



<b>ESKOM JUNO GROMIS 400kV LINE DEVIATION, MATZIKAMA LOCAL MUNICIPALITY, WESTERN CAPE PROVINCE</b>	
<i>DEFF Reference Number:</i>	
<b>DRAFT BASIC ASSESSMENT REPORT</b>	
<b>PREPARED FOR:</b>	
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**INFORMATION REQUIRED BY THE COMPETENT AUTHORITY**

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

SCOPE OF ASSESSMENT & CONTENT OF BASIC ASSESSMENT REPORTS	
(a) Details of - (i) The EAP who prepared the report; and (ii) The expertise of the EAP, including a curriculum vitae.	Chapter 1 & Appendix A
(b) The location of the activity, including – (i) The 21-digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; and (iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.	Chapter 2
(c) A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	Chapter 2
(d) A description of the scope of the proposed activity, including – (i) All listed and specified activities triggered and being applied for; and (ii) A description of the activities to be undertaken, including associated structures and infrastructure.	Chapter 3, section 3.3, Table 3.2
(e) A description of the policy and legislative context within which the development is proposed including (i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks and instruments.	Chapter 3, Table 3.1
(f) A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Chapter 4
(g) A motivation for the preferred site, activity and technology alternative.	Chapter 6
(h) A full description of the process followed to reach the proposed preferred alternative within the site, including – (i) Details of all the alternatives considered; (ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts – aa. Can be reversed; bb. May cause irreplaceable loss of resources; and cc. Can be avoided, managed or mitigated;	(i) Chapter 6 (ii) Chapter 5 (iii) Chapter 5, Section 5.3.5 & Appendix F (iv) Chapter 6 & Chapter 10, Section 10.2 (v) Chapter 10, Section 10.2 (vi) Chapter 10, Section 10.1 (vii) Chapter 10, Section 10.2

<ul style="list-style-type: none"> <li>(vi) The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;</li> <li>(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on geographical, physical, biological, social, economic, heritage and cultural aspects;</li> <li>(viii) The possible mitigation measures that could be applied and level of residual risk;</li> <li>(ix) The outcome of the site selection matrix;</li> <li>(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and</li> <li>(xi) A concluding statement indicating the preferred alternatives, including the preferred location of the activity.</li> </ul>	<ul style="list-style-type: none"> <li>(viii) Chapter 10, Section 10.2</li> <li>(ix) Chapter 6 &amp; Chapter 9</li> <li>(x) Chapter 6</li> <li>(xi) Chapter 6</li> </ul>
<ul style="list-style-type: none"> <li>(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 –             <ul style="list-style-type: none"> <li>(i) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and</li> <li>(ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.</li> </ul> </li> </ul>	Chapter 10
<ul style="list-style-type: none"> <li>(j) An assessment of each identified potentially significant impact and risk, including –             <ul style="list-style-type: none"> <li>(i) Cumulative impacts;</li> <li>(ii) The nature, significance and consequences of the impact and risk;</li> <li>(iii) The extent and duration of the impact and risk;</li> <li>(iv) The probability of the impact and risk occurring;</li> <li>(v) The degree to which the impact and risk can be reversed;</li> <li>(vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and</li> <li>(vii) The degree to which the impact and risk can be avoided, managed or mitigated.</li> </ul> </li> </ul>	Chapter 10
<ul style="list-style-type: none"> <li>(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.</li> </ul>	Chapters 8
<ul style="list-style-type: none"> <li>(l) An environmental impact statement which contains –             <ul style="list-style-type: none"> <li>(i) A summary of the key findings of the environmental impact assessment;</li> <li>(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and</li> <li>(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.</li> </ul> </li> </ul>	Chapter 11
<ul style="list-style-type: none"> <li>(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.</li> </ul>	Chapter 11
<ul style="list-style-type: none"> <li>(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.</li> </ul>	Chapter 11
<ul style="list-style-type: none"> <li>(o) A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.</li> </ul>	Chapter 11
<ul style="list-style-type: none"> <li>(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.</li> </ul>	Chapter 11
<ul style="list-style-type: none"> <li>(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.</li> </ul>	<i>Not Applicable</i>
<ul style="list-style-type: none"> <li>(r) An undertaking under oath or affirmation by the EAP in relation to –             <ul style="list-style-type: none"> <li>(i) The correctness of the information provided in the reports;</li> <li>(ii) The inclusion of comments and inputs from stakeholders and I&amp;APs;</li> <li>(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and</li> </ul> </li> </ul>	Appendix B

(iv)	Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	
(s)	Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post-decommissioning management of negative environmental impacts.	<i>N/A</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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## TABLE OF CONTENTS

<b>1</b>	<b>PROJECT TEAM</b> .....	<b>1</b>
1.1	CES COMPANY PROFILE (OVERVIEW) .....	1
1.2	DETAILS OF THE EAP .....	1
1.3	CES PROJECT TEAM .....	1
1.4	EXPERTISE OF THE PROJECT TEAM .....	2
<b>2</b>	<b>PROJECT DESCRIPTION</b> .....	<b>3</b>
2.1	PROJECT BACKGROUND .....	3
2.2	PROJECT DESCRIPTION .....	4
2.3	PROJECT LOCALITY .....	4
<b>3</b>	<b>RELEVANT LEGISLATION</b> .....	<b>8</b>
3.1	NATIONAL AND PROVINCIAL LEGISLATION .....	8
3.2	OTHER RELEVANT POLCIES AND PLANS .....	17
3.3	APPLICABLE LISTED ACTIVITIES .....	17
<b>4</b>	<b>PROJECT NEED AND DESIRABILITY</b> .....	<b>14</b>
4.1	LOCAL & DISTRICT LEVEL .....	14
4.1.1	<i>West Coast District Municipality IDP (2017-2022)</i> .....	14
4.1.2	<i>Matzikama Local Municipality Integrated Development Plan (IDP), 2020 - 2021</i> .....	14
4.2	NATIONAL LEVEL .....	14
4.2.1	<i>National Development Plan (NDP): Vision 2030, 2012</i> .....	14
4.2.2	<i>National Infrastructure Plan (NIP) (2012)</i> .....	15
<b>5</b>	<b>PUBLIC PARTICIPATION PROCESS</b> .....	<b>14</b>
5.1	OBJECTIVES OF THE PUBLIC PARTICIPATION PROCESS .....	14
5.2	ACTIVITY ON LAND OWNED BY PERSON OTHER THAN THE APPLICANT .....	14
5.3	LEGISLATIVE REQUIREMENTS .....	15
5.3.1	<i>Site Notice</i> .....	15
5.3.2	<i>Newspaper Advertisement</i> .....	15
5.3.3	<i>I&amp;AP and Stakeholder Notifications</i> .....	14
5.3.4	<i>Stakeholder Identification and Registered I&amp;APS</i> .....	14
5.3.5	<i>Issues Raised by I&amp;APS</i> .....	14
<b>6</b>	<b>ALTERNATIVES</b> .....	<b>15</b>
6.1	REASONABLE & FEASIBLE ALTERNATIVES .....	15
6.2	FUNDAMENTAL INCREMENTAL & NO-GO ALTERNATIVES .....	15
6.2.1	<i>Fundamental Alternatives</i> .....	15
6.2.2	<i>Incremental Alternatives</i> .....	15
6.2.3	<i>No-go Alternative</i> .....	15
6.3	ANALYSIS OF ALTERNATIVES .....	16
<b>7</b>	<b>DESCRIPTION OF THE ENVIRONMENT</b> .....	<b>21</b>
7.1	CLIMATE .....	21
7.2	TOPOGRAPHY .....	21
7.3	GEOLOGY .....	22
7.4	SOILS .....	23
7.5	LAND COVER AND CURRENT LAND USE .....	23
7.6	VEGETATION AND FLORISTICS .....	24
7.6.1	<i>SANBI Classification (Mucina et al., 2018)</i> .....	24
7.6.2	<i>Vegetation types recorded on site</i> .....	27
7.6.3	<i>Species of Conservation Concern</i> .....	30
7.6.4	<i>Alien Invasive Species Present on site</i> .....	36
7.6.5	<i>Forest Classification (NFA)</i> .....	37

