.

The CRR will be updated continuously until the last phase of the application process.

VII. SPECIALIST STUDIES

The Specialist Studies and Compliance Statements were conducted in line with the protocol requirements in accordance with Government Notice No. 648 and Appendix 6 of the EIA Regulations, 2014, as amended. Below are the specialists' findings and impacts.

- **Agricultural Impact Assessment**

The assessment found that the study area consists of moderately productive agricultural land currently used mainly for sugarcane cultivation. Potential impacts include temporary soil disturbance,

topsoil loss and minor disruption to farming activities. These impacts were assessed as localised, reversible and of low significance.

▪ **Heritage Impact Assessment**

No archaeological sites, graves, burial grounds or significant heritage resources were identified within the development footprint. The overall heritage sensitivity of the area was assessed as low. Potential impacts are limited to the unlikely disturbance of previously undiscovered heritage resources during construction.

▪ **Civil Aviation Study**

The assessment found that the proposed temporary bypass line will not significantly affect aviation operations, navigational systems or radar infrastructure. As the bypass largely follows the existing powerline alignment, no material increase in aviation risk is anticipated. The overall impact on civil aviation was assessed as low.

▪ **Radio Frequency Interference Compliance Statement**

The study found that the proposed powerline is unlikely to generate Radio Frequency Interference Under normal operating conditions. Potential impacts could arise only from equipment faults, poor installation or inadequate maintenance. Overall, the risk of interference with communication and electronic systems was assessed as low.

▪ **Palaeontological Impact Assessment**

The study area has been extensively transformed by agricultural activities and existing infrastructure, reducing the likelihood of significant fossil resources occurring within the footprint. Potential impacts are limited to the accidental disturbance of previously unidentified fossil material during excavation. The anticipated palaeontological impact was assessed as low.

▪ **Visual Impact Assessment**

The temporary bypass powerline will introduce a temporary visual element into an already transformed landscape containing existing distribution infrastructure. Potential impacts relate to visual intrusion during construction and operation. These impacts were assessed as low due to the temporary nature of the project and the presence of existing powerline infrastructure.

▪ **Aquatic Biodiversity Assessment (Wetland Assessment)**

The assessment identified wetlands, drainage features and the uMhlathuze River within the broader study area, including systems of high ecological importance and sensitivity. Potential impacts include temporary disturbance of wetlands, alteration of drainage patterns, erosion and sedimentation during construction. However, all aquatic impacts were assessed as low and manageable with the implementation of mitigation and rehabilitation measures.

VIII. LIST OF IMPACTS BEFORE AND AFTER MITIGATION

Table 1: List of Impacts Before and After Mitigation

IMPACT	SIGNIFICANCE (before mitigation)	SIGNIFICANCE (after mitigation)
PRE- CONSTRUCTION PHASE		

IMPACT	SIGNIFICANCE (before mitigation)	SIGNIFICANCE (after mitigation)
Non-compliance with the Environmental Management Plan, Permits and Environmental Authorisation / Relevant Site Documentation	Very High	Medium
Non-viable design and selection of technology	Medium	Low-
CONSTRUCTION PHASE		
Vegetation Clearing and Loss of Terrestrial Habitat	High	Medium
Disturbance to Fauna	Medium	Low
Impacts on Wetlands, Drainage Lines and Aquatic Habitat	High	Medium
Soil Erosion, Soil Instability and Geotechnical Disturbance	High	Medium
Soil, Surface Water and Groundwater Contamination	High	Medium
Agricultural Land Capability, Topsoil Loss and Soil Productivity Disturbance	High	Medium
Dust Generation	Medium	Low
Noise and Vibration Disturbance	Medium	Low
Waste Generation, Pollution and Housekeeping	Medium	Low
Avifauna Disturbance During Construction Activities	Medium	Low
Visual Intrusion and Landscape Disturbance	Medium	Low
Heritage, Archaeological and Palaeontological Resource Disturbance	Medium	Low
Traffic, Access and Construction Movement Disturbance	Medium	Low
OPERATIONAL PHASE		
Avifauna Collision Risk Associated with Temporary Overhead Infrastructure	High	Medium
Avifauna Electrocution Risk	Medium	Low
Temporary Visual Intrusion within the Receiving Landscape	Medium	Low
Residual Soil Instability and Erosion at Disturbed Infrastructure Locations	Medium	Low
Disturbance to Wetlands, Drainage Features and Ecological Function	Medium	Low
Positive Socio-Economic and Electricity Supply Continuity Benefit	Positive Very High	Positive Very High
Spread of alien invasive plant species	Medium	Low

ENVIRONMENTAL ASSESSMENT PRACTITIONER'S STATEMENT:

The Basic Assessment process identified potential impacts on terrestrial and aquatic ecosystems, wetlands, soils, agricultural land, avifauna, visual resources and heritage resources during the construction, operation and decommissioning of the proposed Impala–Zircon Temporary 132 kV By-Pass Powerline. The most significant impacts are associated with vegetation clearing, soil disturbance, erosion, wetland crossings and potential avifaunal interactions; however, these impacts are expected to be temporary, localised and manageable through the implementation of mitigation measures and EMP requirements. The project will ensure continued electricity supply during the refurbishment of the existing Impala–Zircon 132 kV Main Powerline, and the decommissioning of the temporary infrastructure together with rehabilitation of disturbed areas will minimise long-term environmental effects. Overall, no fatal flaws were identified that would prevent the project from proceeding.

TERMS OF REFERENCE

The primary objective of the Basic Assessment Process is to present sufficient information to the competent authority (CA), which in this case is the Department of Forestry, Fisheries and Environment (DFFE) and interested and affected parties (I&APs) on predicted potential impacts and associated mitigation measures required to avoid or mitigate potential negative impacts, as well as to improve or maximise the potential benefits of the proposed development. The EIA Regulations 2014, as amended, regulate and prescribe the content of the Basic Assessment report and specify the type of supporting information that must accompany the submission of the report to the authorities. The table below shows how and where the legal requirements are addressed in this Basic Assessment report. This Draft Basic Assessment report contains the Public Participation Process information undertaken to date.

INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

. 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	Sections
a) Details of - (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including a curriculum vitae.	Section 1
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 (iv) the boundary of the property or properties.	Section 3
c) A plan that 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 (iii) activity is to be undertaken.	Section 3
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 (iii) infrastructure.	Section 3

SCOPE OF ASSESSMENT & CONTENT OF BASIC ASSESSMENT REPORTS	Sections
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. (iii) context, plans, guidelines, tools frameworks, and instruments.	Section 4
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.	Section 5
g) A motivation for the preferred site, activity, and technology alternative.	Section 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 way 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;	Section 6, 7 & 8
(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 – (vi) aa. Can be reversed. (vii) bb. May cause irreplaceable loss of resources, and cc. Can be avoided, managed or mitigated; (viii) The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated (ix) with the alternatives; (x) 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; (xi) The possible mitigation measures that could be applied and level of residual risk; (xii) The outcome of the site selection matrix; (xiii) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and (xiv) A concluding statement indicating the preferred alternatives, including the preferred	Section 9

SCOPE OF ASSESSMENT & CONTENT OF BASIC ASSESSMENT REPORTS	Sections
(xv) 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 (iii) measures.	Section 9
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.	Section 10
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.	Section 8
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 that 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 (iv) identified alternatives.	Section 7 & 8
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.	Section 10
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.	Section 11

SCOPE OF ASSESSMENT & CONTENT OF BASIC ASSESSMENT REPORTS	Sections
o) A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Section 12
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.	Section 12
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.	Section 13
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 (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 (v) parties.	Appendix B
s) Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post-decommissioning management of negative environmental impacts.	<i>None to date</i>
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.	<i>None to date</i>

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DEFINITIONS

Agricultural Land	Land suitable for cultivation, grazing, or other forms of agricultural production.
Agricultural Potential	The inherent capability of land to support agricultural activities based on soil, climate, and terrain characteristics.
Archaeological Material:	Remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.
Biodiversity	The variety of plant and animal life in a particular habitat or ecosystem.
Chance Finds	Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.
Development"	The building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, [including any associated post development monitoring] but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint;
Development footprint	Any evidence of physical alteration as a result of the undertaking of any activity;
Development setback	A setback line defined or adopted by the competent authority
Expansion	The modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;
Estuary	Estuary means a body of surface water— a) that is part of a water course that is permanently or periodically open to the sea; b) in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the water course is open to the sea; or c) in respect of which the salinity is measurably higher as a result of the influence of the sea:
Estuarine functional zone"	The area in and around an estuary which includes the open water area, estuarine habitat (such as sand and mudflats, rock and plant communities) and the surrounding floodplain area, as defined by the area below the 5 m topographical contour (referenced from the indicative mean sea level)

Electrical equipment	Any electrical machinery, electrical systems, appliances, or devices, including any wireless data communication used for the operation of these facilities, used for construction, distribution and transmission power systems, exploration, farming, household, manufacturing, maintenance, or mining purposes
Electrical infrastructure	Any infrastructure or facility, including any wireless data communication used for the operation of the electrical infrastructure, to be used in any way for electricity generation, electricity distribution, electricity transmission, or for a distribution or transmission power system, and electrical facilities and equipment used for these applications
indigenous vegetation	Vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;
Integrated Development Plan	An Integrated Development Plan is a plan for an area that provides an overall framework for development. It aims to coordinate the work of local and other spheres of government in a coherent plan to improve the quality of life for all the people living in an area.
Maintenance	Actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;
Maintenance management plan	A management plan for maintenance purposes defined or adopted by the competent authority;
Obstacle Limitation Surfaces	A set of imaginary planes or surfaces above the ground that sets limits beyond which ground-based objects may not penetrate, to preserve the operational safety of aircraft, as laid down in ICAO reference material,
Protected area	Those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers;
Temporary Infrastructure	Infrastructure intended for short-term use and removal after project completion.
Watercourse	Watercourse means – a) a river or spring; b) a natural channel in which water flows regularly or intermittently; c) a wetland, pan, lake or dam into which, or from which, water flows; and d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and a reference to a watercourse includes, where relevant, its bed and banks;
Wetland	Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

ACRONYMS & ABBREVIATIONS

AMA	Astronomy Management Authority
AIP / AIPs	Alien Invasive Plant(s)
BA	Basic Assessment
EIRP	Effective isotropic Radiated Power
BGIS	Biodiversity GIS (SANBI platform)
CA	Competent Authority
CBA	Critical Biodiversity Area
CRR	Comment & Response Report
DBAR	Draft Basic Assessment Report
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act, 1989 (Act No. 73 of 1989)
EI	Ecological Importance
EMI	Electromagnetic Interference
EMPr	Environmental Management Programme
ESA	Ecological Support Area
EDTEA	Department of Economic Development, Tourism and Environmental Affairs.
EKZNW	Ezemvelo KwaZulu-Natal Wildlife
FEPA	Freshwater Ecosystem Priority Areas
FI	Functional Integrity
GIS	Geographic Information System
GA	General Authorisation
GNR	Government Notice Regulation
HGM	Hydrogeomorphic
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Party
IAP	Invasive Alien Plants
ICAO	International Civil Aviation Organization
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
LUMS	Land Use Management System
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NFEPA	National Freshwater Ecosystem Priority Area
NEMPAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
OHL	Over Head Line
OLS	Obstacle Limitation Surfaces
PAOI	Project Area of Influence

PES	Present Ecological State
PPP	Public Participation Process
RFI	Radio Frequency Interference
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SCC	Species of Conservation Concern
SEI	Site Ecological Importance
SCP	Selahle Consultancy & Projects
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SIA	Social Impact Assessment
UVB	Unchanneled Valley Bottom
VAC	Visual Absorption Capacity
WULA	Water Use License Application
ZVI	Zone of Visual Influence.

1 DETAILS OF THE EAP

Table 2: Details of EAP

Name of the Environmental Assessment Practitioner	Shonisani Selahle
Tel No:	011 026 2560 / 079 569 5277
Fax No:	086 685 9567
Email:	shonie@scprojects.co.za / admin@scprojects.co.za

1.1 Expertise of the EAP

1.1.1 EAPASA Registered EAP

1.1.2 SACNASP Registered Scientist

1.1.3 SACPCMP Registered Safety Manager

Qualifications

- University of South Africa, BSc Honours, Environmental Management – 2025
- Tshwane University of Technology, N. Diploma Geology – 2010
- NOSA, Implementation of ISO 45001:2018 & ISO 14001:2015

Summary of the EAP's experience

Shonisani Selahle is an Environmental Consultant with more than 14 years of experience in applying the principles of Integrated Environmental Management and in applying the Environmental Legislation to several development projects and initiatives in Southern Africa. She has coordinated and managed several diverse projects and programs related to the Environment and Waste within both the public and private sectors for national and international companies. She has a great understanding of relevant legislation about environment management (NEMA, ECA, NWA, MPRDA, etc).

Curriculum Vitae Shonisani Selahle

- Ability to carry out international environmental legislation research to interpret and incorporate it in proposals/EIAs/BAs
- Understanding and implementation of World Bank Guidelines and Equator Principles into EIA reports
- Technicalities of EIA Guidelines (Pre-consultation; Exemption of Environmental Authorisation, Environmental Screening Studies, Feasibility Studies, Fatal Flaw Studies, Basic Assessment, EIA, Scoping, EIA Public Participation and Appeals)
- Ability to undertake Environmental Authorisation Amendments (Minor and Substantive) Application
- Ability to carry out Occupational Health and Safety Compliance Monitoring and Audits in terms of the Occupational Health and Safety Act and Construction Regulations

- Ability to do EIA Reports independently and incorporate specialist input into reports.
- Ability to compile Environmental Management Plans
- Ability to coordinate Public Participation from call to register to compile issues and response Reports.
- Ability to undertake EIA's/BAs for Renewable energy projects.
- Ability to carry out Environmental Control Officer (ECO) duties (site inspection and site/client auditing) and work independently.
- Ability to liaise with clients and authorities.
- Ability to undertake site rehabilitation using Bioremediation methods for contaminated sites,
- Ability to carry out Occupational Health and Safety Audits,
- Ability to apply Construction Health and Safety Permits with swift responses from the Department of Employment and Labour
- Ability to implement ISO 45001:2018 and ISO 18001:2015 standards per project description for companies.

2 INTRODUCTION & PROJECT BACKGROUND

Eskom SOC Limited (Central East Cluster KZN) proposes to construct approximately 6.5 km Impala Zircon Temporary By-Pass 132kV Powerline with Associated Infrastructure within the uMhlathuze Municipality in KwaZulu-Natal Province. Selahle Consultancy and Projects (Pty) Ltd (herein referred to as SCP) has been appointed as the Environmental Assessment Practitioners (EAPs) to undertake the Basic Assessment Process for the proposed temporary By-Pass 132kV Powerline located in Empangeni, Richards Bay.

The Impala Zircon 132kV Main Powerline is located along the North Coast of KwaZulu-Natal and is exposed to both coastal and industrial pollution, which have resulted in significant corrosion and deterioration of the tower foundations over time. To facilitate the maintenance and refurbishment of the main powerline while ensuring a continuous electricity supply, Eskom proposes the construction of a temporary By-Pass Powerline that will operate for a period of approximately five years. The temporary bypass will be constructed on wooden poles as a short-term solution during the refurbishment works. The existing powerline is approximately 10.582 km in length, of which Eskom is responsible for approximately 7.6 km, while the remaining powerline is owned and maintained by the uMhlathuze Local Municipality.

The Impala Zircon 132kV powerline is a radial line with no back-feeding capabilities and distributes electricity to approximately 6062 customers. It feeds Cygnus Substation, which supplies all the Esikhaweni networks, uMhlathuze Local Municipality and Lake Qube water pump.

3 PROPOSED DEVELOPMENT DESCRIPTION

3.1 Project Description

The 7.6 km Impala Zircon 132kV Main Powerline connects from Impala substation to Zircon 132kV Substation. The proposed temporary By-Pass powerline will be constructed from tower 6 up to tower 26 and may possibly be extended to tower 28 of the Main Powerline, running parallel to each other within its servitude (Eskom servitude for HV lines 18m on either side of the centre line ie total is 36m) of approximately 15m apart. Most of the powerline traverses a sugarcane farm, crossing the uMhlathuze River, an estuary functional zone and Riparian areas. As part of the Basic Assessment process, a temporary working servitude extending to approximately 50 m(25m on either side of the centre line) will be required during the construction phase to accommodate construction activities, equipment, and safe access. Once construction is complete, the operational footprint will be limited to operational servitude of 36m measured from the centre line of the existing line. The temporary Bypass will operate from this existing servitude.

The scope of work for the proposed Temporary By-Pass Powerline development will entail the following:

- Clearing of crops, trees, and shrubs to establish the temporary HV line bypass servitude.
- Construction of approximately 6.5 km temporary HV line bypass, running parallel to the existing 132 kV Impala Zircon powerline.

- Installation of wooden pole structures for the temporary bypass line.
- Transfer of electrical load from the existing main line to the temporary bypass line to facilitate refurbishment works.

3.2 TECHNICAL DETAILS OF THE PROJECT

The technical requirements for the temporary bypass 132kV power line are discussed below.

Table 3: Proposed Temporary Bypass Project Specification

Component	Specification
Powerline Capacity	132 kV
Servitude / corridor width	50m (25m each side) construction corridor and 36m (18m each side) operational corridor
Type of poles and material	Triple wooden Poles
Construction footprint/foundations	approx..2m depth, 1.5m width x 1.5m height hole to drilled and compacted to 93% MODAAASHTO in 200mm layers (per pole)
Wooden pole height	Approximately 11m to 15m
Wooden pole spacing	Approximately 200m apart
Access Road servitude	Existing access roads and paths will be utilised.
Minimum Ground Clearance	9m-11m
Any associated infrastructures	Laydown areas etc.

3.2.1 Line Height and Servitude width

The statutory minimum ground clearance for a temporary 132kV overhead line is 11m. The line must be designed to afford this clearance in all circumstances. The overall height of the line is also dependent on several criteria, including geographical location, topography, height above sea level, span length, and conductor type. The servitude width required for a 132kV distribution line is 36 m (18 m on either side measured from the centre line of the powerline). The servitude width required for of the temporary 132kV line that runs parallel an existing servitude will require a servitude of 50m (25 m on either side measured from the centre line of the powerline).

3.2.2 Minimum Clearance Distances

For safety reasons (as set out in regulations of the Occupational Health and Safety Act), the distribution line requires minimum clearance distances. These are summarized as follows:

- The minimum vertical clearance distance between the ground and power line conductors is 8.1 m;
- The maximum crop height permitted within the servitude is 4.3 m;
- The minimum vertical clearance to any fixed structure that does not form part of the power line is 5.6 m;
- The minimum safe distance required from the centre of the power line to the edge of a domestic house is 40 – 50 m.
- Farming activity, except for sugarcane and commercial forestry, can be practised under the conductors, provided that there is adherence to safe working clearances, crop height restrictions and building restrictions.

3.2.3 Span Length

The span length also depends on the same criteria as line height. The distance between supports (span length) will be approximately 200m between supports.

3.2.4 Wooden Structures

The wooden temporary structures will be constructed at intervals along the route of the distribution line at a spacing of approximately 200m. The wooden structures being considered are indicated below, with heights ranging from 11m -15m. The final wooden structures to be used will be determined after surveying and profiling the line.