7.7	FAUNA.....	37
7.7.1	<i>Amphibians</i> .....	37
7.7.2	<i>Reptiles</i> .....	38
7.7.3	<i>Mammals</i> .....	40
7.7.4	<i>Birds</i> .....	42
7.8	SURFACE WATER.....	44
7.8.1	<i>Catchment and Study Area</i> .....	44
7.8.2	<i>River Classification</i> .....	45
7.9	BIODIVERSITY INDICATORS.....	46
7.9.1	<i>Western Cape Biodiversity Spatial Plan (WCBS, 2017)</i> .....	47
7.9.2	<i>Threatened Ecosystems</i> .....	49
7.9.3	<i>Protected areas</i> .....	49
7.10	SOCIAL SETTING.....	50
<b>8</b>	<b>KEY FINDINGS OF THE SPECIALIST STUDIES</b> .....	<b>52</b>
8.1	TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT.....	52
8.2	AQUATIC BIODIVERSITY IMPACT ASSESSMENT.....	57
8.2.1	<i>Impact Assessment</i> .....	57
8.2.2	<i>Cumulative impacts</i> .....	57
8.3	AVIFAUNAL IMPACT ASSESSMENT.....	58
8.4	HERITAGE, ARCHAEOLOGICAL & PALAEOLOGICAL IMPACT ASSESSMENT.....	59
8.4.1	<i>Archaeology</i> .....	59
8.4.2	<i>Palaeontology</i> .....	60
8.4.3	<i>Anticipated Impacts on Heritage Resources</i> .....	60
8.4.4	<i>Recommendations</i> .....	60
<b>9</b>	<b>SENSITIVITY ASSESSMENT</b> .....	<b>63</b>
9.1	CONSERVATION AND SPATIAL PLANNING TOOLS.....	63
9.2	SENSITIVITY MAPPING.....	63
<b>10</b>	<b>IMPACT ASSESSMENT</b> .....	<b>67</b>
10.1	CES ASSESSMENT METHODOLOGY.....	67
10.2	IMPACT ASSESSMENT.....	71
10.2.2	<i>Planning and Design Phase</i> .....	71
10.2.3	<i>Construction Phase</i> .....	72
10.2.4	<i>Operation Phase</i> .....	79
10.2.5	<i>Decommissioning Phase</i> .....	81
10.3	CUMULATIVE IMPACTS.....	84
<b>11</b>	<b>RECOMMENDATIONS &amp; CONCLUSION</b> .....	<b>87</b>
11.1	RECOMMENDATIONS.....	87
11.1.1	<i>Recommendations and Mitigation</i> .....	87
11.1.2	<i>Summary of recommended management plans and appointments</i> .....	90
11.2	CONCLUSIONS.....	91
11.2.1	<i>Summary of identified impacts</i> .....	91
11.2.2	<i>Conclusion</i> .....	92
	<b>APPENDIX A: CURRICULUM VITAE OF THE PROJECT TEAM</b> .....	<b>95</b>
	<b>APPENDIX B: EAP DECLARATION &amp; OATH</b> .....	<b>110</b>
	<b>APPENDIX C: SPECIALIST REPORTS</b> .....	<b>112</b>
	<b>APPENDIX D: GENERIC AND SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PROGRAMME</b> .....	<b>114</b>
	<b>APPENDIX E: PUBLIC PARTICIPATION PROOF</b> .....	<b>115</b>
	<b>APPENDIX F: COMMENT &amp; RESPONSE REPORT (CRT)</b> .....	<b>159</b>
	<b>APPENDIX G: DEFF SCREENING TOOL REPORT</b> .....	<b>21</b>

## LIST OF FIGURES

Figure 2-1: Farm portions affected by the proposed deviation .....	6
Figure 2-2: Locality Map.....	7
Figure 3-1: Confirmation of GN 113 Applicability.....	20
Figure 7-1: Climate data for Nuwerus, Western Cape Province (source: <a href="https://www.meteoblue.com">https://www.meteoblue.com</a> ).....	21
Figure 7-2: Topography Map of the study area.....	22
Figure 7-3: Elevation of profile of the study site from north to south (Google Earth Pro, 2020). .....	22
Figure 7-4: Elevation of profile of the study site from east to west (Google Earth Pro, 2020).....	22
Figure 7-5: South African Geology II Map of the study area.....	23
Figure 7-6: Landcover of the project area and surrounds. ....	24
Figure 7-7: SANBI (2018) vegetation types within and surrounding the project area. ....	27
Figure 7-8: Namaqualand Strandveld found to occur on red sand dunes and dominated by <i>Eriocephalus racemosa</i> , <i>Roepera morgsana</i> , <i>Asparagus capensis</i> and <i>Othonna cylindrica</i> .....	28
Figure 7-9: Rocky outcrop representing Southern Namaqualand Quartzite Klipkloppe Shrubland along the north eastern section of the powerline. These areas must be avoided. ....	29
Figure 7-10: Namaqualand Riviera vegetation. The riverbed was dominated by reeds. ....	29
Figure 7-11: Vegetation map of the proposed project site based on data collected from the field survey. ....	30
Figure 7-12: Surface water features present on site (CapeFarmMapper, 2021). ....	45
Figure 7-13: WCBSP (2017) CBA map of the project area.....	48
Figure 7-14: NPAES Focus Areas and Protected Areas. ....	50
Figure 8-1: Terrestrial Biodiversity Sensitivity Map .....	55
Figure 8-2: Pie charts summarising the number of high, moderate and low ecological impacts before and after mitigation.....	56
Figure 8-3: Mapped aquatic constraints associated with the proposed project activities .....	58
Figure 8-4: Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. ....	61
Figure 8-5: Map of heritage resources identified within the 1km route corridor.....	61
Figure 8-6: Palaeo-sensitivity Map (indicating very high fossil sensitivity underlying the study area). ....	62
Figure 9-1: Final Sensitivity Map .....	65
Figure 9-2: Areas of concern: requiring re-routing of proposed new servitude access road and relocation of pylon GRO/JUN 452A. ....	66
Figure 11-1: Final Sensitivity Map and proposed layout. ....	93

## LIST OF TABLES

Table 1-1: Expertise of the Project Team.....	2
Table 2-1: 21-Digit Surveyor General (SG) Codes of the affected properties. ....	5
Table 2-2: Route coordinates of the proposed 15km deviation .....	6
Table 3-1: Relevant Legislation, Policies & Guidelines. ....	8
Table 3-2: Listed Activities triggered by the proposed deviation. ....	17
Table 6-1: Alternatives which were considered for the proposed 15km line deviation associated with the 400kV Juno-Gromis Transmission line.....	16
Table 7-1: List of species listed as schedule 4 on the Western Cape PNCO list. ....	31

Table 7-2: Range restricted amphibian in relation to the project area (black star) (IUCN, 2020). .....	38
Table 7-3: Threatened and Range Restricted species with a distribution that includes the project area. ....	39
Table 7-4: Threatened Mammal Species with a distribution that includes the project area .....	41
Table 7-5: Summary of walked transect data. ....	42
Table 7-6: Priority bird species of the site. ....	43
Table 7-7: Index of Habitat Integrity Assessment results and criteria assessed for the lower Groot and Klein Goerap Rivers within the corridor for the proposed powerline diversion .....	45
Table 7-8: Results of the EIS assessment for the Lower Groot and Klein Goerap Rivers within the corridor for the proposed powerline diversion .....	46
Table 7-9: Desired Management Objectives of the WCBSP (2017) Biodiversity Priority Areas .....	49
Table 8-1: Criteria for establishing Site Ecological importance and description of criteria.....	53
Table 8-2: Evaluation of Site Ecological Importance (SEI) of habitat and SCC .....	53
Table 9-1: Summary of site-specific environmental sensitivities within the study area.....	64
Table 10-1: Evaluation Criteria. ....	68
Table 10-2: Description of Overall Significance Rating .....	69
Table 10-3: Post-mitigation Evaluation Criteria .....	70
Table 10-4: Assessment of impacts during the Construction phase. ....	72
Table 11-1: Summary of the Potential General Impacts.....	91
Table 11-2: The potential triggered listed activities in terms of the NEMA EIA regulations (2014, as amended). ....	134

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# 1 PROJECT TEAM

## 1.1 CES COMPANY PROFILE (OVERVIEW)

CES was established in 1990 as a specialist environmental consulting company and has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Programmes (EMPr), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes. CES has been active in all of the above fields, and in so doing have made a positive contribution towards environmental management and sustainable development in the Eastern Cape, South Africa and many other African countries.