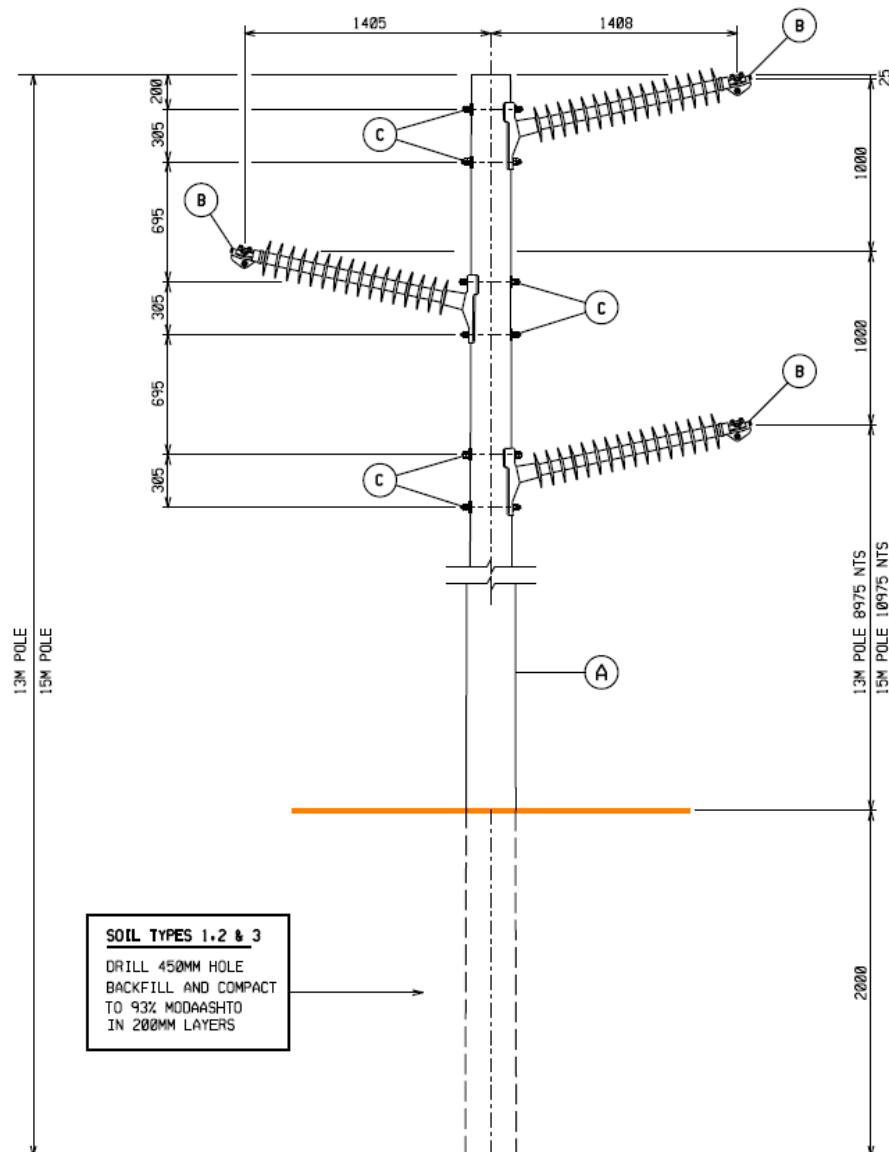


Figure 2: Tower dimensions

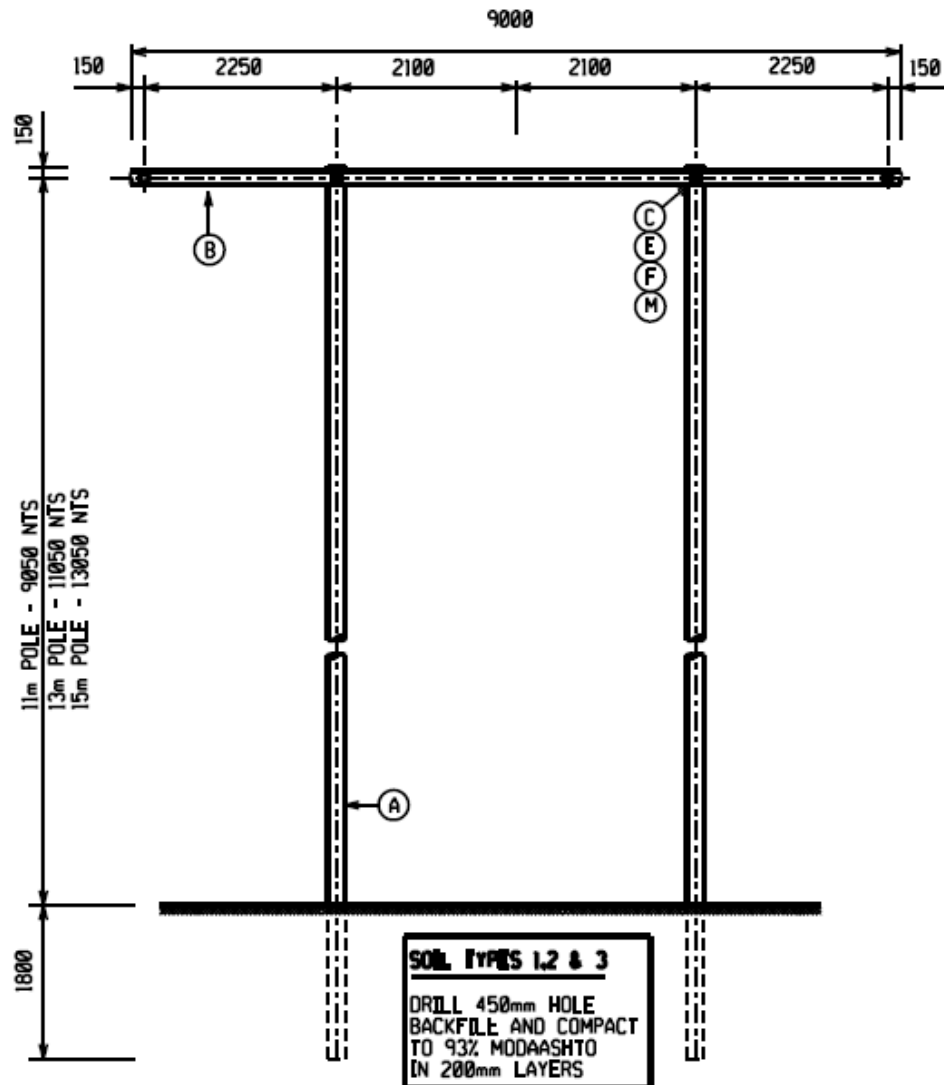


Figure 3: Design for Setting out details for the towers

3.3 Strategic Transmission Corridors

The proposed development is located within the Expanded Eastern Corridor, which is one of the seven Strategic Transmission Corridors (STCs) identified in Government Notice 113 promulgated on 16 February 2018. These corridors are critical for the development of large-scale electricity infrastructure projects, and to facilitate such developments, DFFE issued Government Notice 113 and the Standards for the Development and Expansion of Power Lines and Substations within Identified Geographical Areas in Government Notice 2313.

The Standard excludes listed activities necessary for the development or expansion of powerline or substation infrastructure from the requirement to obtain Environmental Authorisation (EA), provided that certain conditions are met. One of these conditions is that the project site's sensitivity must be confirmed to be of low to medium sensitivity. However, if the study area is confirmed to be a very high or high sensitivity for any of the relevant themes from the screening tool and the Site Sensitivity Verification Process, the proposed application must follow the Basic Assessment or a Scoping and EIR process in terms of the EIA Regulations, 2014 as amended.

Therefore, the proposed Impala-Zircon Temporary By-Pass 132 kV Powerline will be subjected to a Basic Assessment (BA) process as it does not meet all the exclusion criteria prescribed under Government Notice 2313 promulgated on 27 July 2022. The Site Sensitivity Verification confirmed that the project area is characterised by High Aquatic Biodiversity Sensitivity. Thus, the proposed development must be assessed through a Basic Assessment process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended).

3.4 Project Location

The proposed Temporary Bypass Powerline is located within Wards **12, 14, 17, 20** and **21** of the uMhlathuze Local Municipality, under the jurisdiction of the King Cetshwayo District Municipality. See the maps below.

The proposed temporary and existing main powerline routes can be accessed along the N2 and R34 roads. The coordinates to the site are:

Table 4: Project Location Information

TEMPORARY POWERLINE	
Co-ordinates	Start Point- 28°49'10.68" S 31°57'08.14" E Middle Point- 28°47'49.89" S 31°55'59.54" E End point- 28°46'22.34" S 31°56'27.22" E
MAIN POWERLINE	
Co-ordinates	Start Point- 28°50'43.00" S 31°55'49.28" E Middle Point- 28°48'13.80" S 31°56'20.81" E End point- 28°46'05.25" S 31°56'43.18" E
ERVENS	SG Code
Reserve No. 10 15830 GU	N0GU00000001583000000
RE/16349	N0GV04210001634900000
RE/11520	N0GV04210001152000000
2/11454	N0GV04210001145400002
RE/11454	N0GV04210001145400000
RE/11490	N0GV04210001149000000
2/11449	N0GV04210001144900002
1/11449	N0GV04210001144900001
RE/11449	N0GV04210001144900000
17/11454	N0GV04210001145400017
RE/11453	N0GV04210001145300000
1/11452	N0GV04210001145200001

1/11418	N0GV04210001141800001
RE/11418	N0GV04210001141800000

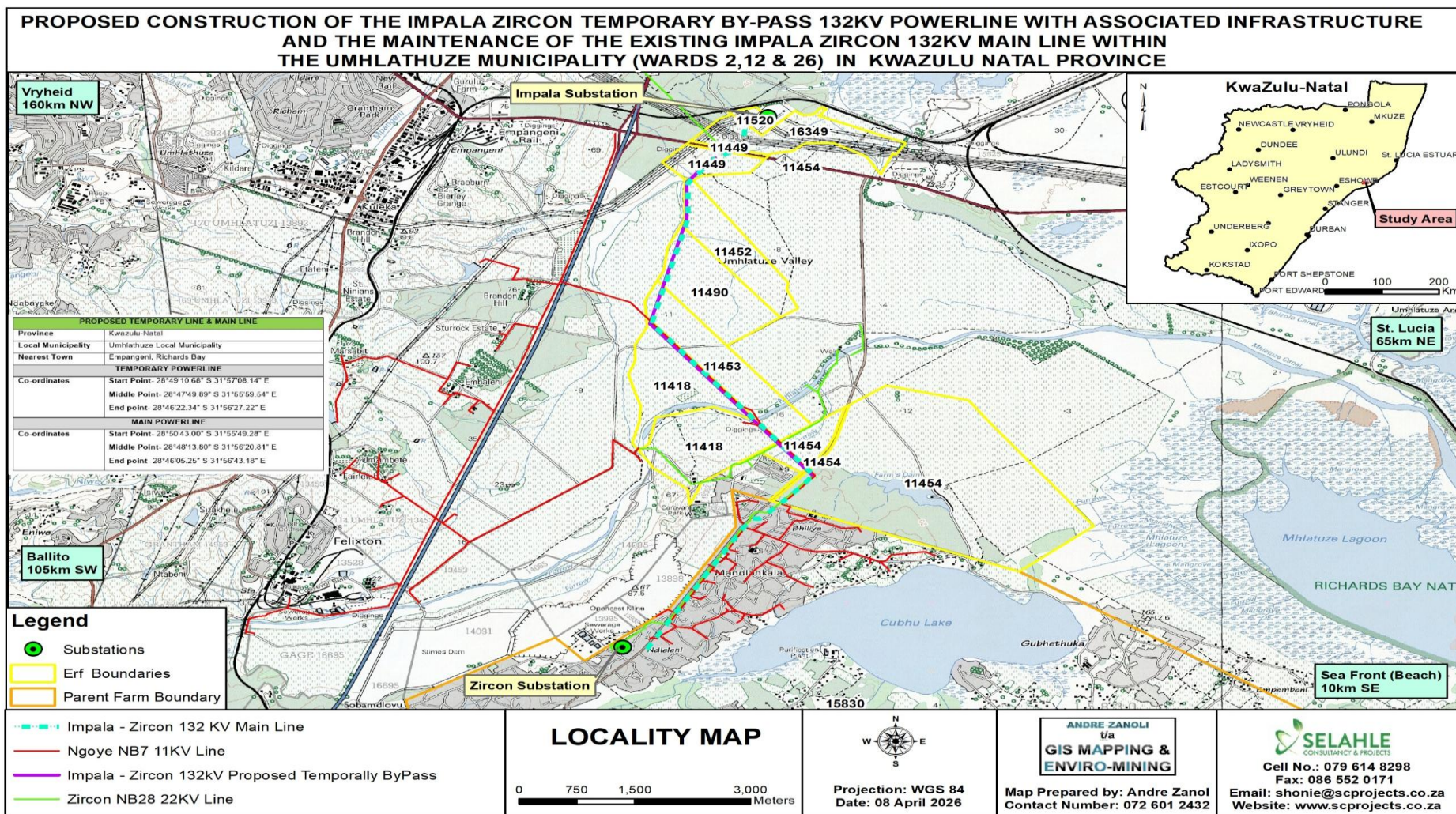


Figure 4: Locality Map for the proposed development

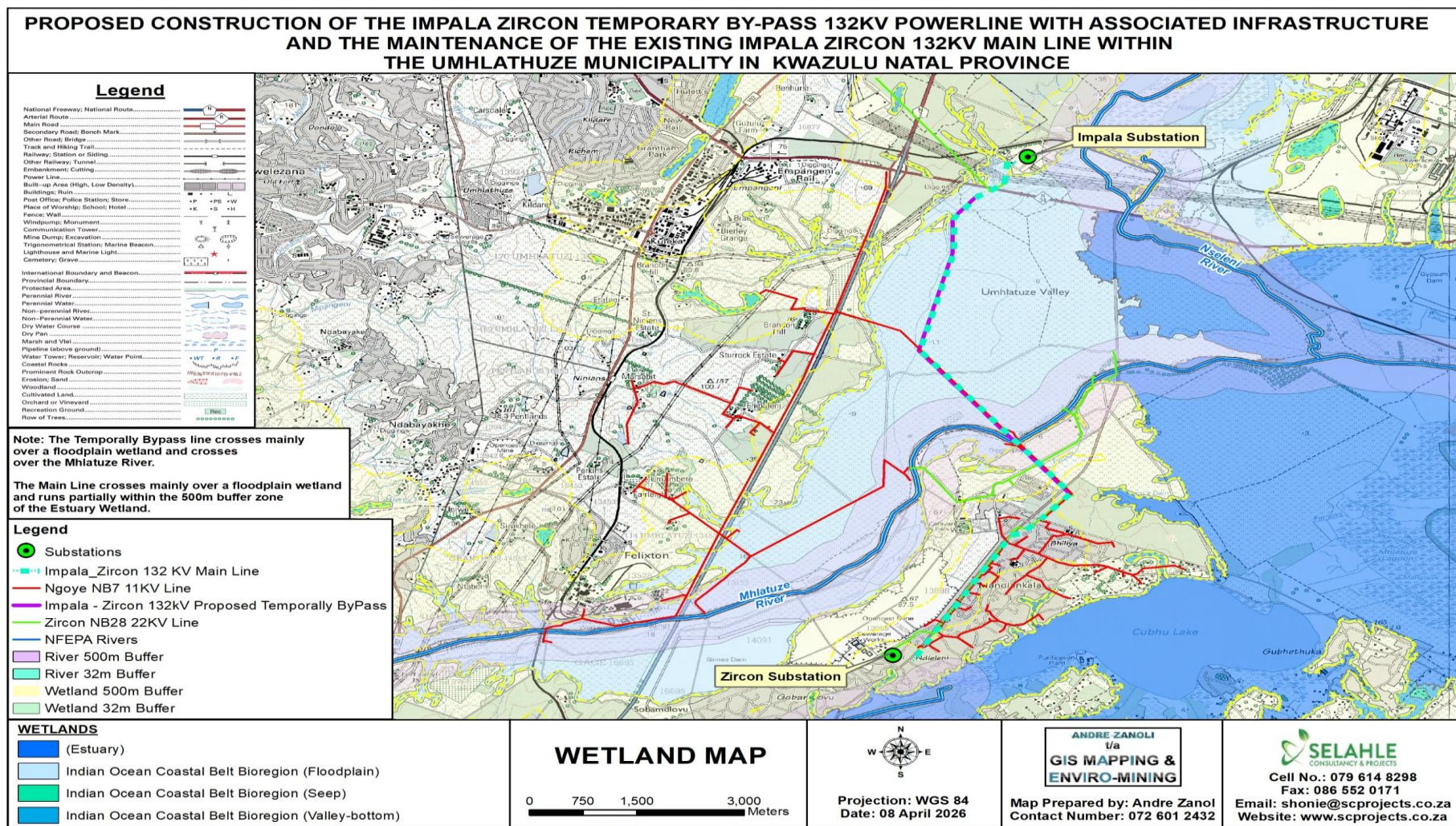


Figure 5: Wetland Map

4 APPLICABLE POLICY AND LEGISLATIVE CONTEXT

4.1 Listed and Specific Activities

Table 5: Listed and Specific Activities

Activity No(s)	Listed Activity	Description of project activity that triggers listed activity
Listing Notice 1 of the EIA Regulations, 2014 as amended		
Activity 11	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; excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is- (a) temporarily required to allow for maintenance of existing infrastructure. (b) 2 kilometres or shorter in length. (c) within an existing transmission line servitude. (d) will be removed within 18 months of the commencement of development.	The proposed development involves the construction of a temporary 132 kV powerline on wooden poles to maintain electricity supply while the existing main line is refurbished. .
Activity 19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;	The proposed development entails the construction of a temporary 132 kV By-pass Powerline, including the excavation of foundations for temporary wooden pole structures. The proposed bypass powerline crosses the uMhlathuze River, drainage lines and Riparian areas, where earthworks will be undertaken to install the temporary infrastructure.
Activity 19A(ii)	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-	The proposed development traverses the Estuarine Functional Zone, where construction activities, including the excavation of pole foundations and earthworks required for the installation of temporary infrastructure, will be undertaken.
Listing Notice 3 of the EIA Regulations, 2014 as amended		
Activity 12	The clearance of an area of 300 square metres or more of indigenous vegetation except where	The proposed construction of the Temporary By-pass Powerline will require

Activity No(s)	Listed Activity	Description of project activity that triggers listed activity
	such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan (d) Kwazulu-Natal- (i) Outside urban areas, within 100 metres inland from an estuarine functional zone authority or in bioregional plans	the clearance of 300 square metre or more during construction and it is also located within the floodplain
Activity 14	The development of— (ii) infrastructure or structures with a physical footprint of 10 square metres or more. (c) Within 32 metres of a watercourse, measured from the edge of a watercourse (d) Kwazulu-Natal- (i) In an estuarine functional zone	The proposed development will entail the development of a 132 kV temporary bypass powerline infrastructure with physical footprints of 10 square metres or more within a watercourse or a 32 m buffer from the edge of a watercourse, located within an estuarine functional zone.

4.2 Policy and legislation

Table 6: Policy and Legislation

Title of legislation, policy, or guideline:	Administering authority:	Promulgation Date:
The Constitution of the Republic of South Africa Act 108 of 1996, (Chapter 2: Bill of Rights, Section 24: Environmental right	Parliament of the Republic of South Africa	1996
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	1998
Environmental Impact Assessment Regulations, 2014, as amended.	National & Provincial	2014
National Heritage Resources Act 25 of 1999	SAHRA	2000
National Water Act (Act No: 36 of 1998)	DWA	1998
National Environmental Management: Waste Act: 2008 (Act No. 59 of 2008	National & Provincial	2008
Occupational Health and Safety Act (Act No: 58 of 1993)	National & Provincial	2014
National Environmental Management Act: Air Quality, 2004	National & Provincial	2004
National Environmental Management Act: Biodiversity Act (Act No: 10 of 2004)	National and Provincial	2004
National Appeal Regulations, 2014 and Amendments	National and Provincial	2014

Title of legislation, policy, or guideline:	Administering authority:	Promulgation Date:
The Constitution of the Republic of South Africa Act 108 of 1996, (Chapter 2: Bill of Rights, Section 24: Environmental right	Parliament of the Republic of South Africa	1996
DEA Guidelines on Public Participation	National (DFFE)	2012
DEA Guidelines on Need and Desirability	National (DFFE)	2004
DEA Guidelines on Alternatives	National (DFFE)	2004
Water Use Licence Applications & Appeal Regulations, 2017	National & Provincial	2017
King Cetshwayo District Municipality Integrated Development Plan 2026-2027	District	2026-2027
The City of uMhlathuze Municipality Spatial Development Framework 2022-2027	Local	2022
National Development Plan	National	2020-2030
Civil Aviation Act, 2009 (Act No. 13 of 2009)	South African Civil Aviation Authority	2009
Integrated Energy Plan 2016	Department of Mineral Resources and Energy	2016
Integrated Resource Plan 2019	Department of Mineral Resources and Energy	2019
Standard for the Development and Expansion of Power Lines and Substations within Identified Geographical Areas, Revision 2, June 2022	National (DFFE)	2022

4.3 Description of compliance with the relevant legislation, policy, or guideline

Table 7: Description of compliance with the relevant legislation, policy, or guideline

Legislation, policy of guideline	Description of compliance
National Environmental Management Act No.107 of 1998 as amended.	A Basic Assessment process is required to obtain authorisation for the activities, as per the EIA Regulations (2014) promulgated in terms of NEMA. Section 24C(2)(d)(iii) of NEMA applies to the proposed development. The proposed development triggers activities under the Environmental Impact Assessment Regulations, 2014 (as amended), published under the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998, as amended).