## 1.2 DETAILS OF THE EAP

CES has been appointed by Eskom Holdings SOC Limited, as the independent EAP to apply for an Environmental Authorisation (EA) for the proposed Juno Gromis 400kV transmission line, located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape

**EAP:** Dr Alan Carter Pr.Sci.Nat and registered with EAPASA  
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**Website:** www.cesnet.co.za

### **Dr Alan Carter**

*EAP, Project Leader & Report Reviewer*

Alan is the executive of the CES East London Office. He holds a PhD in Marine Biology and is a Certified Public Accountant, with extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He has 25 years' experience in environmental management and has specialist skills in sanitation, coastal environments and industrial waste. Dr Carter is registered as a Professional Natural Scientist under the South African Council for Natural Scientific Professions (SACNASP). He is also registered as an EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA). Alan will assume the role of project leader and report reviewer.

*Please find the CV and proof of SACNASP and EAPASA registration in Appendix A*

## 1.3 CES PROJECT TEAM

### **Ms Caryn Clarke**

*Report Writer & Project Manager*

Caryn holds a M.Sc. Environmental Science (2012), B.Sc. Hon. Environmental Science, and a B.Sc. Environmental Science and Economics (2009) from Rhodes University. Her M.Sc. thesis was titled "Responses to the linked stressors of Climate Change and HIV/AIDS amongst vulnerable rural households in the Eastern Cape, South Africa". Her B.Sc. Hon. thesis investigated climate change perceptions, drought responses and views on carbon farming amongst commercial livestock and game farmers within the Great Fish River Valley, Eastern Cape, from which a paper was published in the African Journal of Range and Forage Science 2012, 29(1):13-23. Caryn has further completed a Carbon Footprint Analysis Course (2013). Caryn has five (5) years of experience in project management, environmental impact assessments including public participation,

environmental compliance monitoring, various licensing and permit applications, feasibility assessments and GIS mapping. Caryn is a registered Candidate Natural Scientist under SACNASP.

*Please find the CV and proof of SACNASP registration in Appendix A*

#### 1.4 EXPERTISE OF THE PROJECT TEAM

Table 1-1 consist of the expertise of the project team. Please refer to Appendix A (CVs) for detailed project experience.

**Table 1-1: Expertise of the Project Team.**

NAME	POSITION IN COMPANY	HIGHEST QUALIFICATION	YEARS EXPERIENCE	ROLE ON PROJECT
<b>Dr Alan Carter</b>	Executive	PhD in Plant Science (Rhodes University)	25+	<ul style="list-style-type: none"> <li>• EAP</li> <li>• Project Leader</li> <li>• Report Reviewer</li> </ul>
<b>Ms Caryn Clarke</b>	Senior Consultant	MSc Environmental Science (Rhodes University)	5	<ul style="list-style-type: none"> <li>• Lead Report Writer</li> <li>• Project Manager</li> <li>• GIS Mapping</li> </ul>

## 2 PROJECT DESCRIPTION

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### 2.1 PROJECT BACKGROUND

The power supply to the greater Cape area is mostly provided by the coal-fired power stations on the Highveld, mainly in Mpumalanga. As a result, a Transmission network from Mpumalanga to the Cape has grown over the years as demand has increased. Much of this network is now over two decades old and is approaching its peak operational capacity. In order to meet the increasing demand of electricity, Eskom proposes to import power from the 800MW Kudu Combined Cycle (CCGT) power station at Uubvlei, 15km north of Oranjemond in Namibia. The 800MW Kudu CCGT power station will supply 200MW to Namibia and the balance will be available for integration into the South African grid.

Eskom proposes to integrate the power from the Kudu CCGT power station into the South African grid via Transmission lines from the Namibian border. A number of alternative integration options and routes have been proposed to connect to the Eskom's Western Grid and supply the increasing demand in the Cape. This specific project forms part of the Kudu Integration Project and relates specifically to the proposed 230km 400kV Juno-Gromis Transmission line which aims to enhance the supply to the Western Cape, which has been plagued by outages.

An Environmental Impact Assessment (EIA) was commissioned for the construction of the existing Eskom 400kV transmission power line, Kudu Integration Project in terms of the Environment Conservation Act 1989 (Act No. 73 of 1989). The study presented various alternatives and included a number of specialist studies, as a result a Record of Decision (RoD) currently known as Environmental Authorisation (EA) was issued on 6 November 2007 (Ref: 12/12/20/720). An extension for the EA issued was applied for and granted on 20 March 2014.

Subsequent to the EA issued in 2007, the negotiation process with the affected landowners resulted in the need for amendments to the proposed alignment. In 2017, a Basic Assessment Process was undertaken to apply for these amendments which received an EA in 2017 (Ref: 14/12/16/3/3/1/1679). The approved deviations included:

- 4.1 km deviation around the landing strip in Lutzville;
- 3km deviation within the Tronox Mine Namakwa Sands; and
- 7.2km deviation around a mine in Kamiesberg.

There is now a need to apply for an additional deviation to the 400kV transmission powerline route which traverses Tronox Mine Namakwa Sands, which is located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape.

After the receipt of favourable prospecting results, it is more feasible for Eskom to deviate around Tronox's mining area, which will result in a proposed 15km deviation to the east of the 2017 approved deviation. The proposed 15km deviation falls outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline. A Basic Assessment (BA) process (as it falls within a Strategic Transmission Corridor) is therefore required.

## 2.2 PROJECT DESCRIPTION

As described above the proposed project consists of a deviation to the approved Eskom 400kV transmission power line, Kudu Integration Project. This deviation is approximately 15 km in length and located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape, within a Strategic Transmission Corridor (refer to Figure 3-1 included below).

Approximate tower parameters are as follows:

- Number and types of towers – 518H self-supporting suspension tower and 517E and 517F self-supporting strain towers are proposed to be used.
- Tower spacing (mean and maximum) – Power line towers (or pylons) are an average distance of 450m apart with the longest span being 656,34m.
- Tower height (lowest, mean and height) – Lowest: 24.8m, Mean: 33.8m, Maximum: 40.9m
- Conductor attachment height (mean) – 27m.
- Minimum ground clearance – 9m.

## 2.3 PROJECT LOCALITY

The proposed 15km 400kV Juno-Gromis Powerline Deviation is located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape (refer to Figure 2-2 below).

Table 2-1 below lists the proposed properties which will be affected by the proposed infrastructure.

Table 2-2 provides the route coordinates of the proposed 15km deviation.

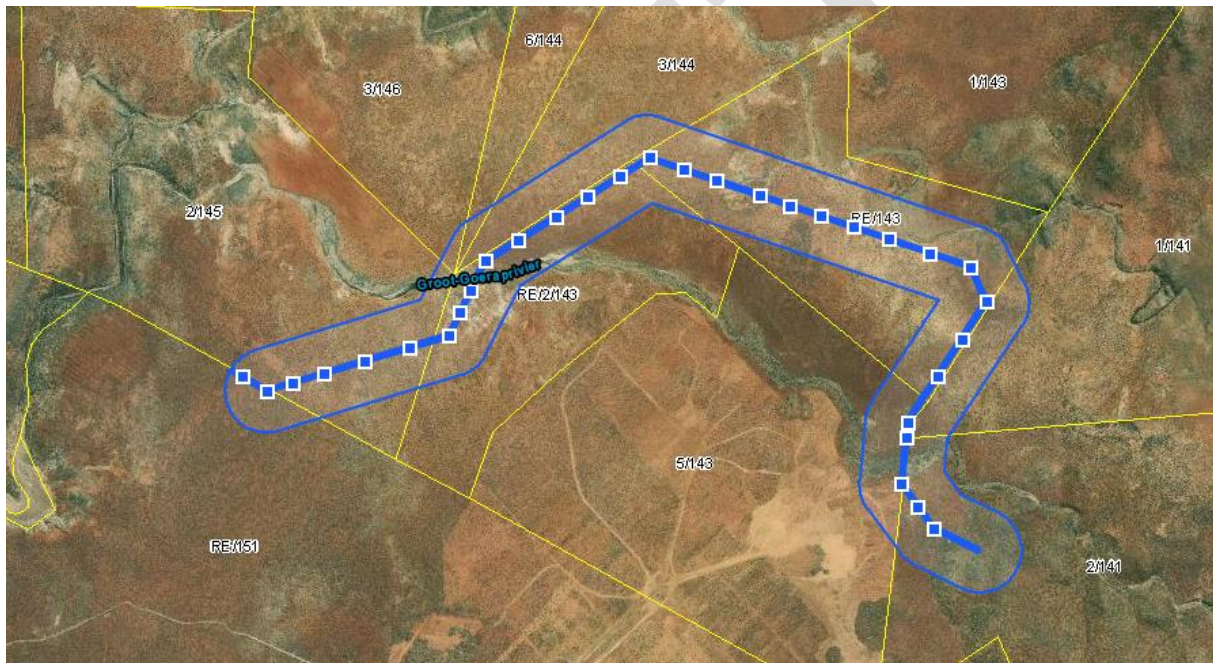
**Table 2-1: 21-Digit Surveyor General (SG) Codes of the affected properties.**

NO	FARM NAME	FARM	PORTION	SG 21 CODE
1	HOUTKRAAL	143	0	C07800000000014300000
2	HOUTKRAAL	143	2	C07800000000014300002
3	HOUTKRAAL	143	5	C07800000000014300005
4	RIETFONTEIN EXTENSION 5	151	0	C07800000000015100000
5	ADOONS VLEI	145	2	C07800000000014500002
6	GOLIATHSGRAAF	146	3	C07800000000014600003
7	REITFONTEIN	144	6	C07800000000014400006
8	RIETFONTEIN	144	3	C07800000000014400003
9	KOMKANS	141	1	C07800000000014100001
10	KOMKANS	141	2	C07800000000014100002

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**Table 2-2: Route coordinates of the proposed 15km deviation**

NO.	ROUTE COORDINATES (DEGREES, DECIMAL MINUTES)	
1.	31°12'27.09"S;	17°55'6.31"E
2.	31°12'34.32"S;	17°55'17.51"E
3.	31°12'11.13"S;	17°56'40.46"E
4.	31°11'41.97"S;	17°56'57.25"E
5.	31°11'1.75"S;	17°58'12.10"E
6.	31°11'44.34"S;	18° 0'38.06"E
7.	31°11'57.79"S;	18° 0'45.34"E
8.	31°12'44.78"S;	18° 0'9.64"E
9.	31°13'8.67"S;	18° 0'6.91"E
10.	31°13'25.93"S;	18° 0'21.34"E
11.	31°13'34.39"S;	18° 0'42.49"E



**Figure 2-1: Farm portions affected by the proposed deviation**

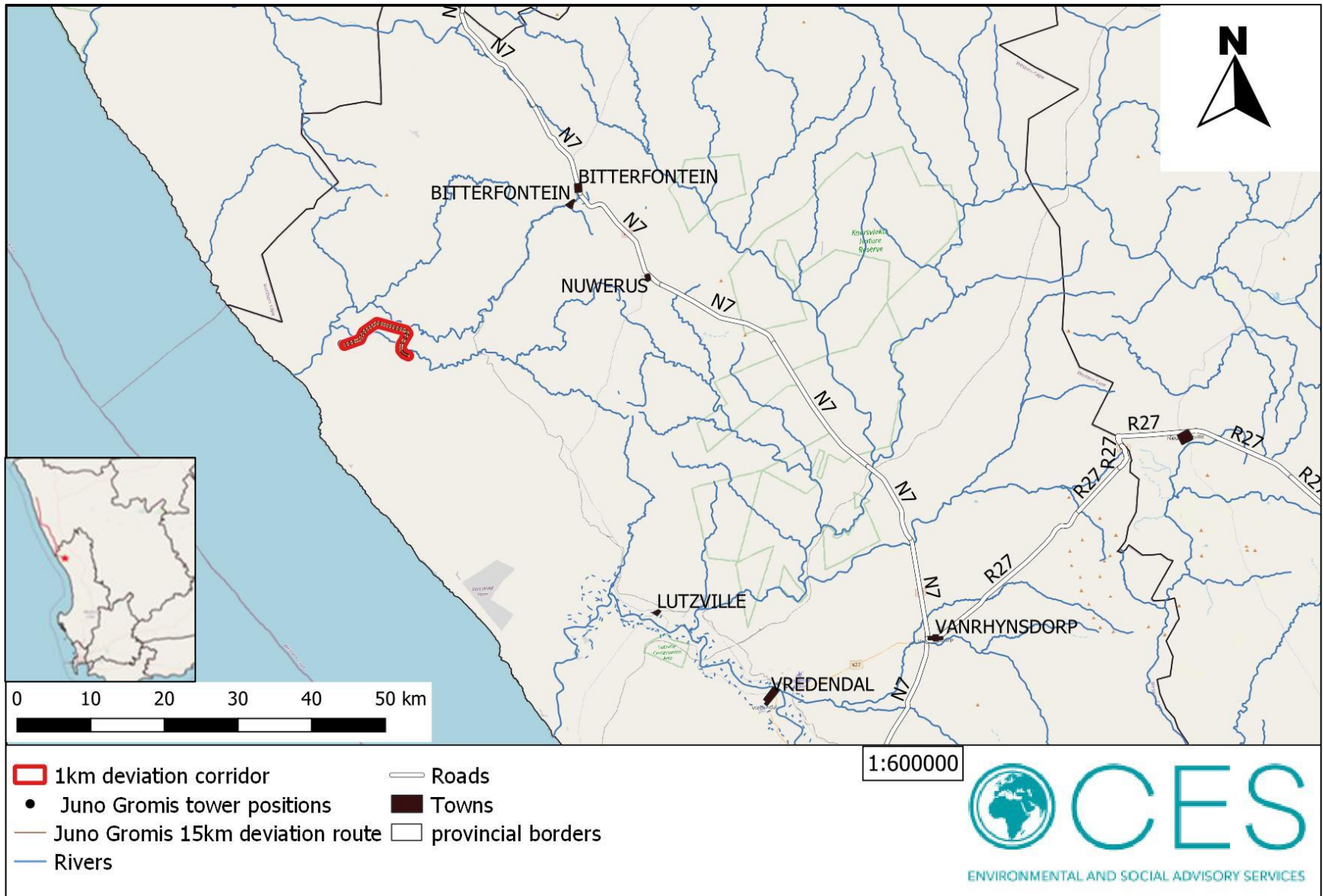


Figure 2-2: Locality Map

ESKOM JUNO GROMIS 400kV LINE DEVIATION

### 3 RELEVANT LEGISLATION

- (v) Item 2 (e) of Appendix 1 of the National Environmental Management Act (NEMA, Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent amendments), states: “A description of the policy and legislative context within which the development is proposed including
  - (j) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and have been considered in the preparation of the report; and
  - (ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks and instruments.”.

Thus, in line with the above legislative requirement the sections below describe the South African legislation that was taken into consideration during the BA Process of the proposed project.

#### 3.1 NATIONAL AND PROVINCIAL LEGISLATION

Table 3-1 below consists of the legislation which is relevant to the proposed 15km deviation of the Juno Gromis 400kV transmission line.