Legislation, policy of guideline	Description of compliance
EIA Regulations 2014, as amended	The proposed development triggers Activity No. 11 and 19 of Listing Notice 1 and Activities No. 12 & 14 of Listing Notice 3 of the Environmental Impact Assessment Regulations, 2014 (as amended)
Municipal Systems Act, 2000 (Act 32 of 2000)	By-laws, Policies and Legislation would be adhered to. The Municipal Systems Act (MSA) concerns itself with the internal systems and administration of municipalities. The Act requires that the Constitution and other national level acts (e.g. NEMA) be incorporated into strategic planning at a municipal CA responsible for administering the MSA is dependent on the municipality in which the activity is taking place. Development at a local level is the primary focus as the act separates the responsibility of a service authority from that of a service provider; sets out the roles of officials and councillors and provides for a range of requirements; including IDPs, performance management and tariff setting. The Act accordingly regulates municipal service delivery and provides a comprehensive range of service delivery mechanisms through which municipalities may provide municipal services. It explains the process to be applied and the criteria to be considered in reviewing and selecting municipal service delivery mechanisms. Under the Act, every municipal council must adopt a single, inclusive and strategic plan (i.e., IDP) for the development of the municipality which amongst others: ▪ links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality; and, ▪ aligns the resources and capacity of the municipality with the implementation of the plan. At a municipal level, these plans may call for the implementation of energy projects, and the associated distribution infrastructure should be referenced in applications to motivate relevant environmental authorisations. <i>The City of uMhlathuze Municipality is registered as a key stakeholder in this environmental process and are referenced in the application for environmental authorisation.</i>
National Heritage Resources Act, 1999 (25 of 1999)	This Act defines a heritage resource as any place or object of cultural significance, i.e., of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. Therefore, the Heritage authority (KwaZulu-Natal Amafa and Research Institute) has been notified about the

Legislation, policy of guideline	Description of compliance
	proposed development in terms of Section 38(1)(a) and Section 38(c)(i), which mandates that every linear development exceeding 300m in length, SAHRA should be notified. Furthermore, a Heritage Impact Assessment Study has been undertaken, and it confirmed that no archaeological sites, burial grounds, graves, or structures of historical significance were observed.
National Water Act (Act No: 36 of 1998)	The proposed Temporary By-Pass Powerline crosses the uMhlathuze River and through Riparian areas, and an Estuarine functional Zone. Therefore, in terms of the National Water Act, 1998 (Act No. 36 of 1998), any activities within a watercourse and/or its regulated area require an authorisation. As such, the development triggers Section 21 of the National Water Act.
National Environmental Management Act: Air Quality, 2004	The proposed developments should not result in the creation of excessive amounts of dust during the construction phase, since the working conditions are wet. However, some dust might be created by the vehicles travelling along the access roads to the site.
National Environmental Management Act: Biodiversity Act (Act No: 10 of 2004)	The proposed development traverses the Northern Coastal Forest, and Maputaland Coastal Belt, therefore, a Terrestrial Biodiversity study will be undertaken.
National Forests Act, 1998 (Act No. 84 of 1998)	The proposed development site falls within an Indigenous forest
DEA Guidelines on Public Participation	Public participation was and will be undertaken in accordance with Regulation 19(1), 40-44 of the EIA Regulations 2014, as amended, until the submission of the Final Basic Assessment Report to the competent authority.
DEA Guidelines on Need and Desirability	The need and desirability of this activity are discussed in the report, supported by the NDP, IDP, SDF and the surrounding areas. The proposed activity supports sustainable development.
DEA Guidelines on Alternatives	According to the regulations and this guideline, it is mandatory to investigate different alternatives and the no-go option as part of the assessment. Therefore, alternatives were investigated for this proposed development.
Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Section 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (GN 320 of 20 March 2020 and GN 1150 of 30 October 2020).	In terms of Government Notice (GN) 320 of 20 March 2020, the Site Sensitivity Verification may be undertaken by either an Environmental Assessment Practitioner (EAP) or a specialist, using the prescribed methodology. The process for determining the environmental sensitivity of a specific area of land involves the following steps a desktop analysis using satellite imagery, a preliminary on-site inspection, and the collection of any other available and relevant information. The outcome of this verification must be recorded in a report that confirms or disputes the land use and environmental sensitivity as identified by the National Web-Based Screening Tool. This report must take into consideration any new developments or infrastructure, changes in vegetation cover or condition, and other

Legislation, policy of guideline	Description of compliance
	relevant environmental factors. It must also include a motivation and supporting evidence, such as photographs, to substantiate the verified or differing land use and environmental sensitivity. The site sensitivity verification report is submitted together with the relevant environmental assessment report, in accordance with the Environmental Impact Assessment (EIA) Regulations. In line with these requirements, specialist assessments have been compiled where applicable and in accordance with the legislative provisions. Therefore, a Site Sensitivity Verification report is attached to this Draft Basic Assessment Report.
Civil Aviation Act, 2009 (Act No. 13 of 2009)	The temporary 132 kV powerline may constitute an aviation obstacle, particularly due to pole height, conductors, line visibility and proximity to aviation-sensitive areas. A Civil Aviation Site Sensitivity Verification as undertaken in this regard.
Strategic Transmission Corridors — Expanded Eastern Corridor	The site falls within the Expanded Eastern Strategic Transmission Corridor. However, the project will not follow the Standard Route because the Screening Tool identified high biodiversity sensitivity. Therefore, the BA process is being undertaken.
Government Notice R.113 of 16 February 2018	The notice provides for streamlined EA processes for large-scale electricity transmission/distribution infrastructure within identified geographical areas. However, the Impala Zircon Temporary Bypass Powerline is being assessed through a BA process because high biodiversity sensitivity was identified and the project does not qualify for the Standard Route
Eskom Policies and Guidelines	The proposed development will be assessed in accordance with Eskom's environmental governance framework to ensure that the project complies with both statutory environmental requirements and Eskom's internal environmental management standards.
IFC and World Bank Environmental guidelines	These guidelines provide good practice measures for worker safety, community safety, vegetation management, avifauna impacts and operational risks

5 NEED AND DESIRABILITY

The proposed developments respond to urgent maintenance and refurbishment of electricity infrastructure challenges faced by Eskom. This initiative is aligned with the national and provincial policy frameworks, including the National Development Plan (NDP), Integrated Development Plan (IDP) and the Umhlathuze Spatial Development Framework (SDF), which collectively advocate for sustainable infrastructure investment and improved service delivery. Below is the breakdown of each framework in terms of the proposed development.

Table 8: Needs and Desirability for the proposed development

NATIONAL DEVELOPMENT PLAN (NDP)

The National Development Plan 2030 emphasises the critical role of reliable and efficient infrastructure, particularly in the energy sector, as a catalyst for economic growth, social development, and improved service delivery. The NDP identifies electricity supply constraints and ageing infrastructure as major risks to economic stability and industrial productivity, especially in key economic regions such as KwaZulu-Natal.

The proposed Impala Zircon Temporary By-Pass 132kV Powerline directly responds to the NDP's objectives by ensuring continuity of electricity supply while enabling essential maintenance of deteriorating infrastructure. The project supports the NDP's goal of strengthening energy security by preventing potential power outages that could negatively impact over 6,000 customers, including critical infrastructure such as water pumping systems and municipal networks.

Furthermore, by facilitating the refurbishment of the existing corroded powerline within a coastal and industrial environment, the project contributes to long-term infrastructure resilience and sustainability. The temporary nature of the bypass also reflects efficient resource use, aligning with the NDP's emphasis on maintaining and upgrading existing infrastructure rather than unnecessary expansion. Therefore, the project is both needed and desirable as it safeguards economic activity, supports service delivery, and enhances infrastructure reliability in line with national development priorities.

KING CETSHWAYO DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN

The King Cetshwayo District Municipality Integrated Development Plan prioritises infrastructure development, reliable service delivery, and economic growth within the district, with a strong focus on maintaining existing infrastructure systems to support communities and industry. The IDP highlights electricity supply reliability as a key enabler of local economic development, particularly in areas such as Empangeni and Richards Bay, which are significant industrial and commercial hubs.

The proposed temporary by-pass powerline aligns with these priorities by ensuring uninterrupted electricity supply to the Esikhawini networks, uMhlathuze Local Municipality, and associated bulk infrastructure during the maintenance of the main powerline. Given that the existing line is a radial system with no alternative back-feeding capability, the absence of the bypass would result in service disruptions, negatively affecting households, businesses, and essential services. The project therefore addresses a critical infrastructure risk identified within the IDP by maintaining service continuity while enabling necessary upgrades.

In terms of need and desirability, the development supports socio-economic stability, protects local economic activities, and ensures compliance with the municipality's objective of sustainable and reliable infrastructure provision.

UMHLATHUZE SPATIAL DEVELOPMENT FRAMEWORK (SDF)

The uMhlathuze Local Municipality Spatial Development Framework provides strategic guidance on land use, spatial planning, and infrastructure development, promoting efficient use of existing infrastructure corridors and the protection of environmental resources while enabling economic growth. The SDF supports the development and maintenance of bulk infrastructure within established servitudes and strategic corridors, particularly those linked to industrial and economic nodes such as Richards Bay and Empangeni.

The proposed Impala Zircon Temporary By-Pass Powerline is located within the Expanded Eastern Corridor, a recognised strategic transmission corridor, and largely follows the existing powerline servitude, thereby aligning with the SDF's principle of consolidating infrastructure within defined corridors to minimise spatial fragmentation and environmental disturbance. The powerline route passing through agricultural land, while crossing the uMhlathuze River and associated riparian areas, will be managed through mitigation measures as part of the Basic Assessment process, ensuring compliance with environmental management objectives outlined in the SDF.

From a need and desirability perspective, the project supports efficiency by avoiding the establishment of new permanent infrastructure and instead utilising an existing servitude for temporary by-pass powerline. The development is consistent with the SDF's goals of sustainable spatial planning, infrastructure resilience, and economic support, while maintaining environmental considerations.

6 PROJECT ALTERNATIVES

In terms of the EIA Regulations of 2014 (as amended), consideration needs to be given to all possible alternatives. The assessment of alternatives allows different approaches and ways of meeting the need, purpose and objectives of a proposed activity to be explored, allowing for the identification and selection of the best practicable environmental option for the implementation.

An alternative can be defined as an option that meets the general purpose and requirements of the activity, which may include alternatives to:

- The property on which, or the location where, it is proposed to undertake the activity.
- The type of activity to be undertaken.
- The design or layout to be used in the activity.
- The technology to be used in the activity, and
- The operational aspects of the activity.
- The “No-Go” alternative must also be assessed.

After exploring various possible alternatives for the proposed project, the Technology, Operation and the No-go alternatives (not proceeding with the project) were investigated. Furthermore, the proposed temporary by-pass powerline will run in parallel with the existing 132kV Main Powerline servitude; therefore, no alternative location was considered for the proposed development.

6.1 Technology Alternative

The proposed development will utilise wooden pole structures for the temporary bypass line. This technology has been selected due to its suitability for temporary use, cost-effectiveness, and relatively low environmental impact compared to more permanent infrastructure such as steel lattice towers. The use of steel monopoles or lattice towers is not applicable given the temporary nature of the project and the anticipated operational period of approximately five years. Wooden poles are quicker to install and remove, resulting in reduced construction time and associated environmental disturbance.

Furthermore, the selected technology is consistent with Eskom standards for temporary infrastructure, ensuring reliability while maintaining efficiency.

6.2 Operation Alternative

6.2.1 *Alternative 1: Transfer of the Electrical Load to the Temporary By-Pass Powerline (Preferred Alternative)*

The operational approach for the proposed development involves the temporary transfer of electrical load from the existing main powerline to the bypass line for a period of approximately five years, during which maintenance and refurbishment of the existing infrastructure will be undertaken. The proposed operational alternative ensures continuous electricity supply while allowing for safe and efficient maintenance and refurbishment activities. Once the refurbishment is complete, the bypass line will be decommissioned, and the system will revert to the refurbished main line. This alternative minimises long-term impacts while addressing immediate infrastructure needs.

6.2.2 *Alternative 2: Planned Power Outages During Refurbishment (Least Preferred)*

This alternative would involve temporarily deactivating sections of the existing Impala Zircon 132 kV Main Powerline to allow refurbishment works to be undertaken without constructing the proposed temporary by-pass powerline. While this option would reduce the temporary environmental disturbance associated with the construction of the by-pass, including vegetation clearing and temporary infrastructure, it would require scheduled electricity outages throughout the refurbishment period. As the Impala Zircon 132 kV Main Powerline supplies electricity to major industrial users and surrounding consumers, prolonged or repeated power interruptions could result in significant operational disruptions, production losses, economic impacts and reduced service reliability.

Furthermore, this alternative would increase the complexity of refurbishment activities by requiring repeated switching operations, network isolation procedures and extensive coordination to safely deactivate and activate sections of the powerline. The limited availability of outage windows would likely extend the construction programme, increase project costs and reduce the overall reliability and resilience of the electricity network during the refurbishment period. Consequently, despite its lower temporary environmental footprint, this alternative was not considered operationally or economically feasible.

6.3 No-Go Alternative

The No-Go alternative entails not proceeding with the construction of the temporary bypass powerline and, consequently, not undertaking the required maintenance of the existing Impala Zircon 132 kV Main Powerline. This alternative is not considered feasible, as the existing powerline infrastructure is already experiencing significant corrosion and structural deterioration due to prolonged exposure to the coastal and industrial environment. Failure to undertake the proposed maintenance would increase the likelihood of structural failure or collapse of the powerline, posing a significant risk to public safety, surrounding infrastructure, and the environment.

Should the existing powerline collapse, it could damage surrounding plantation areas, pose a direct threat to nearby community members, and disrupt normal operations within the affected area. Furthermore, the failure of the line would result in prolonged and unplanned power outages affecting

approximately 6,062 customers, including critical municipal and industrial users. The interruption of electricity supply would adversely affect customer operations, reduce overall system performance and reliability, and compromise essential service delivery. Therefore, the No-Go alternative is not the preferred option, as it would increase the risk of infrastructure failure, compromise public safety, reduce network reliability and resilience, negatively affect customers and surrounding communities, and potentially result in greater environmental and financial impacts than the proposed development.

7 PUBLIC PARTICIPATION PROCESS

Public Participation Process (PPP) is the cornerstone of any Environmental Impact Assessment (EIA) process. The PPP will form a fundamental part of the Integrated Environmental Authorisation process and will be one of the most important aspects of the EIA process. The principles of the National Environmental Management Act, 1998 (NEMA) (Act No. 107 of 1998), as well as the EIA Regulations, 2014, as amended, govern the EIA process, including public participation. These include the provision of sufficient and transparent information on an ongoing basis to stakeholders, allowing them to comment, and ensuring the participation of previously disadvantaged groups, including women and youth.

The process aims to provide Interested and Affected Parties (I&APs) with clear, accurate, and comprehensive information about the proposed development, its alternatives, and the associated environmental impacts. Furthermore, it ensures that I&APs are given a fair opportunity to express their viewpoints, raise issues, and voice concerns regarding the proposal, its alternatives, and/or the decisions being made.

Furthermore, social risks arise as a consequence of social development and can be described as the potential for loss, conflict, or instability resulting from specific project-related activities (e.g., investments, policies, or decisions) and the responses of stakeholders who may be negatively affected by the proposed development. While social risks cannot be eliminated, they can be effectively managed to minimise adverse impacts. Therefore, the public participation process serves to address and mitigate identified negative impacts, helping to ensure that proposed projects achieve positive outcomes and contribute to long-term sustainability.

Chapter 6 of the EIA Regulations, 2014, as amended, emphasises the importance of public participation. In terms of the EIA regulations, the public –

- May participate in the application process.
- May comment on any written communication submitted to the competent authority by the applicant or environmental consultant.
- Must comment within the timeframes.
- Must send a copy of any comments to the applicant if the comments were submitted directly to the competent authority; and
- Must disclose any interest that the person has in the application being granted or refused

Moreover, the principles of Public Participation:

- Communicates the interests of and meets the process needs of all participants;
- Seek to facilitate the involvement of those potentially affected;
- Involves participants in defining how they participate;
- Ensure transparency as far as possible;

- Actively enhances the leadership capacity of community members, leaders, and groups within the community; and
- Utilises a community's diversity to deepen shared understanding and produce outcomes of long-term benefit to the whole community or society.

Therefore, all Interested and Affected Parties, Stakeholders, Organs of State, and Landowners, etc., will be afforded an opportunity to participate in the proposed development and comment in the Basic Assessment phases of the proposed application.

7.1 Public Participation Process Followed

The Public Participation Process (PPP) during the Environmental Authorisation Application Process will enable potential I&APs to be given an opportunity to comment on, or raise issues relevant to, the application. According to Section (2)(4)(f) and (o) of NEMA;

- The participation of all Interested and Affected Parties (I&APs) in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.
- The environment is held in public trust for the people; the beneficial use of environmental resources must serve the public interest, and the environment must be protected as the people's common heritage.

7.1.1 DFFE Pre-Application Meeting

A request for a Pre-Application Meeting was submitted to the Department of Forestry, Fisheries and the Environment (DFFE) on 19 March 2026. On the same day, the Environmental Assessment Practitioner (EAP) received an acknowledgement from DFFE confirming receipt of the request and assigning Reference Number: 2026-03-0033. Following this, the Pre-Application Meeting was scheduled for 21 April 2026. The purpose of the meeting was to discuss the proposed project, confirm the applicable legislative requirements, and obtain agreement on the environmental assessment process, specialist study requirements, public participation process and other procedural aspects prior to the submission of the Environmental Authorisation (EA) application and the Draft Basic Assessment Report (DBAR).

7.1.2 Identification of Interested and Affected Parties

The pre-identified Stakeholders that were consulted during the first phase of the public participation process of the EA Application by submitting and circulating Background Information documents, Notification letters and Comment Forms are, but not limited to:

Table 9: List of Stakeholders

Type of Interested and Affected Party	Directorates
Local communities and residents	Ward Councillors ▪ Richard's Bay, Empangeni Madlanghala and Bhiliya Communities
Government Departments (Organs of State)	- The city of uMhlathuze Municipality

Type of Interested and Affected Party	Directorates
	- King Cetshwayo District Municipality - Department of Water and Sanitation - South African Civil Aviation Authority - KwaZulu-Natal Amafa and Research Institute - Department of Roads & Transport - South African Heritage Resource Agency - Air Traffic and Navigation Services SOC Limited (ATNS) - KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZNEDTEA) - Transnet - South African National Roads Agency SOC Limited (SANRAL) - Department of Electricity and Energy (DEE)
Competency Authority – Department of Forestry, Fisheries and Environment	<u>Departments under DFFE</u> - Biodiversity Conservation, Control Biodiversity - Forest Resource Protection Branch: Forestry Management - Integrated Coastal Management - Coastal Pollution Management - DFFE Protected Areas Directorate - DFFE Oceans and Coast Directorate
Provincial commenting Authority- KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZNEDTEA)	<u>Departments under KZNEDTEA</u> - Environmental Impact Management - Coastal Management - Biodiversity Management
Business owners and industry groups	- Richards Bay Industrial Development Zone Company - The Umhlatuzi Valley Sugar Company (Pty) Ltd (UVS)
Non-Government Organisations (NGOs)	- Bird Life South Africa - Wildlife and Environment Society of South Africa (WESSA) - Ezemvelo KZN Wildlife - Endangered Wildlife Trust (EWT)
Traditional leaders and landowners	- Tribal Authorities

7.1.3 Stakeholder Mapping

A 5km radius mapping was used to be able to identify stakeholders who would be potentially impacted by the proposed development. This was also aimed at identifying key stakeholders directly impacted by the proposed project. In addition, this map was also used to identify locations for placing site notices, BID distribution and public meeting venues. Figure 4 below is a stakeholder map.

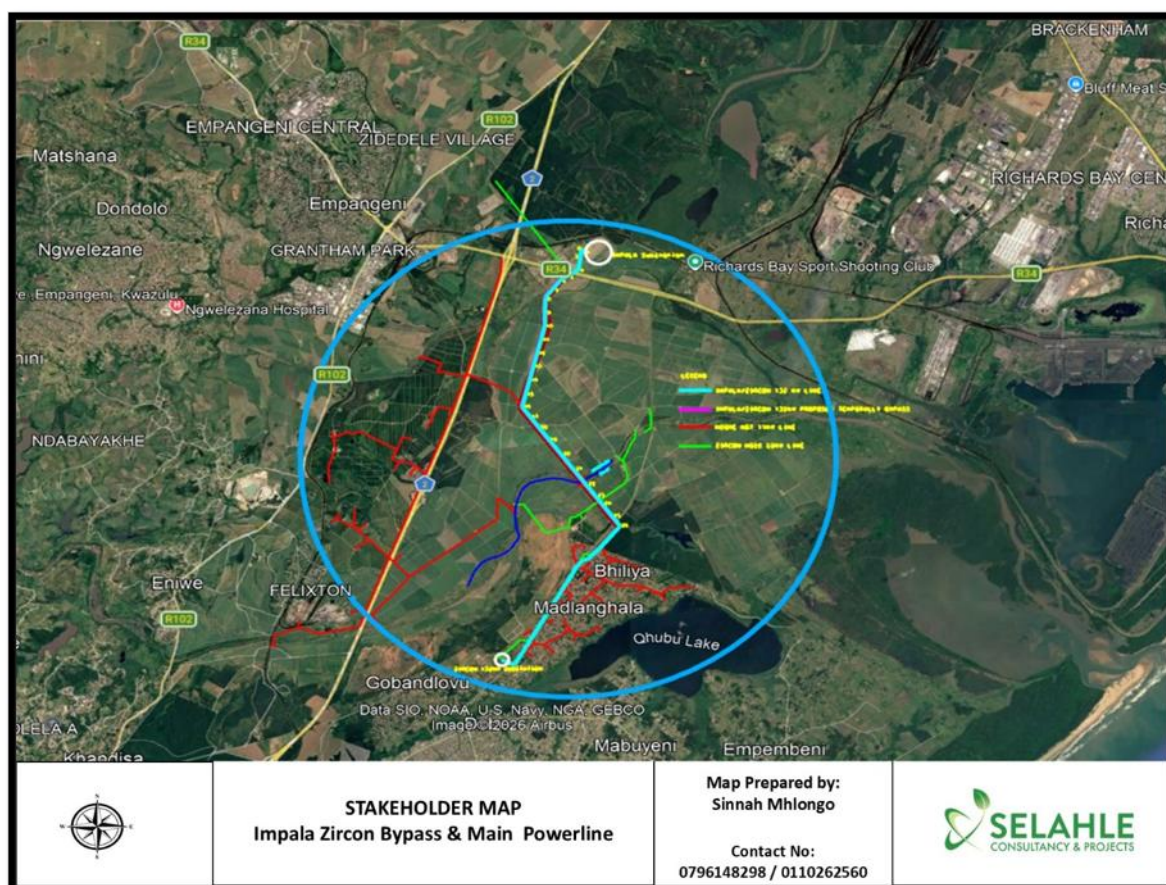


Figure 6: Impala Zircon Stakeholder Map

The Stakeholder Risk Mapping (SRM) method was also employed to identify, analyse and prioritise stakeholders based on the level of risk they might pose in the proposed development. This is to ensure that appropriate engagement manages stakeholder concerns, expectations, influence, and potential impacts on project outcomes.

Table 10: Stakeholders Risk Mapping

IDENTIFIED RISKS	- Potential complaints from landowners - Community Unrest - Lack of stakeholder interest or participation in the process. - Increased Crime - Public resistance and lobbying efforts against the project - Low attendance at public meetings and consultation sessions - Misinformation or misunderstanding of project information - Unrealistic stakeholder expectations regarding project outcomes and benefits - Language and communication barriers - Community distrust towards the project proponent or authorities - Community opposition to the project - Failure to identify all relevant stakeholders
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MITIGATION MEASURES	- Engage directly with affected landowners early in the process and address concerns promptly. - Maintain continuous and transparent communication with affected communities throughout the project lifecycle. - Use multiple communication channels to encourage stakeholder participation. - Collaborate with local authorities and community structures to monitor and address security concerns. - Provide clear and factual project information to address concerns and reduce misconceptions. - Schedule meetings at convenient times and locations for stakeholders. - Disseminate accurate and easy-to-understand project information through the official communication channel - Clearly communicate the project's scope, limitations, and anticipated benefits. - Translate key project information into the locally spoken language - Ensure transparency and provide regular feedback throughout the public participation process - Engage stakeholders early to identify and address concerns before they escalate. - Conduct a comprehensive stakeholder identification and mapping exercise at the outset of the process
LOCAL LANGUAGES SPOKEN	- English - Isizulu
NEWSPAPER	Zululand Observer

7.1.4 Placement of Site Notices

Approximately twenty (20) A2 site notices were placed within a 5 km radius of the Project Area of Influence (POIA). This was aimed at introducing the project to all Interested and Affected Parties in Empangeni area. The areas that were covered are:

- Esikhaleni
- Empangeni
- Madlankala
- Gobandlovu

Photographic evidence as proof of site notices erection are shown in the figure below. More pictures are included in this Draft Basic Assessment Report.

7.1.5 Circulation of Background Information Document

Background Information Document, together with a Comment Form in two languages (English & Isizulu) were distributed around the PAOI. Comment forms were also provided for all Interested and Affected Parties to complete and return to the SCP Public Participation Office. Furthermore, the same BID, Notification Letters and Comments forms were sent via email to all pre-identified stakeholders,

landowners, and Organs of State. Proof of this is appended hereto, and photographic evidence for the distribution of the BID is illustrated herein below in Figures 7



Figure 7: Proof of Site Notices Erection around the PAOI

7.1.6 Review and Comment on the Draft Basic Assessment Report

The Draft Basic Assessment Report (DBAR) will be made available in hard copy at Public Libraries, as well as at other locations identified for document placement. Electronic copies will be distributed via email to all stakeholders identified in Section 7.1.2 above, affected landowners, and registered Interested and Affected Parties (I&APs). Access to the DBAR will also be provided through scanning the QR code below and via the SCP website (<https://www.scpprojects.co.za/publicdocuments.html>). Alternatively, below is the QR code scan (Table 11) that can be used to access the Draft Basic Assessment Report.

The Draft Basic Assessment Report and its associated annexures will be made available for public review and comment for a period of 30 calendar days. Below are the venues where the DBAR will be available:

Table 11: Venues of where the DBAR will be available

Venue	GPS Location	QR CODE
Gobandlovu Community Hall	https://share.google/zv6slPexoL2ndvQPH	
Madlankala Primary School	https://share.google/jDa6UNrhMqIZ83wqc	
Mcabango High School	https://share.google/lqQRelayVwKJCOjbl	
Empangeni Community Library	https://share.google/TpPnvZ3OmGEzfwhAd	
Esikhaleni Community Library	https://maps.app.goo.gl/JZr6NnKcyNtc1aox8	

7.1.7 Public Meetings

As part of the public participation process, public meetings will be undertaken during the Draft Basic Assessment Phase. The public meetings will be scheduled during the review and comment period of the DBAR. This will take place two (2) weeks from the date the DBAR will be released for public review. Public meetings are scheduled to occur between **17 August 2026 - 21 August 2026**.

These public meetings aim to provide I&APs with information regarding the proposed development. Furthermore, to afford I&APs to raise any comments and/or concerns regarding the proposed development. All comments and concerns made during the public meeting will be recorded and appended to the Final Basic Assessment Report (FBAR).

Comment and Response Report (CRR), which includes all issues raised and corresponding responses, will also be appended to the FBAR and submitted to the Competent Authority.

8 DESCRIPTION OF THE RECEIVING ENVIRONMENT

8.1 Topography

The topography is relatively gentle with steep terrain, with the minimum elevation at 9m, a maximum of 25m and an average of 13m. The steep terrain increases towards the southern side of the powerline route. The route occurs at heights varying between 8m in the north to 25m above mean sea level in the southeast. The figure below shows the elevation of the proposed powerline route.

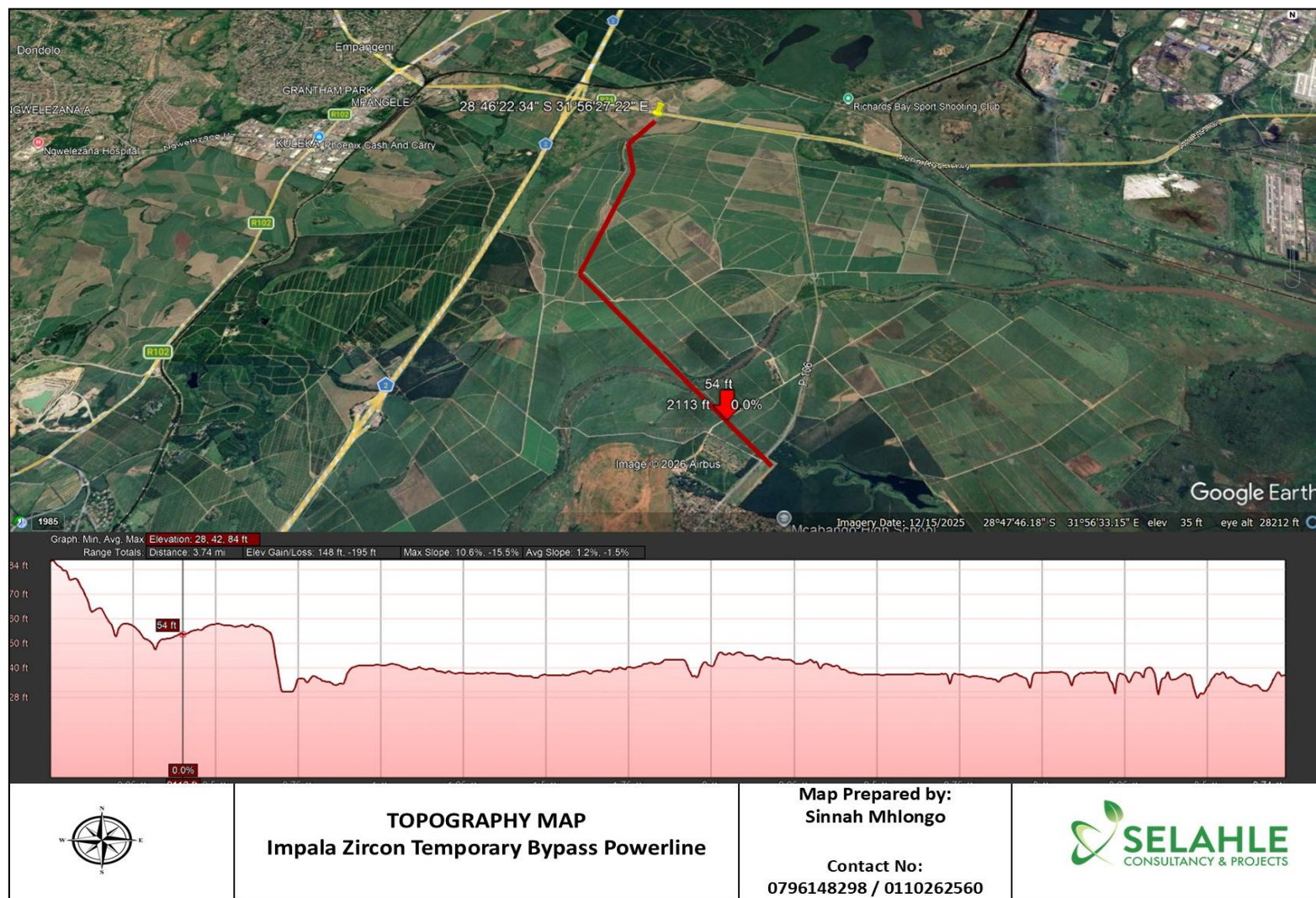


Figure 8: Elevation profile of the Proposed Temporary Bypass Powerline.

8.2 Geology

The proposed powerline route is underlain by unconsolidated sands (Qs) associated with the Upper Pleistocene to Holocene deposits of the Quaternary Era. The site is anticipated to be predominantly underlain by Harbour Bed sands, overlain by more recent, unconsolidated and cohesionless sandy deposits. Geologically, the Richards Bay area is dominated by Quaternary-aged coastal dune systems and marine sediments forming part of the Maputaland Group, which overlie older Cretaceous siltstones and Tertiary-aged deposits.

The region is characterised by an extensive sandy coastal plain, relatively shallow groundwater conditions, and heavy mineral-bearing dune sands, which are typical of the coastal geological environment of northern KwaZulu-Natal. Figure below is the geological map for the proposed development.

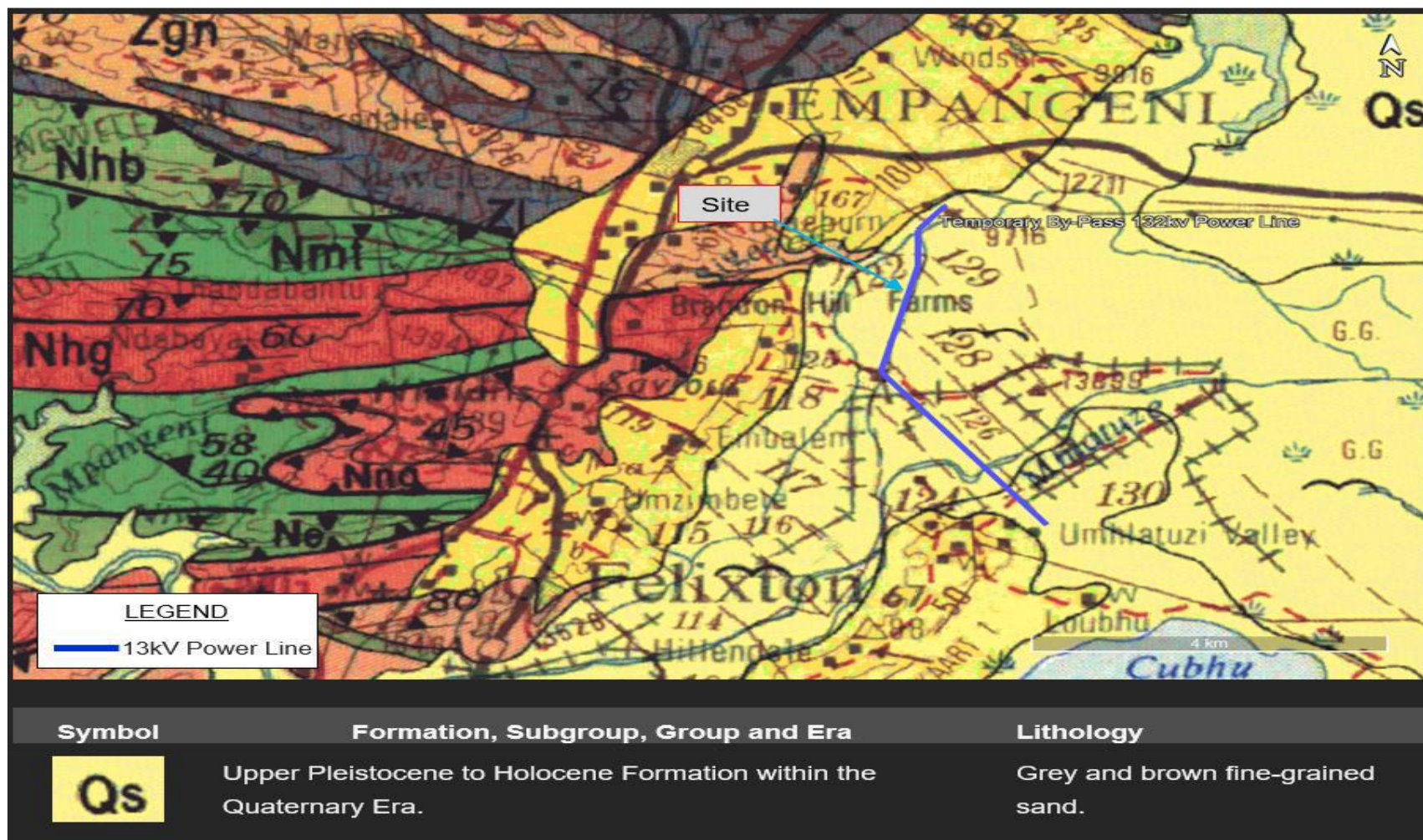


Figure 9: Geological Map for the proposed development

8.3 Climate

Richards Bay's climate is tropical, and the quantity of rainfall during summers surpasses that of winters. This climate is considered to be A (Tropical Climate) w (Dry Winter) according to the Köppen-Geiger climate classification. The temperature in this location is approximately 21.9 °C, as determined by statistical analysis. Approximately 944 mm of rainfall occurs on a yearly basis.

In June, the precipitation level plummets to a mere 42 mm. This month holds the title for being exceptionally arid. On average, the highest amount of rainfall occurs during January, with a mean value of 113 mm. The precipitation variance between the months with the lowest and highest levels of rainfall is 71 mm. The fluctuation of temperatures across the seasons is referred to as 6.5 °C.

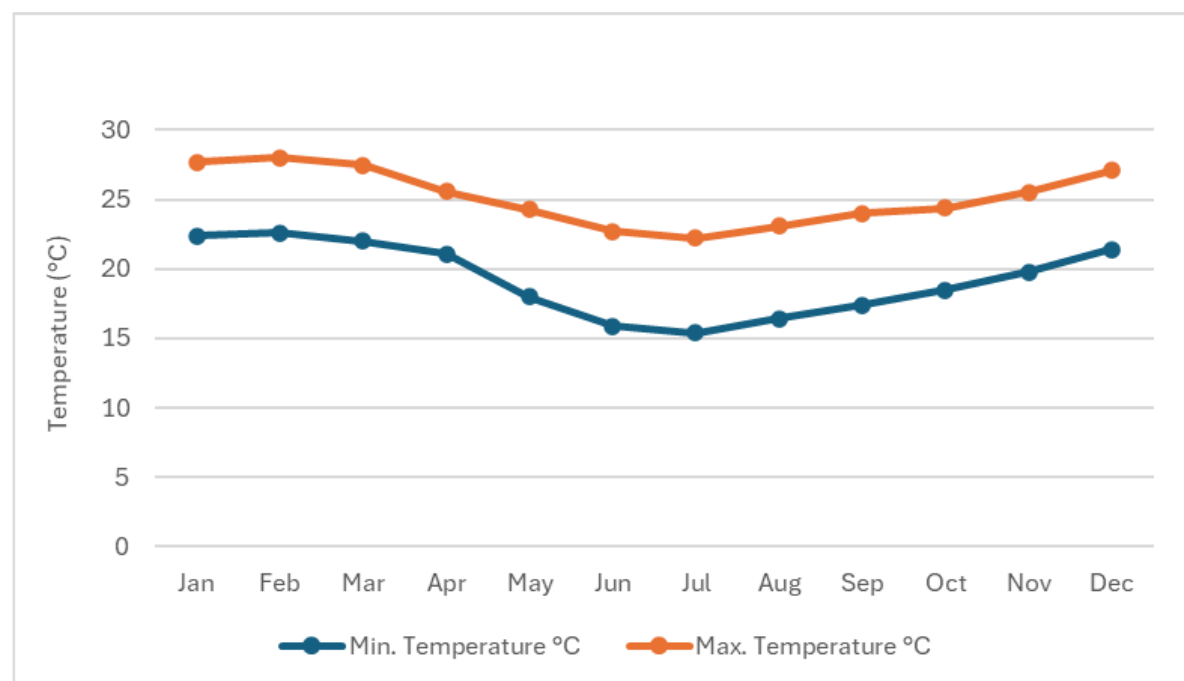


Figure 10: Monthly Average Temperature in Richards Bay (According to the Köppen-Geiger climate classification)

8.4 Agriculture

The proposed Temporary Impala Zircon 132 kV By-pass Powerline is situated within a landscape that has been extensively transformed by agricultural activities, predominantly sugarcane cultivation. The majority of the proposed powerline traverses actively cultivated agricultural land, with the temporary bypass being located parallel to the existing Impala Zircon Main Powerline. Agricultural activities have historically transformed much of the natural vegetation within the study area, resulting in a landscape that is characterised by commercial farming, existing electricity infrastructure and local access roads.

8.5 Terrestrial Biodiversity

The study area is situated within the Endangered Maputaland Coastal Belt vegetation type and the Northern Coastal Forest vegetation type. The majority of the proposed development footprint has

been significantly modified by historical and ongoing human activities. The study area is characterised by existing electricity infrastructure, commercial sugarcane cultivation, urban development, forestry plantations, roads, illegal dumping, invasive alien plant infestations and other anthropogenic disturbances. As a result, much of the natural vegetation has been removed or substantially degraded.

8.6 Water Resources

The proposed Temporary Impala Zircon 132 kV By-pass Powerline traverses a hydrologically sensitive environment associated with the uMhlathuze River, its riparian areas, wetlands, floodplain systems, drainage features and the Estuarine Functional Zone. These aquatic ecosystems perform important ecological functions, including sediment trapping, nutrient cycling, water quality improvement and the provision of habitat for aquatic and terrestrial biodiversity.

8.7 Site Sensitivity Verification

Site Sensitivity Verification (SSV) was undertaken on 09 March 2026 for the proposed powerline 25m working corridor, in terms of GN 320 for the General Requirements for undertaking Site Sensitivity Verifications and Protocols for the Assessment and Minimum Report content requirements for identified environmental impacts for Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of NEMA.