**Table 3-1: Relevant Legislation, Policies & Guidelines.**

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
<p>The Constitution (Act No. 108 of 1996)</p>	<p>The Constitution of the Republic of South Africa is the supreme law of the land. As a result, all laws, including those pertaining to the proposed development, must conform to the Constitution. The Bill of Rights - Chapter 2 of the Constitution, includes an environmental right (Section 24) according to which, everyone has the right:</p> <ul style="list-style-type: none"> <li>a) <i>To an environment that is not harmful to their health or well-being; and</i></li> <li>b) <i>To have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:</i> <ul style="list-style-type: none"> <li>(i) <i>Prevent pollution and ecological degradation;</i></li> <li>(ii) <i>Promote conservation; and</i></li> <li>(iii) <i>Secure ecologically sustainable development and use of natural resources while</i></li> </ul> </li> </ul>	<p>A number of mitigation measures have been included in this BAR as well as the Generic EMPr to ensure that the proposed development will not result in pollution and ecological degradation of the site. In addition, the project design team has worked in conjunction with the EAP, landowners and relevant stakeholders to ensure that the proposed development is ecologically sustainable, while demonstrating economic and social development. <b><u>As such this project is considered to be compliant with the Constitution.</u></b></p>



TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p><i>promoting justifiable economic and social development.</i></p>	
<p>National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment Regulations (2014 and subsequent 2017 amendments)</p>	<p>The objective of the NEMA is: <i>“To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.”</i></p> <p>A key aspect of the NEMA is that it provides a set of environmental management principles which apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. The proposed development has been assessed in terms of possible conflicts or compliance with these principles. Section 2 of the NEMA contains principles relevant to the proposed project, and which are likely to be utilised in the process of decision making by the competent authority.</p> <p>As these principles are utilised as a guideline by the competent authority in ensuring the protection of the environment, the proposed development should, where possible, be in accordance with them. Where this is not possible, deviation from the principles would have to be very strongly motivated.</p> <p>The NEMA introduces the duty of care concept, which is based on the policy of strict liability. This duty of care extends to the prevention, control and rehabilitation of significant pollution and environmental degradation. It also dictates a duty of care to address emergency incidents of pollution. A failure to perform this duty of care may lead to criminal prosecution, and may lead to the prosecution of managers or directors of companies for the conduct of the legal persons.</p>	<p>Three (3) lists of activities, published on the 21<sup>st</sup> of April 2006 and amended on 4<sup>th</sup> of December 2014 (and subsequent 2017 amendments), as Government Notice Numbers R.983, R.984, and R.985 define the activities which require, either a Basic Assessment (applies to activities with limited environmental impacts: GNR. 983 and GNR. 985), or a Scoping and Environmental Impact Assessment (applies to activities which are significant in extent and duration: GNR. 984). Listing Notice 3 (contained in GNR. 985) lists activities which would require authorisation if carried out in specified or sensitive geographical areas. It should be noted that even if only one (1) listed activity is triggered in Listing Notice 2 (GNR. 984), the activity will trigger a full Scoping and EIA, regardless of if more than one (1) activity is triggered in Listing Notice 1 (GNR. 983). All listed activities that are triggered in the above listing notices need to be assessed in the assessment report.</p> <p>The activities triggered by the proposed development are listed in <b>Error! Reference source not found.</b> below.</p> <p>Based on the NEMA EIA listed activities which have been identified by CES, the proposed project’s application for EA will be subject to the Basic Assessment Process as stipulated in the regulations. As set out by Section 24C of the NEMA, the relevant competent authority for this activity is the DEFF.</p> <p><b><u>This BAR has been drafted to comply with the above-mentioned regulations.</u></b></p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p>In addition, the NEMA introduced a new framework for Environmental Impact Assessments (EIAs), the NEMA EIA Regulations (2014 and subsequent 2017 amendments).</p>	
<p>Strategic Transmission Corridors identified in Government Notice No. 787, Government Gazette No. 43528 of 17 July 2020</p>	<p>The abovementioned project is located within the Strategic Transmission Corridor (STC) and therefore GNR 43528, Notice 787 of NEMA (Act 107 of 1998) will apply. The timeframe for decision making as contained in the EIA Regulations (2014, as amended) for the purpose of EA applications contemplated in Notice 787 is reduced to 57 days (from 107 days).</p>	<p><b><u>This BAR has been drafted to comply with the relevant regulations.</u></b></p>
<p>Government Notice No. 435 published under Government Gazette 42323 of 22 March 2019: Generic Environmental Management Programme (EMPr).</p>	<p>The Generic Environmental Management Programme (EMPr) was compiled for the development and expansion of: (a) overhead electricity transmission and distribution infrastructure; and (b) substation infrastructure for the transmission and distribution of electricity. The generic and site-specific EMPrs for overhead electricity transmission and distribution infrastructure as per GNR 435 of NEMA will apply.</p>	<p>The Generic EMPr has been drafted for this project based on these requirements and will be submitted to the Competent Authority as part of the BAR.</p>
<p>National Environmental Management: Biodiversity Act (NEM:BA Act No. 10 of 2004)</p>	<p>This Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 107 of 1998. In terms of the Biodiversity Act, the developer has a responsibility for:</p> <ul style="list-style-type: none"> <li>• The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA Regulations).</li> <li>• Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity.</li> </ul>	<p>The National Environmental Management: Biodiversity Act, (Act No. 10 OF 2004) (NEM:BA) provides a National List of Ecosystems that are threatened and in need of protection – GN 1002 of 2011. According to the NEM:BA List of threatened ecosystems, the project <b>does not</b> occur within or near to a threatened ecosystem.</p> <p>These findings are supported by the NBA (2018) Terrestrial ecosystem threat status assessment (Skowno et al., 2019) which confirmed that the ecosystems within and surrounding the project area are classified as Least Concern. The nearest threatened ecosystem identified by the NBA (2018) is Bokkeveld Sandstone Fynbos which is located approximately 81 km south-east of the project area.</p> <p>A number of species of conservation concern have been identified on site. No</p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<ul style="list-style-type: none"> <li>Limit further loss of biodiversity and conserve endangered ecosystems. The objectives of this Act are to provide, within the framework of the National Environmental Management Act, for:</li> <li>The management and conservation of biological diversity within the Republic;</li> <li>The use of indigenous biological resources in a sustainable manner.</li> </ul> <p>The Act's permit system is further regulated in the Act's Threatened or Protected Species Regulations, which were promulgated in February 2007.</p>	<p>protected species will be removed or damaged without a permit.</p> <p><b>The site is typically intact and because it has been protected from grazing has a high species diversity. No alien invasive plant species were present within the site, however should any be identified within the development footprint, these will be removed using the appropriate measures.</b></p> <p><b><u>. As such this project is considered to be compliant with this Act.</u></b></p>
<p>National Environmental Management: Protected Areas Act (Act No. 57 of 2003)</p>	<p>The proposed 15km 400kV route deviation does not fall within a protected area. In addition, the proposed project does not fall within any National Protected Expansion Areas as per NPAES (2008). As such this act is not relevant to the proposed project.</p>	<p>N/A</p>
<p>National Water Act (NWA, Act No. 36 of 1998)</p>	<p>The Act regulates the protection, use, development, conservation, management and control of water resources in South Africa. The principal concerns in terms of the Act are the potential for the proposed development to pollute surface and groundwater resources, and to ensure that water is used as efficiently as possible.</p> <p>Chapter 4 Part 1 of the NWA sets out general principles for regulating water use. <i>“Water use is defined broadly, and includes taking and storing water, activities which reduce stream flow, waste discharges and disposals, controlled activities (activities which impact detrimentally on a water resource), altering a watercourse, removing water found underground for certain purposes, and recreation. In general, a water use must be licensed unless it is listed in Schedule 1, as an existing lawful use, is permissible under a general authorisation, or if a responsible authority waves the need for a licence. The Minister may limit the amount of water which a responsible authority may allocate. In making</i></p>	<p>The proposed 15km 400kV route deviation will occur within 100 meters of a watercourse. An application for a water use authorisation has been submitted to the Department of Water and Sanitation (DWS) as such this project in in line with the relevant legislation.</p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p><i>regulations the Minister may differentiate between different water resources, classes of water resources and geographical areas."</i></p>	
<p>National Heritage Resources Act (NHRA, Act No. 25 of 1999)</p>	<p>The protection of archaeological and paleontological resources is the responsibility of a provincial heritage resources authority and all archaeological objects, paleontological material and meteorites are the property of the State. <i>"Any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority".</i></p>	<p>The foot survey conducted provided a good description of the heritage resources located within the route of the proposed powerline. 14 locations were recorded containing low density and diffuse Later and Middle Stone Age artefact scatters with one location containing eroded and exposed Early Stone Age material in an old quarry and donga. The presence of small deflation bays was recorded and low densities of artefacts were found in these areas. Four sites were graded as IIC and more time was spent recording the spatial extent and nature of the finds in these areas. They have therefore been sufficiently recorded and do not warrant further mitigation as they will not be much affected by the placement of pylon footings. The rest of the findings were graded as NCW due to the very low densities of the scatters and the lack of organic or other cultural material.</p> <p>The foundations for the ~32 pylons will be excavated in the late Quaternary surficial Hardevlei Fm. yellowish dunes, the Koekenaap Fm. red coversands and the underlying, harder, brown aeolianites of the mid-Quaternary Dorbank Formation which have been affected by pedogenesis. The main concern is for rare fossil bones that may be unearthed in the foundation excavations. In the Hardevlei and Koekenaap formations the fossil bones that may occur are likely to be in an archaeological context, possibly associated with harvested marine shells such as limpets. The surficial sands are underlain by scatters of MSA material on the palaeosurface formed on the Dorbank Fm. The associated fossil bones are of late Quaternary age and comprise mainly of extant species (modern fauna), but could include species that did not historically occur in the region. The palaeontological sensitivity of the surficial sand formations is therefore considered to be LOW.</p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
		<p>The fossil bone finds in the Dorbank Formation are sparsely scattered and are generally poorly preserved and fragmented larger limb bones of antelopes and zebra, but significant finds may occur. Most finds have been at lower elevations in diamond-mine pits close to the coast and finds in excavations farther inland are very seldom. In view of the small volumes of deposit excavated for the pylon foundations, relative to the extensive exposures in prospecting trenches and mine pits, the likelihood of intersecting fossil bones in any one excavation is low. The palaeontological sensitivity is considered to be LOW.</p> <p>The Heritage Assessment was submitted to Heritage Western Cape and a response was received on the 25 March 2021, which stated that Heritage Western Cape supported the revised layout. <b><u>As such this project is considered to be compliant with this Act.</u></b></p>
<p>National Environmental Management: Waste Act (NEM:WA, Act No. 59 of 2008)</p>	<p>This legislation aims to enforce an integrated approach to waste management, with emphasis on prevention and reduction of waste at source and, where this is not possible, to encourage reuse and recycling in preference to disposal.</p> <p>Section 16 (Chapter 4) of this Act deals with the general duty in respect to waste management and emphasises that, <i>“A holder of waste must, within the holder’s power, take all reasonable measures to:- avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner; manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts; prevent any employee or any person under his or her supervision from contravening this Act; and prevent the waste from being used</i></p>	<p>The proposed development does not trigger any listed activities under this Act and as such does not require a Waste Licence according to the NEM: Waste Act (Act 59 of 2008). All reasonable measures (in the form of mitigation measures) will be taken to avoid the generation of waste and where such generation cannot be avoided, minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner. In addition, a number of mitigation measures have been included to ensure that waste is managed in such a manner that it does not endanger human health or the environment or cause a nuisance through noise, odour or visual impacts. Training has been incorporated into the Generic EMPr to ensure the prevention of any employee or any person from contravening this Act; and prevent the waste from being used for an unauthorised purpose. <b><u>As such this project is considered to be compliant with the this Act.</u></b></p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p><i>for an unauthorised purpose”.</i></p> <p>Chapter 4, Part 3 of this Act deals with reduction re-use and recovery of waste, Part 4 deals with waste management activities, Part 5 covers storage collection and transportation of waste, Part 6 deals with treatment, processing and disposal of wastes, Part 7 covers industry waste management plans and Part 8 deals with contaminated land. Chapter 5 covers all issues regarding the licensing of waste management activities.</p>	
<p>National Forestry Act (NFA, Act No. 84 of 1998)</p>	<p>The objective of this Act is to monitor and manage the sustainable use of forests. In terms of Section 12 (1) (d) of this Act and GN No. 1012 (promulgated under the National Forest Act), no person may, except under licence:</p> <ul style="list-style-type: none"> <li>• Cut, disturb, damage or destroy a protected tree; or</li> <li>• Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree.</li> </ul>	<p>No natural forest, or forest patches, will be impacted by the proposed development.</p> <p>No protected trees were identified on the development site, should any be identified during the search and rescue and/or walkthrough, these trees will be avoided as far as practically possible. Should avoidance not be possible ESKOM will apply for the relevant permits from DEFF for the removal of this species. <b><u>As such this project is considered to be compliant with this Act.</u></b></p>
<p>The Nature and Environmental Ordinance 19 of 1974, (as amended by the Western Cape Nature Conservation Laws Amendment Act, Act 2 of 2000)</p>	<p>In terms of this Ordinance, a permit must be obtained from CapeNature to remove or destroy any plants listed in the Ordinance. The proposed 15km 400kV route deviation development footprints could contain Species of Conservation Concern (SCC).</p>	<p>The necessary permissions and/or permits will be obtained prior to the clearance of vegetation. In addition, the developer will not cause damage to any endangered ecosystems and will protect and promote biodiversity and ensure that the site is cleared of alien vegetation using appropriate means. <b><u>As such this project is considered to be compliant with this Act.</u></b></p>
<p>Electricity Regulation Act (Act No. 4 of 2006)</p>	<p>The objective of the Electricity regulation Act is to establish a national regulatory framework for the electricity supply industry, make the National Energy Regulator the custodian and enforcer of the national electricity regulatory framework, provide for licenses and registration as the manner in which generation, transmission, distribution, trading and the import and export of electricity are regulated and</p>	<p>The proposed 15km 400kV route deviation must be in line with the Electricity Regulation Act.</p>