The Site Sensitivity Verification was intended to confirm or refute the environmental sensitivity themes relevant to the site and the need to appoint specialists as identified in the Screening Report. The Site Sensitivity Verification is undertaken before the commencement of an EIA process. The SSV report is submitted as a supporting document with this Draft Basic Assessment report to the competent authority. Refer to the tables below:

Table 12: DFFE Screening Tool Findings

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Agriculture Theme	X			
Animal Species Theme	X			
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme		X		
Civil Aviation Theme		X		
Defense Theme				X
Paleontology Theme		X		
Plant Species Theme			X	

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Terrestrial Biodiversity Theme	X			

Table 13: Screening Tool findings Versus Site Verification Findings

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
1	Agriculture Theme	Very High Sensitivity	Dispute	Medium Sensitivity	The Agricultural Impact Assessment study undertaken identified that the proposed development footprint is relatively limited and located within an already transformed agricultural landscape predominantly utilised for commercial sugarcane farming. The soils are classified as having moderate agricultural potential, corresponding to Land Capability Classes II to IV, and that the anticipated impacts are localised, manageable, and largely reversible through the implementation of appropriate mitigation measures. Therefore, the proposed sensitivity is Medium. An Agricultural Impact Assessment Study is appended to this BAR.
2	Animal Species Theme	Very High Sensitivity	Dispute	Medium Sensitivity	The desktop assessment undertaken by the specialists identified several fauna Species of Conservation Concern that may potentially occur within the broader study area; however, the field survey did not confirm the presence of animal SCC within the proposed development Powerline route. The assessment assigned habitat sensitivities ranging from Very Low to Medium Site Ecological Importance (SEI,) indicating reduced ecological functionality and limited potential to support sensitive terrestrial fauna populations. Considering the disturbed condition of the project area, the absence of confirmed terrestrial animal

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
					SCC within the footprint and the temporary nature of the bypass powerline development, it is concluded that the site sensitivity is medium, disputing the assigned Very High Animal Species Theme sensitivity.
3	Aquatic Biodiversity Theme	Very High Sensitivity	Dispute	High Sensitivity	The aquatic study confirmed that the study area overlaps with several aquatic biodiversity features of conservation importance, including South African Inventory of Inland Aquatic Ecosystems (SAIIAE wetlands, National Freshwater Ecosystem Priority Areas NFEPA wetlands, a Strategic Water Source Area (SWSA), perennial and non-perennial drainage lines, wetlands and the uMhlathuze River, thereby supporting the high sensitivity identified by the Screening Tool. However, the Department of Water & Sanitation Risk Assessment matrix concluded that potential aquatic impacts are low and manageable with mitigation measures. Therefore, while the presence of significant aquatic features justifies the very high aquatic sensitivity, it is concluded that it is High instead of very high
4	Archaeological and Cultural Heritage Theme	Very High Sensitivity	Dispute	Low Sensitivity	The Heritage Impact Assessment study undertaken identified that the proposed Powerline route is largely transformed due to existing agricultural activities, plantation forestry, infrastructure development, and other historical disturbances. Therefore, no Stone Age or Iron Age archaeological sites, burial grounds, graves, or structures of historical significance were identified within the surveyed corridor that would require mitigation prior to construction. Although the possibility of encountering

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
					subsurface archaeological materials cannot be entirely excluded, the likelihood of significant heritage resources occurring within the proposed footprint is considered low, which disputes or refutes the findings of the screening tool The Heritage Impact Assessment Report is appended to this BAR.
5	Civil Aviation Theme	High Sensitivity	Dispute	Low Sensitivity	The assessment undertaken by the specialist has identified that the proposed temporary By-pass Powerline will not materially alter the existing aviation risk profile, as the distribution line already exists within the area and the proposed temporary By-pass Powerline largely follows the existing Main Powerline. Although a short section of the proposed deviation falls within the 8 km obstacle restriction zone of Empangeni Aerodrome, the infrastructure is effectively shielded by intervening topography and does not pose a significant obstacle risk to aircraft operations. Furthermore, the proposed development falls outside critical obstacle limitation surfaces associated with nearby aerodromes and is not expected to interfere with civil aviation radar systems, navigational infrastructure, communication systems, or controlled flight routes. The anticipated impacts on civil aviation operations are therefore considered low, which disputes or refutes the findings of the screening tool. The Civil Aviation Compliance statement is in this BAR

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
6	Defence Theme	Low Sensitivity	Agree	Low Sensitivity	The development will not have any impact on defence-related activities. Furthermore, no military base camps were observed in proximity to the study area. Therefore, the findings of the Screening Tool are concurred with.
7	Palaeontology Theme	High Sensitivity	Dispute	Low Sensitivity	The Screening Tool identified the Palaeontology Theme as having a High Sensitivity within portions of the study area due to the presence of the Umkwelane Formation and associated Geological Formations of the Maputaland Group, which are known to contain marine invertebrate fossils, shell fragments, shark teeth, and foraminifera. Based on the findings of the Phase 1 Desktop Palaeontological study, confirmed that the majority of the study area has been extensively disturbed by historical and ongoing agricultural activities, existing infrastructure development, and associated land transformation, which have significantly reduced the likelihood of intact fossil resources occurring within the proposed footprint. The anticipated impacts are therefore regarded as localised, low in significance, and manageable through the implementation of a Fossil Chance Find Protocol, which then disputes or refutes the findings of the screening tool. The PIA Report is in this BAR
8	Plant Species	Medium Sensitivity	Agree	Medium Sensitivity	The desktop assessment undertaken by the specialist indicated the potential occurrence of certain Flora Species of Conservation Concern within the broader region, however, the field survey did not confirm the presence of

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
					threatened, protected or significant plant species within the proposed development footprint. The vegetation communities encountered were predominantly severely modified agricultural, forestry and disturbed habitats, with extensive invasion by alien invasive plant species and limited natural habitat remaining. Given the degraded ecological condition, absence of confirmed sensitive flora within the footprint, and the temporary powerline nature of the proposed development adjacent to existing infrastructure, therefore the sensitivity is indeed considered to be medium.
9	Terrestrial Biodiversity Theme	Very High Sensitivity	Dispute	Medium Sensitivity	The DFFE Screening Tool identified the Project Area of Influence (PAOI) as having a Very High sensitivity for the Terrestrial Biodiversity Theme. However, based on the findings of the specialist assessment, this sensitivity rating is disputed. The desktop assessment and field verification confirmed that the proposed development footprint is situated within a predominantly transformed landscape characterised by agricultural activities, forestry plantations, urban influences, existing infrastructure corridors, invasive alien plant infestation and historical anthropogenic disturbance. The field survey determined that habitats within the PAOI range from Very Low to Medium Site Ecological Importance (SEI), with no intact high-value terrestrial

No	Theme	DFFE Sensitivity	Agree/ Disagree	Proposed Sensitivity	Motivation
					habitats identified within the development footprint. Furthermore, the proposed development comprises a temporary linear bypass powerline that will run parallel to an existing powerline corridor, thereby limiting additional habitat transformation and fragmentation. The Terrestrial Biodiversity Report is in this BAR

Table 14: Specialist assessments identified as per the DFFE Screening Tool

No	PROPOSED SPECIALIST ASSESSMENT	VERIFICATION OF SITE SENSITIVITY AND MOTIVATION ON THE NEED FOR SPECIALIST INVESTIGATION	WILL THE SPECIALIST STUDY BE CONDUCTED?
DFFE SCREENING TOOL PROTOCOLS (RECOMMENDED SPECIALIST ASSESSMENTS AS PER THE SCREENING TOOL)			
10	Geotechnical Assessment	The desktop study was undertaken which identified presence of geotechnical constraints within the powerline route, including potentially collapsible sandy soils, shallow groundwater conditions, high soil permeability, flooding susceptibility associated with the 1:100-year floodplain, and watercourse crossings, all of which support an elevated geotechnical sensitivity. The Geotechnical Desktop study is in this BAR	A Geotechnical Desktop Study was undertaken
11	Visual Impact Assessment	The Visual Impact Assessment found that the proposed temporary bypass is located within a largely transformed landscape characterised by agricultural activities, degraded residential areas and existing infrastructure. The surrounding environment has limited visual cohesion, with existing powerline infrastructure already forming part of the landscape character. As the proposed bypass is temporary and associated with the maintenance of an existing powerline, the additional visual impact is expected to be of short-term duration.	A Visual Impact Assessment was undertaken

No	PROPOSED SPECIALIST ASSESSMENT	VERIFICATION OF SITE SENSITIVITY AND MOTIVATION ON THE NEED FOR SPECIALIST INVESTIGATION	WILL THE SPECIALIST STUDY BE CONDUCTED?
DFFE SCREENING TOOL PROTOCOLS (RECOMMENDED SPECIALIST ASSESSMENTS AS PER THE SCREENING TOOL)			
		The Visual Impact Assessment Report is in this BAR	
12	Radio Frequency Interference (RFI)	Based on the findings of the Radio Frequency Interference (RFI) Compliance Statement, it is confirmed that the proposed development will not result in significant RFI or Electromagnetic Interference (EMI) impacts on surrounding infrastructure or sensitive electronic systems. The overhead distribution lines do not inherently generate radio frequency emissions under normal operating conditions and that potential interference would only occur under abnormal conditions such as poor installation practices, faulty joints, arcing, sparking, or corona discharge. The anticipated RFI impacts are therefore considered low. The RFI Compliance Statement is in this BAR	Radio Frequency Interference (RFI) Compliance Statement was undertaken
13	Avian Impact Assessment	The impact assessment identified that the proposed powerline developments pose risks of habitat loss, collisions and electrocutions to bird species. However, the study also established that the project area is largely characterised by transformed land uses, including agriculture, plantations, roads, existing powerline infrastructure and other human-caused disturbances, which reduce the ecological integrity of the site. An Avifauna Impact study is in this BAR	An Avian Impact Assessment was undertaken

9 SPECIALIST STUDIES UNDERTAKEN FOR THE PROPOSED DEVELOPMENT

The Specialist Studies and Compliance statements were conducted and compiled for the Proposed Construction of the 132 kV Impala Zircon Temporary Bypass Powerline and associated infrastructure. The specialist reports were conducted in line with the Protocol Requirements in accordance with Government Notice No. 648 and Appendix 6 of the EIA Regulations, 2014, as amended. The findings and recommendations from the specialists were included in this report as well as the EMPr. Below are the specialists' findings:

9.1 Agricultural Impact Assessment

The Agricultural Impact Assessment study was undertaken by KMG Environmental Solutions Services. During the site inspection it was found that the study area is characterised by a mixed-use agricultural landscape dominated by commercial sugarcane cultivation, combined with rural settlements, industrial activities, and associated farm infrastructure. The soils within the study area are predominantly sandy to sandy loam in texture, moderately structured, and actively cultivated for agricultural production.

The laboratory test results indicated that the soils are moderately to strongly acidic, with pH values ranging between 4.64 and 5.49, which is typical of sugarcane-producing regions. However, liming is required to maintain optimal soil productivity and agricultural performance. Nutrient analysis further revealed variable concentrations of phosphorus, potassium, calcium, and magnesium, with deficiencies identified in certain areas of the study site.

Based on the soil characteristics and agricultural capability assessment, the soils are classified as having moderate agricultural potential, broadly corresponding to Land Capability Classes II to IV. Although the soils are currently productive under commercial farming practices, sustained productivity is dependent on continuous agricultural management inputs, including fertilisation, liming, and soil conservation measures. The proposed development footprint is relatively limited in extent and is located within an already transformed agricultural landscape.

The proposed development is anticipated to result in several agricultural impacts, primarily during the construction phase. These include the localised loss of agricultural land within the proposed powerline servitude, disturbance of topsoil, and the potential reduction of soil fertility due to excavation activities, soil mixing, and compaction. Temporary disruption of farming activities, particularly within active sugarcane fields, may also occur during the construction period.

In addition, the development may result in minor fragmentation of cultivated land; however, the extent of fragmentation is considered limited due to the linear nature of the proposed infrastructure and the continued use of surrounding agricultural land. Construction-related impacts were assessed as having moderate to high significance if mitigation measures are not effectively implemented, particularly with respect to soil disturbance and agricultural land loss.

The Cumulative impacts associated with the proposed development are considered to be of low to moderate significance, given the existing mixed land-use character of the area and the likelihood that agricultural activities can continue alongside the proposed infrastructure development.

To minimise and manage the identified impacts, it is recommended that a comprehensive Soil Management Plan be developed and implemented for the duration of the construction and rehabilitation phases. Topsoil should be stripped, stockpiled separately, and replaced following construction activities to preserve soil integrity and fertility. Appropriate soil conservation measures, including erosion control and compaction prevention, should be implemented throughout the construction phase.

Where necessary, liming and fertilisation should be undertaken to restore soil fertility within disturbed areas. All disturbed areas should be rehabilitated and revegetated as soon as possible after construction phase, and ongoing monitoring should be conducted to ensure successful recovery of rehabilitated areas.

Furthermore, continuity of farming access routes should be maintained throughout the construction phase to minimise disruption to agricultural operations. All mitigation and rehabilitation measures should align with the requirements and guidelines of the Department of Agriculture, Land Reform and Rural Development (DALRRD) and the Preservation and Development of Agricultural Land (PDAL) framework.

Lastly, from an agricultural perspective, the proposed development is considered acceptable, as the anticipated impacts are localised, manageable, and largely reversible. Provided that all recommended mitigation and management measures are strictly implemented, the proposed development is not expected to compromise the overall agricultural viability or long-term productivity of the study area. The figure below shows the land capability Map.

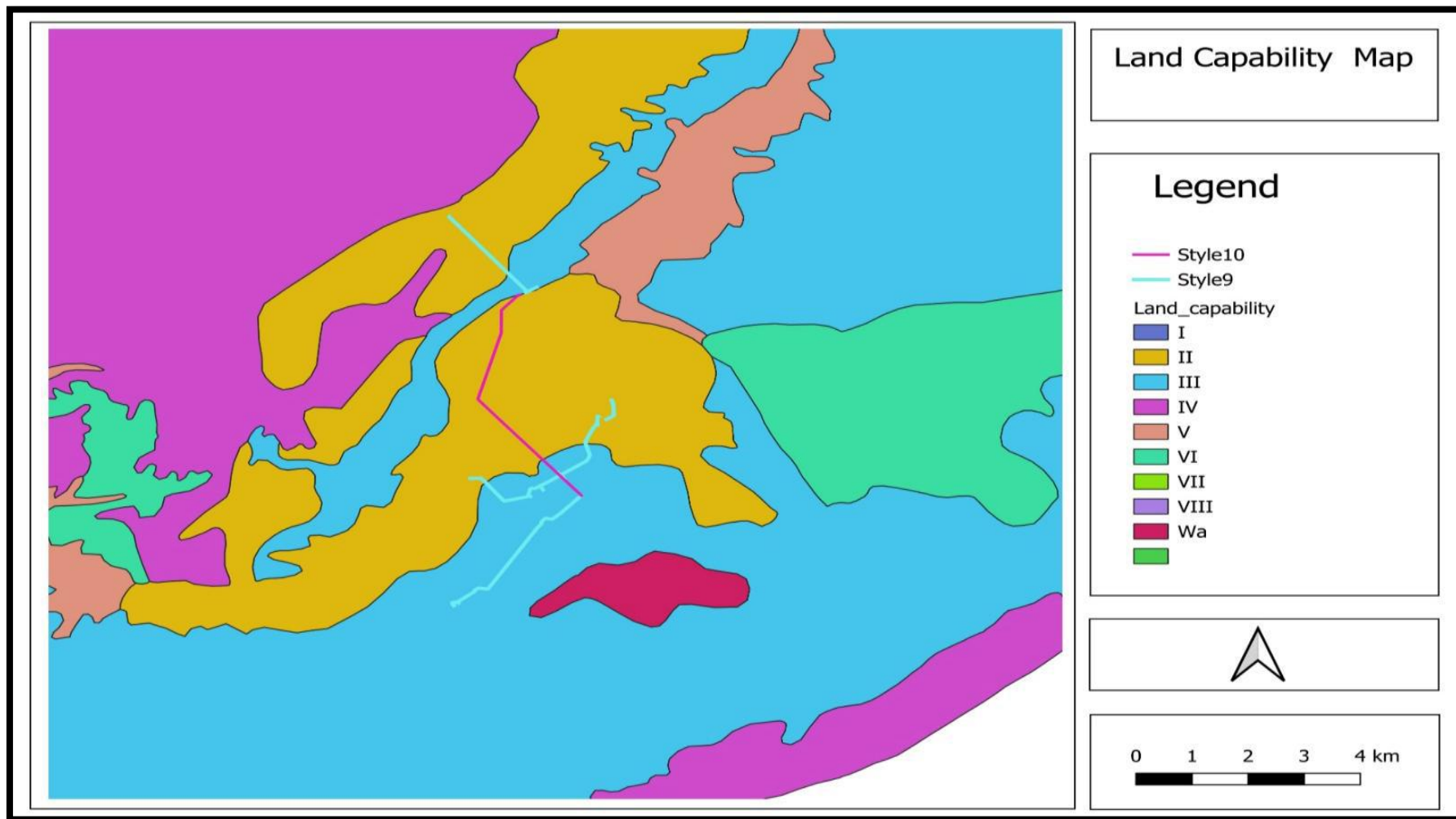


Figure 11: Land Capability Map (The proposed development is within Class II to IV)

9.2 Heritage Impact Assessment

A Phase 1 Cultural Heritage Impact Assessment (HIA) was undertaken by Vhubvo Archaeo Heritage Consultants, the assessment included a desktop study, stakeholder consultation, and a systematic field survey to identify potential archaeological and cultural heritage resources within the proposed development footprint.

The study area was found to be largely transformed due to existing agricultural activities, plantation forestry, existing infrastructure, and surrounding development activities. No Stone Age or Iron Age archaeological sites, burial grounds, graves, or structures of historical significance were identified within the surveyed working servitude of 25m.

The absence of visible heritage resources indicates that the study area has a generally low archaeological and cultural heritage sensitivity. However, it was acknowledged that subsurface archaeological materials or burial sites may still occur beneath the surface and remain undetected during the survey process. Overall, the proposed development was assessed to have a low impact on cultural heritage resources.

The assessment identified that the proposed development may potentially impact previously unidentified subsurface archaeological materials, burial sites, fossil remains, or other heritage resources during excavation and construction activities. Although no significant heritage resources were identified during the field survey, ground-disturbing activities associated with the installation of the temporary bypass powerline and maintenance works may expose buried archaeological deposits that were not visible on the surface during the assessment.

Therefore, construction-related impacts could include disturbance, damage, or destruction of concealed heritage resources if appropriate management measures are not implemented. However, due to the already disturbed nature of the study area, the use of existing servitudes, and the temporary nature of the proposed infrastructure, the overall significance of potential impacts on heritage resources was assessed as low.

Lastly, it is recommended that the proposed development may proceed from a cultural heritage perspective, provided that all recommended mitigation and management measures are implemented throughout the project lifecycle. It was specifically recommended that all contractors and construction personnel receive pre-construction environmental and heritage awareness training to enable them to identify potential archaeological and heritage materials during construction activities.

Furthermore, a Chance Find Procedure must be implemented during all phases of construction to ensure that any previously unidentified heritage resources are appropriately managed and protected. In the event that archaeological materials, graves, fossil remains, pottery fragments, stone tools, or any other suspected heritage resources are encountered during construction, all work within a minimum radius of 10 metres from the discovery area must cease immediately, the area must be demarcated and secured, and a qualified archaeologist or representative of the KwaZulu-Natal Amafa and Research Institute must be notified to assess the find and recommend appropriate mitigation measures. Lastly, it is to be noted that no heritage materials may be removed, disturbed, or tampered

with without the required permits in terms of the National Heritage Resources Act (Act No. 25 of 1999).

9.3 Palaeontology Impact Assessment

A Phase 1 Desktop Palaeontological Impact Assessment (PIA) confirmed that the proposed development area is underlain predominantly by Quaternary sands and the aeolian sands of the Umkwelane Formation within the Maputaland Group. The geological assessment established that the majority of the study area has been extensively disturbed by existing agricultural activities, infrastructure development, and land transformation associated with commercial sugarcane farming. As a result, the likelihood of significant fossil resources occurring within the development footprint is considered low. Although marine molluscs, shell fragments, shark teeth, and foraminifera have historically been associated with portions of the Umkwelane Formation, the overlying soils and historical land disturbance significantly reduce the probability of fossil preservation within the proposed footprint.

The assessment identified that the proposed construction and excavation activities associated with the temporary bypass powerline and maintenance works may potentially disturb previously unidentified fossil material preserved within the underlying aeolian sands of the Umkwelane Formation. Potential impacts may include the accidental disturbance, destruction, or removal of fossilised invertebrate material, shell deposits, or other palaeontological resources during excavation and drilling activities for pole foundations and associated infrastructure.

However, the study determined that the probability of encountering significant fossil resources is extremely low due to the disturbed nature of the site, the extensive agricultural activities within the area, and the predominance of unconsolidated soils, which generally do not preserve fossils. Furthermore, any potential impacts on palaeontological resources would be localised to the development footprint and limited in spatial extent. The overall significance of potential impacts on palaeontological resources was therefore assessed as low. Below is the Palaeontology map.

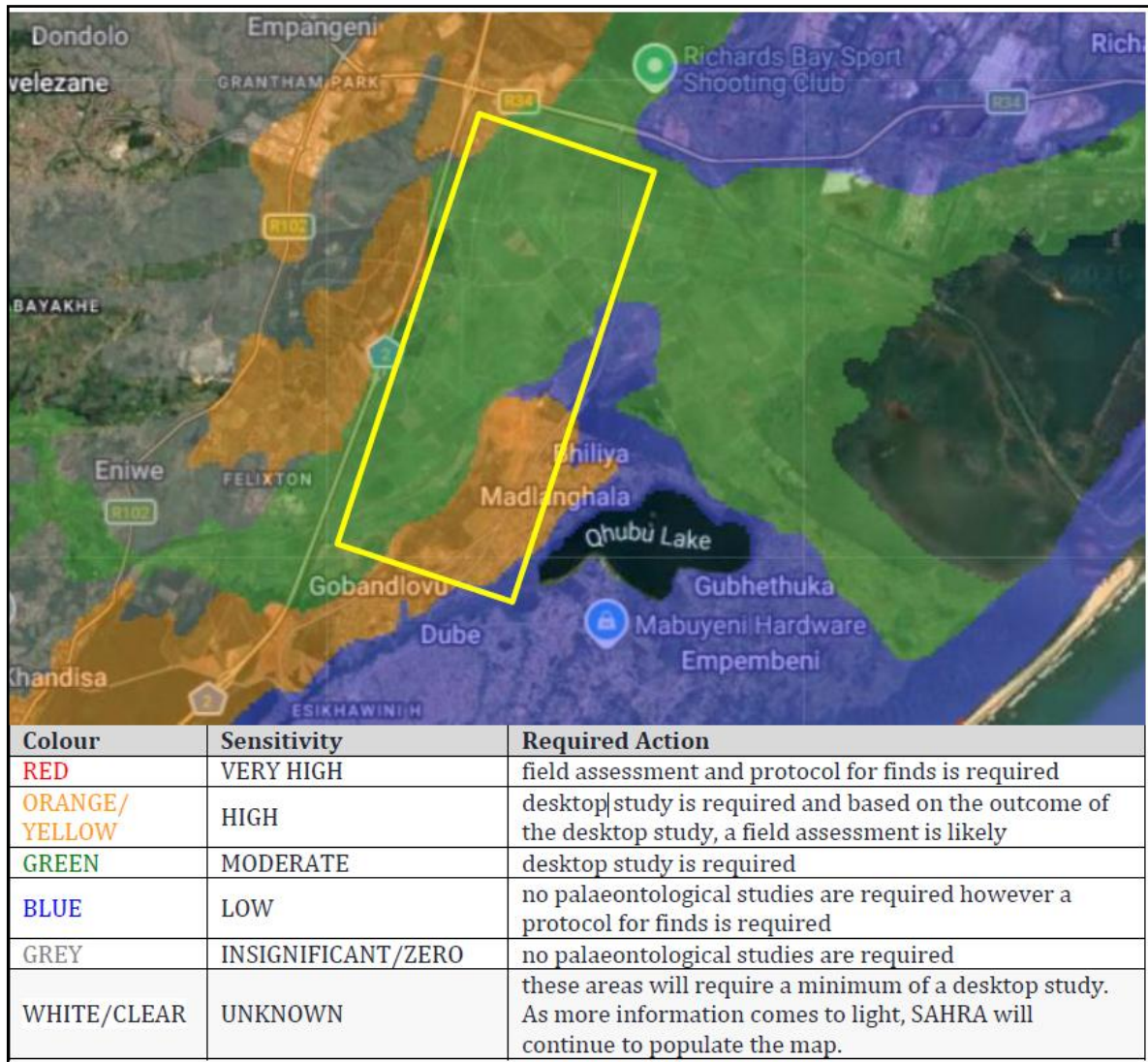


Figure 12: Palaeontology Map

9.4 Civil Aviation Compliance Statement

A Civil Aviation Site Sensitivity Verification Study (CASSV) was undertaken by GWI Aviation Advisory trading as National Pride Trading 210 (Pty) Limited. The study assessed the potential impact of the proposed temporary By-pass Powerline on nearby civil aviation infrastructure, including Richards Bay Airport (FARB), Empangeni Aerodrome (FAEM), and surrounding controlled and restricted airspace.

The assessment confirmed that the proposed temporary By-pass Powerline would not alter the existing aviation risk profile, as the distribution line already exists within the area and the proposed temporary By-pass Powerline largely follows the existing main Powerline. Although a short section of the proposed temporary By-pass Powerline falls within the 8 km obstacle restriction zone of Empangeni Aerodrome, the infrastructure is effectively shielded by intervening topography and does not pose a significant obstacle risk to aircraft operations.

The study further confirmed that the proposed deviation would not materially impact civil aviation radar systems, navigational infrastructure, communication systems, or controlled flight routes within

the surrounding area. Overall, the civil aviation sensitivity for the proposed development was assessed as low.

The risk assessment determined that the possibility of aircraft interaction with the proposed infrastructure is highly unlikely and tolerable, particularly as the distribution line already exists within the area and no historical aviation incidents have been associated with the current alignment. Potential operational impacts during construction may include temporary aviation safety concerns associated with construction cranes, support poles, or elevated structures, which may require obstacle marking, aviation lighting, and compliance with SACAA requirements during the construction phase. In addition, the study assessed the potential for radar, radio frequency, and navigational interference and concluded that the proposed development would not significantly affect aviation communication systems, radar installations, or flight operations. Overall, the anticipated impacts on civil aviation operations were assessed as low and manageable.

Therefore, it is recommended that the proposed development may proceed as the proposed temporary By-pass Powerline complies with the relevant International Civil Aviation Organisation (ICAO) and South African Civil Aviation Authority (SACAA) standards relating to obstacle limitation surfaces and aviation safety. Furthermore, should Environmental Authorisation be granted, all infrastructure associated with the proposed development must comply with SACAA height restrictions and obstacle approval requirements during construction and ongoing consultation and liaison with the SACAA should be maintained throughout the construction phase to determine whether obstacle marking, aviation lighting, or additional aviation safety measures will be required.

Lastly, the operational mitigation measures identified during consultation with the SACAA should also be implemented where required, and relevant aviation notices, including Notices to Airmen (NOTAMs) or Aeronautical Information Circulars (AICs), should be issued where necessary during construction activities.

9.5 Geotechnical Desktop Study

The Geotechnical Desktop Assessment undertaken by Aryis Consulting found that the proposed Impala Zircon Temporary By-Pass 132kV Powerline route is generally suitable for the proposed development, subject to confirmation through detailed site investigations. The proposed powerline route traverses a predominantly cultivated agricultural landscape characterised by relatively gentle to locally steeper terrain, with elevations ranging from approximately 8 m to 25 m above mean sea level. The study area is underlain predominantly by Quaternary-aged sandy deposits (Qs) associated with Upper Pleistocene to Holocene formations, consisting mainly of grey and brown fine-grained sands, with localised clayey sand profiles potentially occurring at depth.

The assessment identified several geotechnical characteristics and constraints associated with the site. The anticipated sandy soils are expected to be non-cohesive, of low plasticity and low to medium density, with the potential for weak secondary cementation and collapse settlement upon wetting or disturbance. These conditions may present a geotechnical risk to shallow foundations if not appropriately managed. The study further identified the likelihood of a shallow groundwater table, groundwater seepage, and perched water conditions associated with highly permeable Quaternary sands and the coastal hydrogeological setting. Groundwater fluctuations and seepage conditions may influence settlement behaviour and the overall performance of foundations.

Furthermore, the site presents a low seismic risk, is not underlain by dolomite, has no known geological faults, and is not expected to be affected by volcanic activity or shallow undermining. However, the route traverses partly within a 1:100-year floodplain, one perennial and one non-perennial river, indicating a potential flooding risk during periods of heavy rainfall. While no significant steep slope instability is anticipated, runoff, soil erosion, contamination and soil destabilisation associated with construction, operation, decommissioning and cumulative activities were identified as potential impacts.

It is recommended that a detailed geotechnical site investigation be undertaken prior to construction to confirm local ground conditions and provide site-specific information for the design of foundations, poles, access roads and associated infrastructure. The investigation should include excavation of test pits, laboratory testing of in-situ materials, investigation of founding depths and soil behaviour, assessment of road subgrade conditions, identification of suitable construction materials, and the application of non-intrusive methods such as geophysical surveys and electrical resistivity investigations where required.

In addition, the study further recommends the implementation of mitigation measures including limiting vegetation clearance, stabilisation of disturbed and sloped areas, protection of watercourses, controlled refuelling practices to prevent soil contamination, rehabilitation of disturbed areas, use of authorised access routes, and restriction of activities to designated development footprints. With implementation of these measures and completion of detailed geotechnical investigations the proposed development won't result in significant impacts.

9.6 Radio Frequency Interference Compliance Statement

A Radio Frequency Interference (RFI) compliance Statement was undertaken by ITC SERVICES (Pty) Ltd. The assessment evaluated the potential of the distribution line infrastructure to generate Radio Frequency Interference (RFI) and Electromagnetic Interference (EMI) that could affect surrounding infrastructure and sensitive electronic systems. The assessment confirmed that overhead distribution lines do not inherently emit radio frequency signals under normal operating conditions. However, improper installation practices, damaged hardware, poor conductor joints, inadequate maintenance, sparking, arcing, or corona discharge may result in unintended electromagnetic emissions.

The assessment identified that potential RFI and EMI impacts associated with the proposed development may arise from corona discharge, sparking, micro-arcing, faulty electrical connections, and switching events within the high-voltage distribution infrastructure. These emissions could potentially affect nearby electronic or communication infrastructure, including airports, railway signalling systems, cell phone towers, high-frequency communication sites, and other EMI-sensitive equipment should inadequate installation or maintenance practices occur.

The weather conditions may influence the severity of RFI emissions, with corona discharge typically increasing during wet weather conditions and sparking or arcing being more dominant during dry weather conditions. However, the assessment concluded that the likelihood and significance of these impacts remain low, particularly as the proposed development does not occur within proximity to

identified Radio Frequency-sensitive infrastructure and the distribution line will largely follow existing infrastructure corridors.

It is recommended that the proposed development may proceed provided that recognised good practice engineering, installation, and maintenance measures are strictly implemented throughout construction and operation. Recommended mitigation measures include ensuring that all line hardware, joints, fittings, and grid-related connections comply with applicable engineering and construction standards, using approved compression connectors to minimise high-resistance joints, avoiding sharp edges or improperly terminated conductors that may intensify electrical fields, and ensuring that all metallic non-current-carrying components are effectively bonded and connected to the earthing system.

Furthermore, proper earthing and bonding systems are critical to reducing the risk of corona discharge, sparking, arcing, and unintended electromagnetic emissions where necessary. Through the implementation of these mitigation measures, the proposed powerline infrastructure will not result in significant RFI impacts on the surrounding environment.

9.7 Visual Impact Assessment Study

The Visual Impact Assessment was undertaken by Outline Landscape Architects cc. The assessment confirmed that the broader landscape is generally flat and possesses a moderate ability to absorb visual impacts, the study identified the primary project components with visual impact potential as the powerline infrastructure, construction camps, lay-down areas, and temporary access roads. The powerline infrastructure was identified as the most visually prominent project component due to its industrial appearance and linear form across the landscape.

The assessment established that the visual impact on receptors will vary depending on the viewer group, including residents, motorists and tourists. The majority of the alignment traverses agricultural and cultivated land, while limited residential receptors occur within settlements such as Madlankala and Bhiliya. These settlements were noted to already exhibit degraded visual conditions with limited visual cohesion. The assessment found that tourists are limited within the area and that motorists generally experience brief visual exposure due to travelling speed, which reduces the significance of visual impacts. During the construction phase, visual impacts associated with construction camps and lay-down yards may create temporary unsightly views; however, these impacts were assessed as having low significance due to their short duration and limited exposure.

During the operational phase, the assessment concluded that the severity and significance of visual impacts associated with the temporary bypass powerline would remain low. The existing main powerline infrastructure within the area has resulted in viewers being familiar to such infrastructure, thereby reducing the perceived visual intrusion of the proposed temporary bypass Powerline. Furthermore, the flat landscape, transformed agricultural setting, and temporary nature of the infrastructure contribute to the receiving environment's ability to absorb the visual change. The assessment therefore concluded that the project would result in a low visual impact significance, provided that appropriate mitigation measures are implemented.

It is recommended that the construction camps, lay-down areas, and associated activities should be appropriately managed, maintained and located in areas that minimise visibility where possible. The

temporary disturbance areas, including access roads and work areas, should be rehabilitated following construction to restore the visual character of the surrounding environment.

The assessment further recommends that the temporary nature of the temporary bypass powerline infrastructure be maintained, and that all temporary infrastructure, including wooden pole structures, construction camps, lay-down areas and temporary access routes, be removed and rehabilitated once maintenance activities on the existing powerline have been completed. In conclusion, the proposed development is acceptable from a visual perspective and may proceed, as the anticipated visual impacts are of low significance and can be effectively mitigated. Figure below is the visibility map in relation to the proposed development.

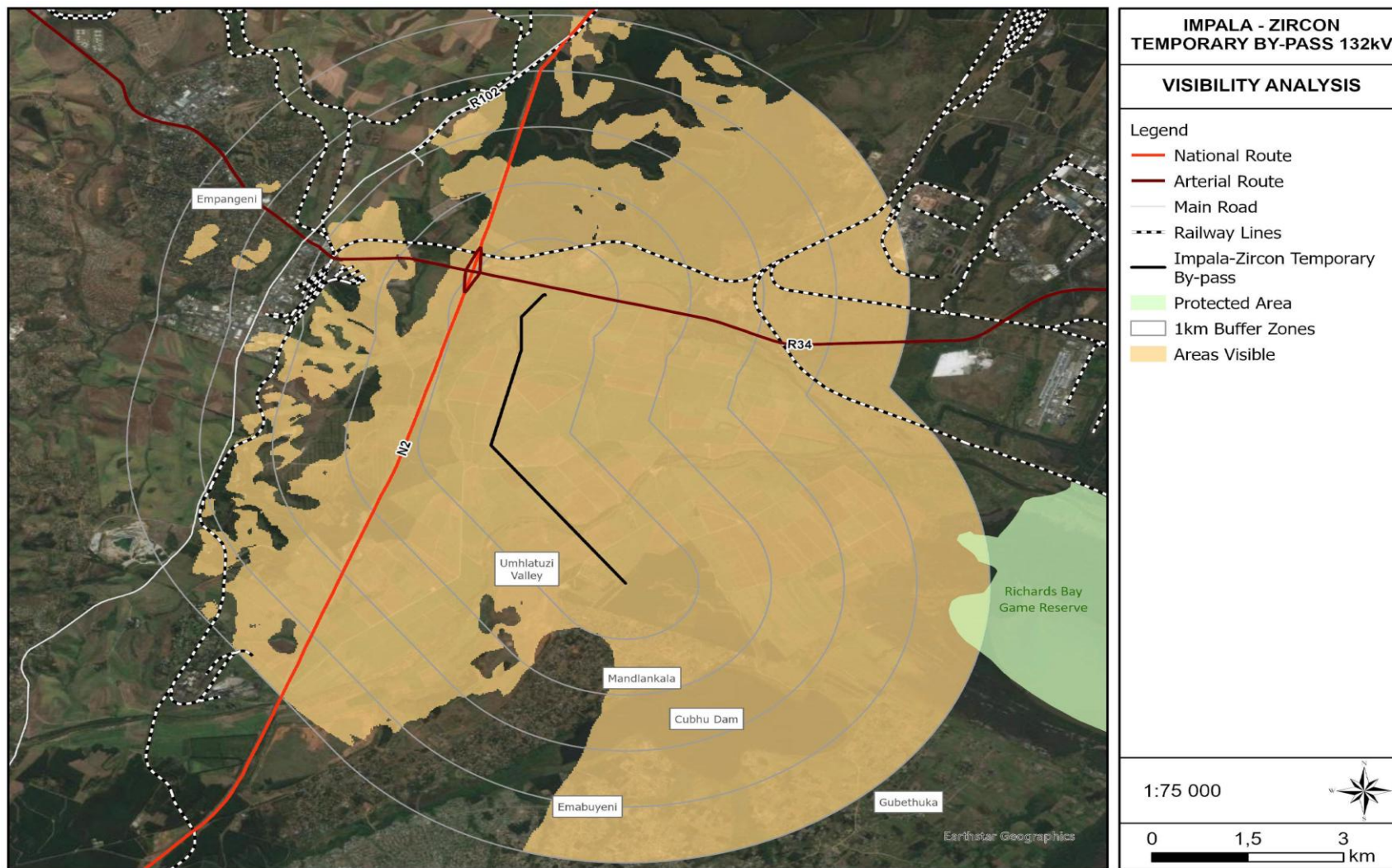


Figure 13: Visibility Analysis Map

9.8 Avifauna Assessment Study

The Avifauna Assessment study was undertaken by The Biodiversity Company (Pty) Ltd. The study area is dominated by severely modified habitats comprising agricultural fields, forestry plantations, urban/transformed areas and water resource habitats. Despite the transformed nature of the landscape, the Project Area of Influence (PAOI) overlaps with several ecologically important landscape features, including the Richards Bay Coast Key Biodiversity Area (KBA), protected area buffer zones, SAIIE rivers, and Critically Endangered and Endangered wetland ecosystems.

The assessment identified that the avifaunal risks associated with the proposed development relate to habitat loss and disturbance, collision risks with powerline infrastructure, and electrocution risks, particularly for Species of Conservation Concern (SCC) and priority bird species. The development may result in the loss of habitat and potential nesting sites for numerous expected avifauna SCC species, as well as displacement and possible mortalities associated with the operation of the Powerline infrastructure.

Water resource habitats were identified as comparatively more sensitive areas due to their importance for avifauna and congregatory bird species. The assessment concluded that, without mitigation, impacts to avifauna may range from moderate to high significance, while cumulative impacts associated with the existing concentration of electrical and industrial infrastructure in the region are considered moderately high.

The impacts associated with the proposed temporary bypass powerline include habitat loss, collisions and electrocutions that could result in bird mortalities, including impacts to Species of Conservation Concern. Therefore, it is recommended that a pre-construction nest walkdown survey should be undertaken prior to site clearance, particularly in areas where nests were previously recorded, to confirm nest occupancy, identify associated species, and determine whether seasonal or temporal construction restrictions are required to avoid disturbance to breeding birds.

The study further recommends that the development footprint be clearly demarcated and that unnecessary movement into surrounding natural and sensitive habitats, especially water resource areas, be restricted. Site personnel should undergo environmental induction and awareness training focusing specifically on avifauna conservation, prohibited activities such as trapping or disturbance of birds, and the protection of habitats and nesting sites.

To reduce operational impacts, the assessment recommends the installation of bird flight diverters across water resource crossing areas to minimise collision risks, together with the implementation of nest-proofing measures on the powerline to reduce electrocution and nesting-related impacts. Strict environmental management protocols and monitoring measures should be maintained throughout the construction, operational and decommissioning phases. With the implementation of the mitigation and management measures, the impacts can be reduced to acceptable levels.

9.9 Terrestrial Biodiversity Desktop Assessment

The study confirmed that the project area overlaps with several ecologically relevant landscape features including the Zululand Coast Strategic Water Source Area (SWSA), National Freshwater Ecosystem Priority Areas (NFEPA), and South African Inventory of Inland Aquatic Ecosystems (SAIIAE) features, including a poorly protected floodplain and portions of the Mhlutuze River system. However, the study established that the project area does not overlap with Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Key Biodiversity Areas (KBAs) or National Protected Areas Expansion Strategy (NPAES) areas. The study area was found to overlap with a Least Concern ecosystem and portions of Mostly Protected and Well Protected ecosystems.

The assessment indicated that a number of faunal and floral Species of Conservation Concern (SCC) may potentially occur within the broader Project Area of Influence (PAOI), including avifauna, mammals, reptiles, amphibians and plant species. However, the specialist determined that the majority of these species have a low likelihood of occurrence due to the highly transformed and disturbed nature of the landscape and the absence of suitable habitat conditions within the proposed development footprint. No terrestrial flora or fauna SCC identified through the desktop assessment were confirmed during the field survey. The assessment identified the dominant habitats as severely modified agricultural, forestry and urban habitats, characterised by extensive anthropogenic disturbance, habitat fragmentation, invasive alien plant infestation, littering, dumping, road edge effects and ongoing land transformation.