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	provide for matters connected therewith.	
Occupational Health and Safety Act (OHSA, Act No. 85 of 1993)	The objective of this Act is to provide for the health and safety of persons at work (See Table 3.4 below). In addition, the Act requires that, <i>“as far as reasonably practicable, employers must ensure that their activities do not expose non-employees to health hazards”</i> (Glazewski, 2005: 575). The importance of the Act lies in its numerous regulations, many of which will be relevant to the proposed development. These cover, among other issues, noise and lighting.	A number of mitigation measures have been included in this BAR and the Generic EMPr to ensure that this Act is adhered to. Training has been incorporated into the Generic EMPr to further ensure the prevention of any employee or any person from contravening this Act. <b><u>As such this project is considered to be compliant with this Act.</u></b>
National Environmental Management: Air Quality Act (NEM:AQA, Act No. 39 of 2004)	As with the Atmospheric Pollution Prevention Act 45 of 1965, the objective of the Air Quality Act is to protect the environment by providing the necessary legislation for the prevention of air pollution. <i>“To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.”</i>	The proposed development does not trigger any of the listed activities under this Act and as such no Air Emissions Licence according to the NEM: Air Quality Act (Act 39 of 2004) is required. A number of mitigation measures have been included in this BAR as well as the Generic EMPr to ensure that the “best practicable means” for the abatement of dust will be taken and to ensure that there are no noxious or offensive odours on site as a result of improper waste storage. <b><u>As such this project is considered to be compliant with this Act.</u></b>
Aviation Act (No. 74 of 1962): 13 <sup>th</sup> Amendment of the Civil Aviation Regulations 1997	Due to requirements of the Act to ensure the safety of aircrafts, the developer must engage directly with the Civil Aviation Authority (CCA) regarding the structural details of the facility.	
National Veld and Forest Fire Act (NVFFA, Act No. 101 of 1998)	The developer must ensure that appropriate fire-fighting equipment, protective clothing and trained personnel (for extinguishing fires) are present onsite during the construction of the proposed 15km 400kV route deviation	A number of mitigation measures have been included in this BAR and the Generic EMPr to ensure that this Act is adhered to. Training has been incorporated into the Generic EMPr to further ensure the prevention of any employee or any person from contravening this Act. <b><u>As such this project is considered to be compliant with this Act.</u></b>
Subdivision of Agricultural Land Act (No. 70 of 1970)	The Subdivision of Agricultural Land Act (No. 70 of 1970) controls the subdivision	

TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p>of all agricultural land in South Africa and prohibits certain actions relating to agricultural land. In terms of the Act, the owner of agricultural land is required to obtain consent from the Minister of Agriculture in order to subdivide agricultural land. Approval will be required from the DEFF: Forestry for any activities on the land zoned for agriculture and any proposed rezoning or sub-divisions of agricultural land.</p>	
<p><u><i>Hazardous Substances Act (15 of 1973)</i></u></p>	<p>The Act aims to manage hazardous substances. It is the principal national legislation that controls the transportation, and manufacturing, storage, handling, treatment or processing facilities for any substance that is dangerous or hazardous (Groups I-IV).</p>	<p>A number of mitigation measures have been included in this BAR as well as the Generic EMPr to ensure that the “best practicable means” for the management of hazardous substances are employed to ensure that neither human health, nor the environment are endangered. <b><u>As such this project is considered to be compliant with the Constitution.</u></b></p>
<p><u><i>Relevant Noise Legislation</i></u></p>	<p>Specific noise legislation and the following standards have been used to aid the study and guide the decision-making process with regards to noise pollution:</p> <ul style="list-style-type: none"> <li>• South Africa - GNR.154 of January 1992: Noise control regulations in terms of section 25 of the Environment Conservation Act (ECA), 1989 (Act No. 73 of 1989).</li> <li>• South Africa - GNR.155 of 10 January 1992: Application of noise control regulations made under section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989).</li> <li>• South Africa - SANS 10103:2008 Version 6 - The measurement and rating of environmental noise with respect to annoyance and to speech communication.</li> <li>• South Africa - SANS 10210:2004 Edition 2.2 – Calculating and predicting road traffic noise.</li> <li>• South Africa - SANS 10357:2004 Version 2.1 - The calculation of sound propagation by the Concawe method.</li> <li>• NMBM noise control by-law 37 of 2010</li> </ul>	<p>A number of mitigation measures have been included in this BAR as well as the Generic EMPr to ensure that noise levels are reduced as far as practically possible. <b><u>As such this project is considered to be compliant with the relevant noise regulations.</u></b></p>



TITLE OF LEGISLATION, POLICY OR GUIDELINE	APPLICABILITY TO THE PROJECT	COMPLIANCE TO RELEVANT LEGISLATION
	<p>The South African noise control regulations describe a disturbing noise as any noise that exceeds the ambient noise by more than 7dB. This difference is usually measured at the complainant’s location should a noise complaint arise. Therefore, if a new noise source is introduced into the environment, irrespective of the current noise levels, and the new source is louder than the existing ambient environmental noise by more than 7dB, the complainant will have a legitimate complaint.</p>	

### 3.2 OTHER RELEVANT POLICIES AND PLANS

Other policies and plans that are relevant to the proposed 15km route deviation include:

- Western Cape Biodiversity Spatial Plan (WCBSP);
- National Energy Regulator of South Africa (NERSA);
- Eskom: Connection agreement and Power Purchase Agreement (PPA); and
- Local and District Integrated Development Plans (IDPs) and Spatial Development Plans (SDFs).

### 3.3 APPLICABLE LISTED ACTIVITIES

Table 3-2 below provides the relevant listed activities, in terms of the NEMA EIA Regulations (2014, as amended in 2017), which are likely to be triggered by the activities associated with the proposed 15km deviation of the approved 400kV Juno Gromis transmission line.

The NEMA EIA Regulations (2014, as amended) allows for a Basic Assessment process for activities with limited environmental impact (GN R. 327 and 324, 2017) and a more rigorous two (2) tiered approach to activities with potentially greater environmental impact (GN R. 325, 2017). This two (2) tiered approach includes both a Scoping and EIA process.

The proposed deviation triggers a **Basic Assessment (BA) process**, due to the proposed deviation being located within a Strategic Transmission Corridor as identified in Government Notice No. 113 of February 2018. Refer to Figure 3-1 below.

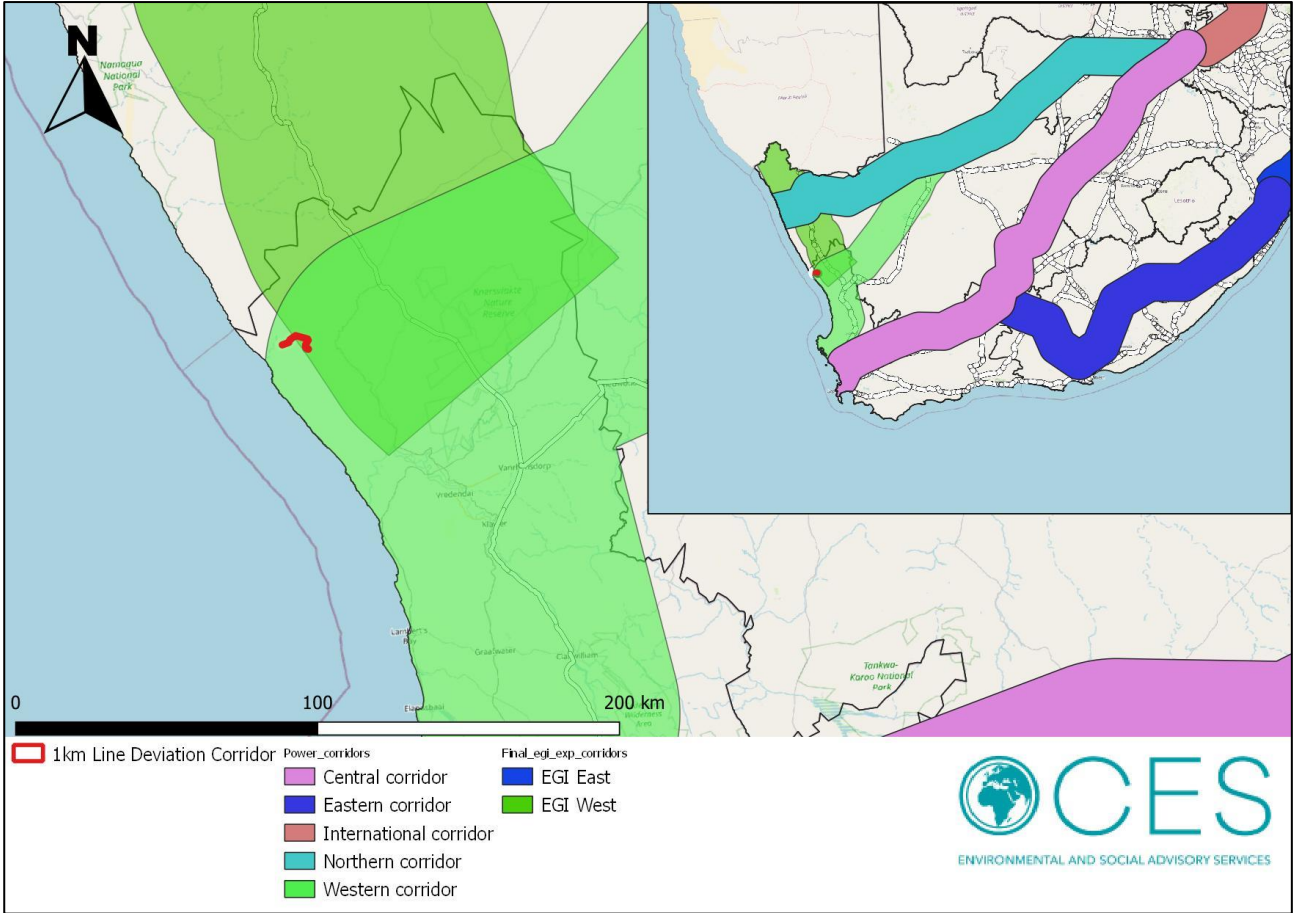
**Table 3-2: Listed Activities triggered by the proposed deviation.**

Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 1</b> of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R. 327 Activity 12 (a) (c)	<p>The development of-</p> <p>(ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs-</p> <p>(a) within a watercourse;</p> <p>(c) if no development setback exists, within 32</p>	<p>The study area contains a number of watercourses that will be affected during the construction of the proposed development. Some of the towers/pylon structures will be located within 32 meters of a watercourse. The total combined footprint of the proposed pylons is expected to be more than 100m<sup>2</sup>.</p>

	metres of a watercourse, measured from the edge of a watercourse.	
GN R. 327 Activity 19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging of, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving – (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan	Access roads required for the construction and maintenance of the 15km power line deviation will require the infilling and/or excavation of material of more than 10m <sup>3</sup> into/from a watercourse.
GN R. 327 Activity 28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	The proposed pylon structures and access roads (considered industrial development) will take place on land which is zoned for agriculture. The total footprint of the development will be larger than 1ha outside of an urban area.