The site sensitivity verification determined that habitat sensitivity within the PAOI ranges from Very Low to Medium Site Ecological Importance (SEI), which contrasts with the Very High terrestrial biodiversity and animal species sensitivities assigned by the DFFE Screening Tool. The specialist concluded that the proposed temporary bypass powerline and maintenance activities will largely occur within an already disturbed and modified environment associated with a pre-existing linear infrastructure corridor. Accordingly, terrestrial biodiversity impacts associated with the project are expected to be limited and manageable, provided that appropriate mitigation measures are implemented. The specialist therefore considered the proposed development acceptable from a terrestrial biodiversity perspective.

It is recommended that disturbance to terrestrial habitats be minimised by confining all construction, maintenance, laydown, storage and access activities to clearly demarcated development footprints and existing disturbed areas wherever practicable. Vegetation clearing should be kept to the minimum extent necessary, and unnecessary disturbance to adjacent natural habitats and sensitive areas should be avoided. Appropriate rehabilitation measures should be implemented following construction and maintenance activities to restore disturbed areas and minimise long-term ecological degradation.

The specialist further recommends the implementation of Alien Invasive Plant (AIP) management measures, including the monitoring, control and removal of invasive species occurring within the project area. Good housekeeping practices should be maintained throughout all project phases to prevent littering, illegal dumping, soil disturbance and secondary spread of invasive vegetation. Environmental awareness training should be provided to construction personnel to promote biodiversity protection and compliance with environmental management requirements.

In addition, the assessment recommends that all mitigation measures contained within the EMPr and specialist reports be implemented throughout the planning, construction, operational and maintenance phases. Therefore, based on the findings of the desktop assessment, field survey and site sensitivity verification, the specialist concluded that the proposed development is acceptable provided that mitigation and environmental management measures are adhered to. Figure below shows the Site Ecological Importance of the site.



Figure 14: Site Ecological Importance sensitivity of the proposed development

9.10 Aquatic Assessment Study including (Hydrology assessment and Wetland Delineation)

The Aquatic Biodiversity Assessment found that the proposed Impala-Zircon Temporary By-Pass 132kV Powerline occurs within the Pongola-Mtamvuna Water Management Area, specifically within the W12F quaternary catchment, and intersects several freshwater biodiversity features within the 500 m Project Area of Influence (PAOI). Desktop analysis confirmed overlap with the South African Inventory of Inland Aquatic Ecosystems (SAIIAE) wetlands, National Freshwater Ecosystem Priority Areas (NFEPA) and a Groundwater Strategic Water Source Area (SWSA). The assessment identified the presence of perennial and non-perennial drainage features, wetlands and the uMhlathuze River within the study area, some of which are intersected by the existing and proposed powerline infrastructure.

The assessment identified five (5) Hydrogeomorphic (HGM) wetland units within the encompassing 500 m PAOI. These comprise one channelled valley-bottom wetland (HGM 1), one floodplain wetland (HGM 2), two seep wetlands (HGM 3 and HGM 5), and one wetland flat (HGM 4). In addition, artificial drainage channels, non-perennial drainage lines and the uMhlathuze River were recorded within the study area. The assessment noted that the proposed powerline alignment partially overlaps with the floodplain wetland (HGM 2) and associated artificial drainage features. However, HGM 3 to HGM 5 were determined to be located outside areas where impacts from the proposed development are anticipated and were therefore excluded from further impact assessment.

The ecological assessment determined that the identified wetlands are currently in a “Seriously Modified” Present Ecological State (PES) due to existing anthropogenic pressures and landscape transformation. Notwithstanding this condition, the wetlands were assigned a “High” Ecological Importance and Sensitivity (EIS) rating. Functional assessments indicated that the channelled valley-bottom and floodplain wetlands provide “Intermediate” ecosystem services, highlighting their ongoing contribution to freshwater ecological functioning within the landscape. The DWS Risk Assessment Matrix determined that all identified risks associated with the proposed activities are “Low”.

The Aquatic Biodiversity Assessment recommends that impacts to wetlands, drainage features and associated aquatic habitats be avoided wherever possible, in accordance with the mitigation hierarchy. The assessment recommends the implementation of wetland buffers and regulated setback zones to minimise disturbance to aquatic ecosystems. Recommended post-mitigation buffers include 15 m buffers for seep wetlands and wetland flats (HGM 3 – HGM 5) and 20 m buffers for the channelled valley-bottom and floodplain wetlands (HGM 1 and HGM 2) during both the construction and operational phases.

The specialist further recommends that all construction-related activities, including site clearance, civil works, stormwater management, temporary ablutions, waste management, access control and infrastructure placement, be managed in a manner that minimises impacts to wetland systems and associated buffers. Disturbance to wetlands and watercourses should be limited to the minimum footprint required, while erosion, sedimentation, contamination and alteration of natural hydrological functioning must be prevented through appropriate environmental controls.

In addition, the assessment recommends the implementation of a comprehensive rehabilitation and monitoring programme, including site demarcation, erosion and sediment control, soil management, alien invasive plant control, revegetation using suitable indigenous species, water resource protection measures, waste management and ongoing environmental monitoring. Provided that the recommended mitigation, rehabilitation and management measures are fully implemented, the identified impacts will remain acceptable, and all identified risks will remain low. Below is the hydrological map showing the catchment details, National Freshwater Ecosystem Priority Areas and the Wetland delineation Map

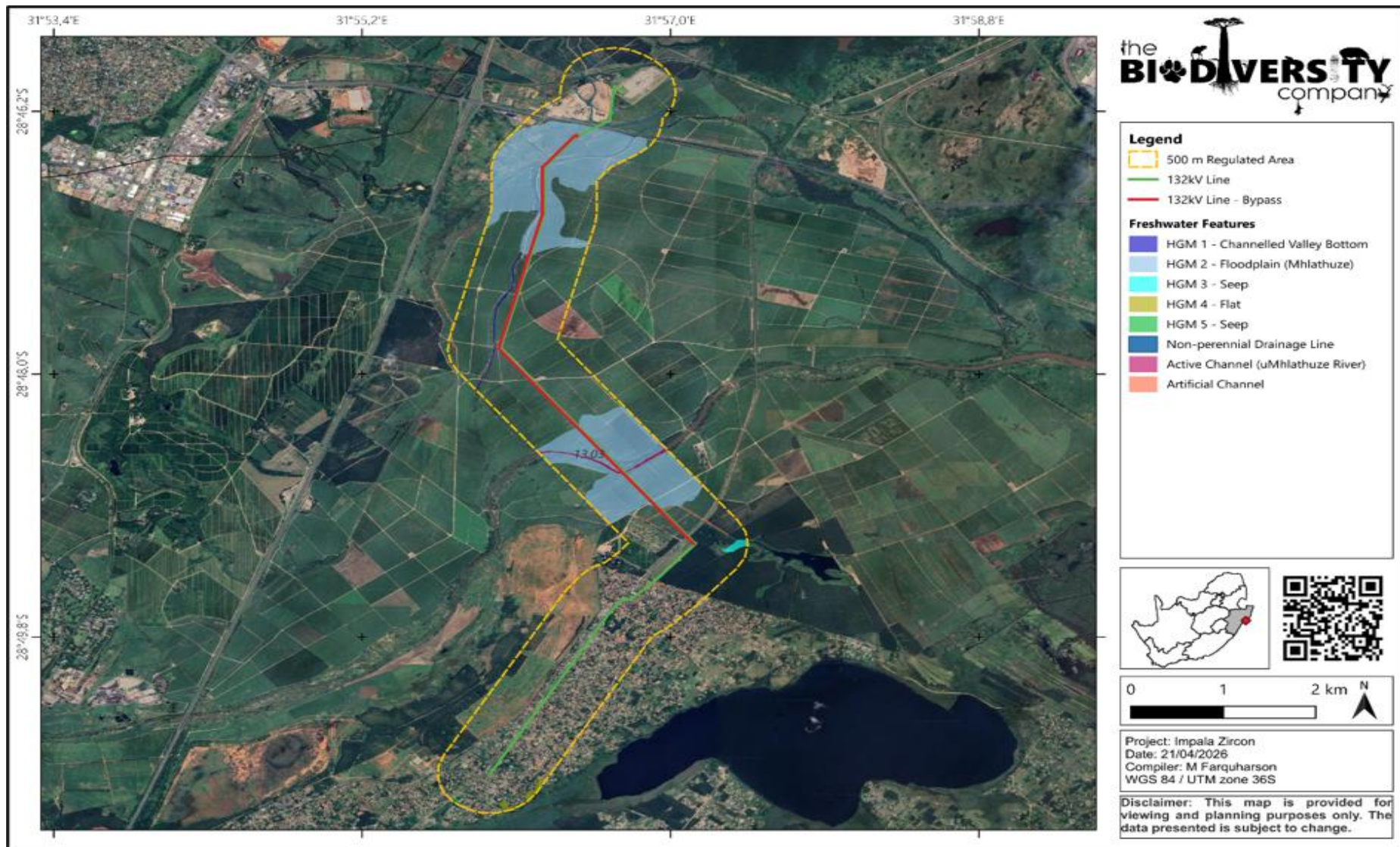


Figure 16: Wetland Delineation Map



Figure 17: National Freshwater Ecosystem Priority Areas

10 DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY IMPOSES ON THE PREFERRED SITE THROUGH THE LIFE OF THE ACTIVITY

10.1 Approach to the EIA

An Environmental Impact Assessment (EIA) is a good planning tool. It identifies the environmental impacts of a proposed development and assists in ensuring that a project is environmentally acceptable and integrated into the surrounding environment in a sustainable way.

The impact assessment for the proposed development was undertaken in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998), the Environmental Impact Assessment Regulations, 2014 (as amended), the applicable Listing Notices, the National Web-based Environmental Screening Tool, the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (Government Notice No. 320 of 2020), and the relevant Department of Forestry, Fisheries and the Environment guidelines, including the Guideline on Need and Desirability. The guiding principles of an EIA are listed below.

10.2 Guiding principles for an EIA

The Environmental Impact Assessment (EIA) process is conducted in an open, transparent, and inclusive manner throughout its duration. This requires a participatory approach that encourages meaningful stakeholder engagement, ensures unrestricted access to relevant information, and promotes transparency in decision-making. The process should be free from any undisclosed intentions or bias, with all information gathered and considered objectively. Furthermore, the project proponent must maintain an open-door policy, providing Interested and Affected Parties (I&APs) with adequate opportunities to participate, raise concerns, and contribute to the assessment process. ...

There should be ongoing consultation with interested and affected parties representing all walks of life. Sufficient time to comment must be allowed. The opportunity to comment should be announced on an ongoing basis. There should be opportunities for input by specialists and members of the public. Their contributions and issues should be considered when technical specialist studies are conducted and when decisions are made.

10.3 Information Gathering

The EAP identified the information that would be required for the impact assessment, and the relevant data were obtained. In addition, available information about the receiving environment was gathered from reliable sources, interested and affected parties, previous documented studies in the area and previous EIA and Specialist Reports. The project team visited the site to gain first-hand information and an understanding of the existing operations and the proposed project.

10.4 Specialist Assessments

Specialist Studies and Compliance Statement were conducted for the Proposed Temporary Bypass Impala-Zircon Powerline. These specialist reports findings and recommendations have been included as part of this Assessment. Hence, the impacts were incorporated to assess and decide on the best practicable environmental option. In addition to these, a site verification report is also appended for reference.

10.5 Description and assessment of impacts identified.

A comprehensive list of all potential impacts of the proposed development, as identified by the EAP and the specialists, is provided and assessed.

10.6 Environmental Management Programme

An Environmental Management Programme (EMPr) containing mitigation, management and monitoring measures and specifying roles and responsibilities was compiled with specialist input and is included as part of this report.

10.7 Stakeholder Engagement

Registered Interested and Affected Parties, including relevant Organs of State, are consulted during the process. All their comments have been formally responded to and incorporated into this Draft Basic Assessment Report (DBAR) and Environmental Management Programme (EMPr) that will be submitted to the competent authority.

10.8 Assessment of each identified potentially significant impact and risk.

Potential impacts associated with the proposed development were identified using input from the following:

- Interested & Affected Parties;
- Existing information; and
- Site visit,

11 IMPACT ASSESSMENT

11.1 Assessment Methodology

Table 15: Methodology utilised in the rating of significance of impacts.

NATURE
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.
GEOGRAPHICAL EXTENT
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required.

This is often useful during the detailed assessment of a project in terms of further defining the determined.		
1	Site	The impact will only affect the site
2	Local/district	Will affect the local area or district
3	Province/region	Will affect the entire province or region
4	International and National	Will affect the entire country
PROBABILITY		
This describes the chance of occurrence of an impact		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
REVERSIBILITY		
This describes the degree to which an impact on an environmental parameter can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource.	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.
DURATION		
This describes the duration of the impacts on the environmental parameter. Duration indicates the lifetime of the impact as a result of the proposed activity		

1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase (0 – 1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 50 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).

CUMULATIVE EFFECT

This describes the cumulative effect of the impacts on the environmental parameter. A cumulative effect/impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.

1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects

INTENSITY/ MAGNITUDE

Describes the severity of an impact

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/ component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).

3	High	Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapse). Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

SIGNIFICANCE

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on the environmental parameter. The calculation of the significance of an impact uses the following formula:

(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.

The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.

Points	Impact Significance Rating	Description
6 to 28	Negative Low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive Low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative Medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive Medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative High impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive High impact	The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".

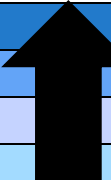
74 to 96	Positive Very high impact	The anticipated impact will have highly significant positive effects.
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ENVIRONMENTAL RATING SIGNIFICANCE KEY:

NEGATIVE IMPACTS

SIGNIFICANCE	RATING	FINAL RATING SCORE / VALUE RANGE
 Very Significant	Very High	74 – 96
Significant	High	51 – 73
Increasing Significance	Medium	29 – 50
Insignificant	Low	6 – 28

POSITIVE IMPACTS

SIGNIFICANCE	RATING	FINAL RATING SCORE / VALUE RANGE
 Very Significant	Very High	74 – 96
Significant	High	51 – 73
Increasing Significance	Medium	29 – 50
Insignificant	Low	6 – 28

The following potential major direct, indirect, and cumulative impacts were identified.

- Disturbance, damage or destruction of unknown archaeological resources during excavation, pole installation and earthworks.
- Disturbance or accidental uncovering of unmarked graves, burial sites, artefacts or fossil remains during ground-disturbing activities.
- Physical alteration of cultural landscapes or heritage settings during the construction of the temporary bypass powerline.
- Increased human access and movement during construction potentially leading to unauthorised removal of heritage materials if discovered.
- Damage, destruction or permanent loss of fossil resources during excavations or any other earthworks.
- Disturbance of potential subsurface fossil-bearing deposits associated with the Umkwelane Formation and Quaternary sediments.
- Physical removal or alteration of geological deposits that may contain palaeontological material.
- Long-term cumulative degradation of palaeontological record integrity within the broader Maputaland geological landscape.
- Localised loss of agricultural land due to the construction of the temporary bypass line.
- Disturbance, stripping and displacement of topsoil during earthworks, excavation, pole installation and movement of machinery.

- Soil compaction caused by construction vehicles and equipment.
- Reduction in soil fertility and soil quality, including disturbance of nutrient profiles and productive soil layers.
- Temporary disruption of cultivated sugarcane fields where infrastructure intersects active farming areas.
- Potential erosion and destabilisation of exposed soils, particularly near drainage features and disturbed agricultural land.
- Reduced agricultural productivity.
- Operational disruption to farming practices, including interruptions to cultivation and harvesting activities.
- Soil degradation if disturbed areas are poorly rehabilitated.
- Obstacle risk to aircraft operations from the distribution lines, temporary poles and construction equipment.
- Risk of temporary operational aviation constraints during construction due to cranes, machinery or temporary elevated infrastructure.
- Disturbance of wetland habitat and aquatic ecosystems.
- Vegetation clearing.
- Habitat degradation.
- Loss of ecological connectivity.
- Alteration of natural surface water flow patterns.
- Disturbance of natural drainage pathways.
- Decline in water quality through sedimentation, waste or construction runoff.
- Reduction in ecological functioning and ecosystem.
- Bird Collision & Electrocutation Risk.
- Disturbance, degradation or temporary loss of avifaunal habitat.
- Construction activities may disturb or damage active nests, nesting sites, roosting areas or breeding activities.
- Disturbance to Fauna Species.
- Alteration of the existing landscape character.
- Visual intrusion into existing views.
- Increased Runoff & Siltation.

Table 16: Potential Impacts during Pre- Pre-construction, Construction and Operational Phases

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
PRE- CONSTRUCTION PHASE				
Non-compliance with the Environmental Management Plan, Permits and Environmental Authorisation / Relevant Site Documentation	Very High	- All relevant authorisations (e.g. Environmental Authorisation and General Authorisation) must be obtained before construction commences. - The applicant must comply with the conditions of the issued Environmental Authorisation. - The Environmental Authorisation must be obtained from the competent Authority before any activities occur in terms of the EIA regulations 2014, amended. - The Environmental Management Plan must be made binding in all contracts concerning the proposed project. - Method statements (or SOPs) must be developed and approved by the applicant, ECO, Engineer and Contractor.	Medium	Failure to comply with legislation & policies will lead to fines and conflicts with local, provincial and national stakeholders
Non-viable design and selection of technology	Medium	The best reasonable and feasible infrastructure and technology for the	Low	Poor design and selection of technology will lead to poor

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		proposed temporary bypass powerline must be employed according to Eskom's technical standards. - Technology that meets approved acceptable technical standards must be selected. - During the planning and design phase, the development must adhere to the relevant legislation and/or policies.		operation, and contamination of groundwater and the surrounding land.
CONSTRUCTION PHASE				
Vegetation Clearing and Loss of Terrestrial Habitat	High	- Vegetation clearing must be restricted to the approved development footprint only with the working servitude of approximately 25m - No unnecessary disturbance outside the earmarked servitude area may be permitted. - Disturbed areas including the farmed areas must be rehabilitated using indigenous vegetation species where appropriate. - Construction impacts must be contained within the footprint of the pylon	Medium	Temporary loss and disturbance of terrestrial habitat may occur within the construction footprint. however, impacts are expected to remain localised following rehabilitation.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		structures and / or the servitude routes of the powerline.		
Disturbance to Fauna	Medium	- Construction activities must remain restricted to the approved 25m working servitude. - Any fauna encountered on site must not be harmed and must be allowed to disperse naturally or be relocated by a suitably qualified specialist where necessary. - Vegetation clearance should be conducted steadily from the start to the end of the route to allow fauna to move away. - Construction activities should be restricted to daylight hours when the majority of faunal species are inactive. - No animals may be snared, captured or wilfully damaged or killed.	Low	Temporary disturbance, displacement and avoidance behaviour by fauna species may occur during construction activities.
Impacts on Wetlands, Drainage Lines and Aquatic Habitat	High	- Construction activities near wetlands, drainage lines and watercourse features must be strictly controlled. - All other wetlands and drainage lines should be treated as “no-go” areas and	Medium	Temporary disturbance of aquatic habitat, sedimentation and alteration of local hydrological functioning may occur if activities are not effectively controlled.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		appropriately demarcated as such, no vehicles, machinery, personnel, construction materials, cement, fuel, oil or waste should be allowed into these areas without supervision by the ECO. - Clearly demarcate no-go areas and environmentally sensitive areas before construction commences. - Stockpiled soil must be placed away from drainage lines, wetlands, and watercourses and protected from erosion using berms, covering, or temporary vegetation. - Workers should be made aware of the importance of not destroying or damaging the vegetation along drainage lines, uMhlathuze River and in wetland areas.		
Soil Erosion, Soil Instability and Geotechnical Disturbance	High	- Earthworks shall be planned to minimise unnecessary excavation, soil exposure and disturbance of unstable ground conditions. - Construction vehicle movement shall be restricted to approved access routes to	Medium	Erosion, sediment loss, disturbed soil structure and temporary soil instability may occur during construction, particularly following rainfall events

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		limit soil compaction and unnecessary disturbance. - Topsoil shall be stripped separately from subsoil, stockpiled appropriately and protected from erosion, contamination and compaction. - Erosion prevention measures including contour berms, runoff diversion channels, slope stabilisation, erosion blankets and sediment controls shall be implemented - Disturbed areas shall be rehabilitated rather than left exposed until project completion. - Supervision shall be taken in areas displaying erosion exposure or unstable soils.		
Soil, Surface Water and Groundwater Contamination	High	- All fuels, lubricants, oils, chemicals and hazardous substances shall be stored within impermeable, bunded storage areas capable of containing at least 110% of the largest container volume. - Refuelling activities shall be undertaken only within designated controlled areas	Medium	Although accidental spills may still occur, implementation of hazardous materials management controls is expected to minimise the risk of contamination of soils, groundwater and water resources

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		- utilising drip trays, spill containment equipment and absorbent materials. ▪ Spill kits shall remain available at all work areas and personnel shall be trained in spill response procedures. ▪ Any contaminated soil resulting from accidental spills shall be removed immediately, placed within suitable containers and disposed of at appropriately authorised facilities. ▪ No washing of equipment, discharge of contaminated water or disposal of hazardous materials onto bare ground, drainage lines or wetlands shall be permitted.		
Agricultural Land Capability, Topsoil Loss and Soil Productivity Disturbance	High	▪ Construction disturbance within agricultural areas shall be minimised as far as practicable. ▪ Productive topsoil shall be stripped separately from underlying material, stored in low stockpiles to preserve biological viability, protected from erosion and reused during rehabilitation.	Medium	Reduction in soil productivity, compaction and disturbance of agricultural land capability may occur during construction.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		- Soil mixing, excessive compaction and contamination of agricultural soils shall be avoided. - Access routes and temporary. Work areas shall be carefully controlled to minimise unnecessary loss of cultivable or grazing land. - Disturbed agricultural areas shall be reinstated to its original state where feasible, topsoil replaced and land rehabilitated to support recovery of agricultural productivity.		
Dust Generation	Medium	- Dust generation associated with vegetation clearing, excavation, vehicle movement, material handling and disturbed exposed soils shall be controlled through implementation of dust suppression measures. - Water spraying shall be undertaken on exposed working areas, temporary roads and stockpiles during dry and windy conditions where required.	Low	Temporary and localised dust generation may still occur during construction activities, particularly during dry periods; however, impacts are expected to remain short-term and manageable through implementation of dust suppression and equipment management measures.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		- Construction vehicle speeds shall be restricted, particularly on unpaved surfaces, to reduce dust. - Construction materials susceptible to wind erosion shall be covered, stabilised and appropriately stored. - Unnecessary idling of vehicles and machinery shall be prohibited and construction equipment shall be maintained in good working condition to minimise exhaust emissions. - Dust complaints, where received, Shall be investigated and corrective measures implemented.		
Noise and Vibration Disturbance	Medium	- Construction activities generating elevated noise levels shall, where reasonably practicable, be restricted to authorised daytime working hours. - Construction machinery, generators, vehicles and equipment shall be regularly serviced and maintained to ensure effective operational performance and minimisation of excessive noise emissions.	Low	Temporary increases in ambient noise levels may occur during construction due to operation of vehicles, machinery and earthmoving activities; however, impacts are expected to remain localised and reversible.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		- Unnecessary revving and idling shall be prohibited. - Any receptors located near construction areas shall be considered during construction activity planning.		
Waste Generation, Pollution and Housekeeping	Medium	- A waste management hierarchy promoting avoidance, reduction, reuse and recycling shall be implemented throughout construction activities. - General waste, hazardous waste, scrap material, packaging, surplus construction materials and contaminated materials shall be segregated and stored within designated, clearly demarcated waste handling areas. - Waste containers shall remain covered and maintained in a neat condition to prevent windblown litter and attraction of vermin. - Hazardous waste shall be stored separately on impermeable surfaces and disposed of through appropriately licensed waste contractors.	Low	Temporary generation of construction-related waste may continue throughout the construction phase; however, implementation of robust waste management and housekeeping measures must be implemented.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		Waste burning, indiscriminate disposal and burying of waste on site shall be strictly prohibited. Site housekeeping inspections shall be undertaken regularly to ensure compliance.		
Avifauna Disturbance During Construction Activities	Medium	- Construction disturbance within sensitive bird-use areas shall be minimised as far as practicable. - Where there are nesting areas or important bird movement zones, construction planning shall seek to minimise unnecessary disturbance. - Should active nests, breeding behaviour or species of conservation concern be encountered during construction, the ECO and avifaunal specialist shall be notified immediately and measures implemented before activities continue. - Construction personnel shall be prohibited from harming, capturing, feeding or disturbing birds or nests.	Low	Behavioural disturbance, displacement or avoidance responses by bird species may occur due to noise, human activity and vegetation disturbance during construction.
Visual Intrusion and Landscape Disturbance	Medium	Construction areas shall be maintained in an orderly and visually controlled	Low	Temporary visual disturbance associated with construction activities, equipment presence,

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		condition throughout the project lifecycle. ▪ Upon completion of construction activities, all temporary materials and waste shall be removed and disturbed areas rehabilitated to reduce visual scarring and facilitate reintegration into the surrounding landscape.		disturbed soils and temporary work areas may occur.
Heritage, Archaeological and Palaeontological Resource Disturbance	Medium	▪ A Chance Finds Procedure shall be implemented and communicated to all construction personnel prior to commencement of earthworks. ▪ Environmental induction training shall include awareness regarding recognition of heritage resources, archaeological material, fossil material and culturally sensitive artefacts. ▪ Should graves, fossil material, stone tools, archaeological remains, historical structures, shell middens or other heritage resources be encountered, all work within the affected area shall cease immediately, the area shall be demarcated and protected from further	Low	Unknown subsurface heritage, archaeological or palaeontological resources could potentially be exposed during earthworks.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		disturbance, and the relevant heritage authority and specialist shall be notified for investigation and guidance prior to continuation of activities.		
Traffic, Access and Construction Movement Disturbance	Medium	▪ Traffic shall be limited to approved access routes and authorised working areas. ▪ Access planning shall seek to minimise unnecessary disturbance to surrounding land uses, agricultural areas and existing infrastructure. ▪ Vehicle speeds shall be controlled, and drivers shall comply with site safety procedures and traffic management requirements. ▪ Construction deliveries, equipment movement and material transport shall be coordinated to minimise congestion, dust generation, unnecessary soil disturbance and safety risks. ▪ Damaged access routes resulting from project activities shall be repaired where applicable.	Low	Temporary increases in traffic volumes, access disturbance, dust generation and safety risks may occur due to movement of construction vehicles and equipment; however, impacts are expected to remain temporary and manageable
Operational Phase				

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
Avifauna Collision Risk Associated with Temporary Overhead Infrastructure	High	- Bird flight diverters, line markers or other bird visibility enhancement devices shall be installed on sensitive sections of the temporary bypass line, particularly where the alignment traverses or occurs adjacent to wetlands, drainage lines, open habitat or identified bird movement corridors. - Any damaged or ineffective diverters identified during the operational period shall be replaced or corrected.	Medium	Bird collisions may still occur during the three-year operational period of the bypass powerline due to the presence of overhead electrical infrastructure.
Avifauna Electrocutation Risk	Medium	Electrical infrastructure components, conductor spacing, hardware configuration and associated structures shall, where applicable, incorporate bird-safe design principles to minimise electrocution potential for susceptible species.	Low	Certain bird species may remain vulnerable to electrocution; however.
Temporary Visual Intrusion within the Receiving Landscape	Medium	The temporary bypass line shall remain within to the servitudes route and authorised operational period only.	Low	The temporary bypass Powerline will remain visible within the landscape for approximately three years, resulting in temporary

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		- No unnecessary expansion, additional disturbance or unauthorised additional infrastructure shall be permitted. - Following completion of the three-year operational period, full removal of the temporary infrastructure and rehabilitation of disturbed areas shall be undertaken to reduce long-term visual intrusion.		alteration of landscape character and visual receptor experience.
Residual Soil Instability and Erosion at Disturbed Infrastructure Locations	Medium	Previously disturbed areas surrounding infrastructure positions shall remain stabilised and protected against erosion through maintenance of established rehabilitation and stabilisation measures.	Low	Localised erosion or instability may persist in previously disturbed areas; however, impacts are expected to remain limited and site-specific
Disturbance to Wetlands, Drainage Features and Ecological Function	Medium	- No unauthorised disturbance, waste disposal, stockpiling or contamination shall be permitted near wetlands, drainage lines or sensitive ecological areas during operation. - Previously disturbed watercourses and surrounding habitat shall remain rehabilitated and protected against secondary disturbance.	Low	Minor ecological disturbance may remain associated with the temporary presence of the Powerline near sensitive environmental features.

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
Positive Socio-Economic and Electricity Supply Continuity Benefit	Positive Very High	- The temporary bypass line shall operate solely for the intended purpose of supporting electricity supply continuity and operational functionality during refurbishment activities. - Operational controls shall ensure safe and effective functioning during the authorised operational timeframe.	Positive Very High	The project will contribute positively toward continuity of electricity distribution infrastructure operation, operational resilience and temporary support of electricity supply requirements during the refurbishment period.
Spread of alien invasive plant species	Medium	- Develop and implement an Alien Invasive Species Eradication and Management Plan before the temporary bypass becomes operational. - Inspect the 36 m operational servitude and surrounding disturbed areas at least twice per year for the presence of alien invasive plant species. - Remove and control all identified alien invasive plant species in accordance with the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) Alien and Invasive Species Regulations, 2020.	Low	

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation (Management Actions:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented.
		▪ Dispose of removed invasive plant at an approved disposal facility to prevent re-establishment. ▪ Rehabilitate disturbed natural areas using locally indigenous vegetation appropriate to the surrounding habitat and maintain rehabilitation until vegetation is successfully established. ▪ Maintain agricultural areas in consultation with affected landowners to ensure continued agricultural use and prevent invasive species encroachment. ▪ The appointed Environmental Control Officer (ECO) shall monitor implementation of the Plan and maintain records of inspections, eradication activities and follow-up monitoring throughout the operational period.		

12 CUMULATIVE IMPACTS

Cumulative impacts refer to the combined environmental impacts resulting from the proposed temporary Powerline acting together with past, existing and reasonably foreseeable future activities occurring within the receiving environment. The proposed Impala–Zircon Temporary 132 kV By-Pass Powerline occurs within a landscape already influenced by existing electrical infrastructure, agricultural activities, access routes, transformed vegetation and modified drainage systems. Therefore, cumulative impacts were assessed in relation to specialist findings and the natural environmental landscape.

During the construction phase, cumulative impacts are primarily associated with the combined effects of vegetation disturbance, soil stripping, excavation, vehicle movement, construction activities near watercourses and interaction with already transformed portions of the landscape. When the proposed temporary bypass alongside the existing main Powerline and agricultural land use, these activities may collectively increase erosion, sediment transport, localised hydrological disturbance, habitat fragmentation and temporary reduction in ecological functioning. The Disturbance of wetland areas, drainage lines, uMhlathuze river and associated watercourses such as the estuarine may contribute cumulatively to reduced ecological integrity due to anthropogenic modification. Furthermore, repeated disturbance of soils and vegetation within a landscape that is already influenced by the existing powerline infrastructure, and agricultural activities may contribute to cumulative reduction in habitat availability, visual degradation and temporary loss of agricultural productivity.

During the operational phase, cumulative impacts are primarily associated with the presence of the Temporary Bypass Powerline infrastructure within a landscape that already contains existing Main powerline infrastructure. The operation of the temporary bypass line for approximately three years introduces an additional linear visual element within the receiving environment, contributing to cumulative visual intrusion when considered together with surrounding infrastructure and modified land use. From an avifaunal perspective, cumulative impacts may arise through the combined presence of multiple overhead electrical structures within bird movement areas, potentially increasing collision exposure for certain species and, to a lesser degree, electrocution risk for birds. These risks may be intensified near watercourses and open habitats utilised by bird species. Implementation of avifaunal specialist recommendations, installation of bird flight diverters, application of bird-safe design principles and adherence to approved infrastructure layouts are expected to reduce cumulative operational impacts to acceptable levels.

During the decommissioning phase, cumulative impacts are associated with dismantling activities, excavation, temporary soil disturbance, increased vehicle movement, rehabilitation works and short-term disturbance of vegetation and watercourses. However, unlike permanent linear infrastructure developments, the proposed project includes complete removal of the temporary bypass line, including conductors, poles, wooden structures, temporary works and associated infrastructure. Consequently, decommissioning is expected to progressively reduce the cumulative environmental footprint introduced by the project. Rehabilitation of disturbed areas, reinstatement of soils and restoration of vegetation cover are expected to contribute positively toward reduction of long-term cumulative impacts within the receiving environment.

Overall, the cumulative impacts associated with the proposed Impala–Zircon Temporary 132 kV By-Pass Powerline are anticipated to be of low to medium significance following mitigation. The temporary nature of the development, relatively limited disturbance footprint, implementation of specialist recommendations and complete infrastructure removal and rehabilitation substantially reduce the likelihood of unacceptable long-term cumulative environmental degradation. Provided that mitigation measures contained within the EMPr and specialist recommendations are effectively implemented throughout the construction, operational and decommissioning phases, the proposed temporary bypass powerline is not expected to result in unacceptable cumulative impacts within the receiving environment.

13 ENVIRONMENTAL IMPACT STATEMENT

The proposed Impala–Zircon Temporary 132 kV By-Pass Powerline has been assessed through the Basic Assessment process supported by specialist studies outcome, site verification findings. The project entails the temporary installation and operation of a 132 kV bypass line for an approximate period of five (5) years to facilitate refurbishment of existing Impala-Zircon 13kV Main Powerline, followed by complete removal of the temporary infrastructure and rehabilitation of disturbed areas.

The Basic Assessment process identified several potential impacts associated with the construction, operational and decommissioning phases of the project. These impacts relate primarily to terrestrial biodiversity disturbance, aquatic and wetland sensitivity, soil disturbance and erosion, avifaunal interactions with the powerline, agricultural land disturbance, visual impacts, heritage considerations, and contamination risks associated with construction and removal activities.

During the construction phase, the most notable environmental risks are associated with vegetation clearing, temporary habitat disturbance, disturbance of wetlands and drainage lines, soil erosion, sediment transport, hydrological disturbance and localised impacts on agricultural land capability. The terrestrial biodiversity assessment confirmed that portions of the receiving environment have experienced varying degrees of transformation due to existing land use; however, sensitive ecological features remain present within portions of the broader landscape. Construction activities therefore have the potential to result in temporary habitat loss, disturbance of fauna, vegetation degradation and reduction in ecological functioning if not appropriately managed.

Aquatic and hydrological considerations represent an important component of the environmental assessment due to the presence of wetlands, drainage lines, estuarine, uMhlathuze River and associated ecological processes within portions of the study area. Construction activities occurring within proximity to these systems may result in temporary sedimentation, disturbance of wetland vegetation, disruption of surface runoff behaviour and reduction in aquatic habitat quality. Nevertheless, the implementation of the aquatic biodiversity study include, strict footprint control, sediment and erosion controls, wetland protection requirements and rehabilitation measures are expected to reduce these impacts to acceptable levels. The aquatic specialist findings indicate that, with effective implementation of mitigation measures, impacts on aquatic ecological functioning are expected to remain localised, temporary and manageable.

The geotechnical desktop study identified risks associated with soil disturbance, compaction, erosion susceptibility and temporary instability of disturbed surfaces. Earthworks, excavation activities, access movement and vegetation clearing may contribute to soil degradation and sediment

mobilisation, particularly during rainfall events. However, implementation of topsoil management practices, erosion prevention controls, stormwater management measures, stabilisation of disturbed surfaces and progressive rehabilitation are expected to reduce the significance of these impacts substantially.

From an avifaunal perspective, the proposed development presents its most significant environmental risk during the operational phase due to the temporary presence of overhead electrical infrastructure within the receiving environment. The avifaunal assessment identified the potential for bird collision and, to a lesser extent, electrocution risk associated with operation of the temporary bypass line. These impacts may be particularly relevant within areas supporting bird movement, open habitat, drainage features or wetland-associated ecological systems.

Agricultural impacts associated with the proposed development are expected to be primarily temporary and localised. Construction and decommissioning activities may result in short-term disturbance of soils, compaction, temporary reduction in land productivity and disturbance to grazing or cultivation potential within affected areas. Nevertheless, implementation of topsoil handling procedures, minimisation of disturbance footprints, soil reinstatement and rehabilitation measures are expected to support recovery of affected land capability following completion of project activities.

The visual assessment indicates that the proposed temporary bypass line will introduce a temporary linear infrastructure component into the receiving landscape for approximately three years. Construction activities, operational infrastructure presence and decommissioning activities may contribute to temporary visual disturbance. However, given the temporary nature of the project and the commitment to complete removal of the temporary bypass line following completion of the operational period, visual impacts are not anticipated to result in unacceptable long-term landscape alteration.

Heritage, archaeological and palaeontological considerations were also assessed as part of the environmental process. While no significant fatal flaws were identified, the possibility of encountering previously unidentified subsurface resources during excavation and earthworks remains present. Accordingly, implementation of a formal Chance Finds Procedure and adherence to specialist and heritage authority requirements remain necessary mitigation measures throughout the project lifecycle.

The operational phase of the project is limited strictly to the temporary operation of the bypass line for an approximate three-year period. During this phase, environmental impacts are expected to be comparatively lower than those associated with construction and decommissioning activities. The primary residual operational risks relate to avifaunal interactions, temporary visual intrusion and minor residual disturbance associated with previously disturbed areas. Importantly, the project also provides a positive operational benefit by supporting continuity of electricity distribution functionality during refurbishment of existing infrastructure.

The decommissioning phase includes full removal of all temporary infrastructure, including poles, conductors, wooden structures, temporary works and associated infrastructures, followed by rehabilitation of disturbed areas. Although temporary impacts associated with dismantling, excavation, vehicle movement and rehabilitation activities may occur during this phase, the removal of temporary infrastructure is expected to progressively reduce the environmental footprint introduced

by the project. Complete removal and rehabilitation are therefore considered important components of the environmental management strategy.

Overall, the identified impacts are largely temporary, localised and manageable following implementation of mitigation measures, specialist recommendations and EMP requirements. No fatal flaws were identified that would render the proposed development environmentally unfeasible. The temporary nature of the development, relatively limited disturbance footprint, implementation of specialist mitigation measures and commitment to complete infrastructure removal and rehabilitation significantly reduce the likelihood of unacceptable long-term environmental impacts.

14 CONCLUSION

The proposed Impala–Zircon Temporary 132kV By-Pass Powerline is deemed both necessary and environmentally feasible. Although the development activities present certain environmental risks, these have been thoroughly identified, assessed, and addressed through the Environmental Impact Assessment process and the findings of the specialist studies. With the successful implementation of the Environmental Management Programme (EMP), it is recommended that the proposed activities be authorised. Environmental Authorisation should be granted for a period of Ten (10) years for construction activities to complete.

The proposed Impala–Zircon Temporary 132kV By-Pass Powerline will support electricity distribution continuity, improve operational resilience of existing electrical infrastructure, and facilitate the safe refurbishment of the existing Impala- Zircon main powerline network. The project contributes meaningfully toward the maintenance and reliability of South Africa's electricity distribution system, thereby supporting broader infrastructure sustainability and energy security objectives.

With sustained compliance monitoring, transparent stakeholder engagement, and adherence to the recommended mitigation measures, the proposed development is expected to deliver long-term benefits for both the public and the environment.

15 UNDERTAKING BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

15.1 UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I, **Shonisani Shiela Selahle**, herewith undertake that the information provided in the foregoing report is correct and that the comments and inputs from stakeholders and Interested and Affected Parties received since the project announcement have been correctly recorded in the report.

Signature of the EAP

Date: 22 July 2026

15.2 UNDERTAKING REGARDING LEVEL OF AGREEMENT

I, **Shonisani Shiela Selahle**, herewith undertake that the information provided in the foregoing report is correct and that the level of agreement with Interested and Affected Parties and stakeholders since the announcement of the project, has been correctly recorded and reported herein.

Signature of the EAP

Date: 22 July 2026

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APPENDICES

Appendix A: Site plan (s)

Appendix B: Site photographs

Appendix C : Public Participation Information

- Appendix C1: Public Participation Report
- Appendix C2: Proof of site Notice Erection
- Appendix C3: Proof of Newspaper Advertisement
- Appendix C4: Project Announcement Notification letters
- Appendix C4(a): Notification Letters to I&APs
- Appendix C4(b): Notification Letters to Organ of State
- Appendix C5: Background Information Document (BID)
- Appendix C5(a): Proof of Bid Distribution
- Appendix C5(b): BID comment Forms
- Appendix C6: Database
- Appendix C7: Comment and Response Report

Appendix D: Site Sensitivity Verification Report

- Appendix E1: Screening Tools

Appendix E: Specialist reports

- Appendix E1: Radio Frequency Interference Compliance Statement
- Appendix E2: Agricultural Impact Assessment Study
- Appendix E3: Aquatic Biodiversity Assessment Study
- Appendix E4: Heritage Impact Assessment Study
- Appendix E5: Terrestrial Biodiversity Assessment Study
- Appendix E7: Avifauna Assessment Study
- Appendix E8: Palaeontological Desktop Study
- Appendix E9: Geotechnical Compliance Statement
- Appendix E10: Visual Impact Study
- Appendix E11: Civil Aviation Compliance Statement

Appendix F: EMPr

Appendix G: EAP Curriculum Vitae and Qualifications