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Activity No(s):	Provide the relevant <b>Scoping &amp; EIR Activity(ies)</b> as set out in <b>Listing Notice 2</b> of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R.325 Activity 9	The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more outside urban areas or industrial complexes.	While the proposed 400 kV powerline deviation exceeds the 275 kV threshold stipulated in this activity, this infrastructure falls within an approved Strategic Transmission Corridor and as such would only be subject to a <b>Basic Assessment Process, as per GN 113 of 16 February 2018 (repealed by GN 787 of 17 July 2020)</b> .
Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 3</b> of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R. 324 Activity 4 (i)(ii) (aa)	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape ii. Outside urban areas: (aa) Areas containing indigenous vegetation;	The proposed development would require the construction of access roads that would be used during both construction and operation phases, which will be wider than 4 meters, outside an urban area in the Western Cape, in areas containing indigenous vegetation.
GN R. 324 Activity 12 (i) (a) (c) i. i. (ff)	The clearance of 300 square metres or more of indigenous vegetation where: (ii) within critical biodiversity areas identified in bioregional plans;	CBAs occur within the proposed powerline corridor.
GN R. 324 Activity 14 (ii) (a) (c) i. i. (ff)	The development of (ii) infrastructure or structures with a physical footprint of 10square metres or more; where such development occurs: (a) within a watercourse; (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; i. Western Cape i. Outside urban areas: ff) Critical Biodiversity Areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or bioregional plans.	The proposed access roads and pylon structures will traverse watercourses and be located within 32m of a watercourse within identified CBA areas, both terrestrial and aquatic in the Western Cape.



**Figure 3-1: Confirmation of GN 113 Applicability.**

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## 4 PROJECT NEED AND DESIRABILITY

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As mentioned in section 2.1 above, the power supply to the greater Cape area is mostly provided by the coal-fired power stations on the Highveld, mainly in Mpumalanga. As a result, a Transmission network from Mpumalanga to the Cape has grown over the years as demand has increased. Much of this network is now over two decades old and is approaching its peak operational capacity. In order to meet the increasing demand of electricity, Eskom proposes to import power from the 800MW Kudu Combined Cycle (CCGT) power station at Uubvlei, 15km north of Oranjemond in Namibia. The 800MW Kudu CCGT power station will supply 200MW to Namibia and the balance will be available for integration into the South African grid.

Eskom proposes to integrate the power from the Kudu CCGT power station into the South African grid via Transmission lines from the Namibian border. A number of alternative integration options and routes have been proposed to connect to the Eskom's Western Grid and supply the increasing demand in the Cape. This specific project forms part of the Kudu Integration Project and relates specifically to the proposed 230km 400kV Juno-Gromis Transmission line which aims to enhance the supply to the Western Cape, which has been plagued by outages. The 15km deviation to the 400kV Juno-Gromis Transmission line is therefore required in order to progress the Kudu Integration project.

### 4.1 LOCAL & DISTRICT LEVEL

The 400kV Juno-Gromis Transmission line will aim to promote local economic growth and development through the creation of direct and indirect employment opportunities.

#### 4.1.1 West Coast District Municipality IDP (2017-2022)

The West Coast District Municipality (WCDM) IDP (2017-2022) considers the expansion of the electrical network throughout the district to be a key project in contributing to economic growth within the WCDM.

The national current power supply challenges have had a negative impact on the national and local economy. The WCDM has felt the effects of the challenges faced by ESKOM, and therefore, the proposed project will allow for an enhanced supply to the Western Cape.

#### 4.1.2 Matzikama Local Municipality Integrated Development Plan (IDP), 2020 - 2021

The Matzikama Local Municipality (MLM) IDP (2017-2022) identifies *"insufficient electricity capacity to accommodate new development"* as one of the constraints to achieving their strategic objective of *"Provide municipal basic services to meet demands of growing population and development challenges"*.

The proposed project is therefore an important component in improving and meeting the MLM strategic objectives.

### 4.2 NATIONAL LEVEL

#### 4.2.1 National Development Plan (NDP): Vision 2030, 2012

The National Development Plan (NDP) aims to promote sustainable and inclusive development in South Africa to reduce and ultimately eliminate poverty. The NDP envisages that by 2030 South Africa will have an energy sector that promotes economic growth and development through adequate investment in energy infrastructure. Of the twelve (12) key focus areas of the NDP, the proposed project will contribute to (1) an economy which will create more jobs, and (2) improving infrastructure.

#### 4.2.2 National Infrastructure Plan (NIP) (2012)

The South African Government adopted a National Infrastructure Plan in 2012. In order to help address the structural problems identified within the economy, 18 Strategic Integrated Projects (SIPs) were developed under the guidance of the Presidential Infrastructure Coordinating Committee (PICC), which include 3 'energy' SIPs, namely, supporting sustainable green energy initiatives on a national scale (SIP 8), accelerating the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances (SIP 9), and expanding the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development (SIP 10).

The proposed project forms part of Strategic Integrated Project (SIP) 10: "Electricity transmission and distribution for all".

##### Need and Desirability related to the Preferred Option

The preferred route for the proposed deviation is required in order to avoid a proposed mining area. The mining industry is the third largest sector in the South African economy after the agriculture and industrial manufacturing sectors. It accounts for approximately 8% of Gross Domestic Product (GDP) and creates approximately one million jobs (500 000 direct and 500 000 indirect) (The Mining Sector Innovation Strategies Implementation Plan 2012/13 – 2016.17). In addition to this, exported minerals and metals account for as much as 60% of all export revenue and is a critical earner for foreign exchange. Mining also contributes to the South African economy through the payment of taxes and royalties. In addition, on **17 July 2020**, Minister Barbara Dallas Creecy published Government Gazette 43528, Notice 787 for consultation with the **intention to identify seven geographical areas**, which are of strategic importance when planning for the development of electricity transmission and distribution infrastructure, in terms of section 24(3) of the National Environmental Management Act, 1998 (Act No. 107 of 1998). This project falls in its entirety within both the Western Corridor and the EGI West Corridor.

## 5 PUBLIC PARTICIPATION PROCESS

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A Public Participation Plan was submitted to DEFF prior to the pre-application meeting held on the 2<sup>nd</sup> of December 2020 and approved on the 17<sup>th</sup> of February 2021. Please refer to Appendix E1 for the approved plan.

### 5.1 OBJECTIVES OF THE PUBLIC PARTICIPATION PROCESS

In accordance with Section 40 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), the purpose of public participation is to provide all potential or registered Interested and/or Affected Parties (I&APs), including the Competent Authority (DEFF), with the opportunity to access the relevant documents and information which could reasonably or potentially influence any decision with regards to the proposed 15km power line deviation (and associated infrastructure) EA application. The process aims to:

- Disclose activities planned by the Applicant and steps in the BA process by the environmental team;
- Identify concerns and grievances raised by the I&APs;
- Respond to all the I&APs grievances and enquiries;
- Identify local expertise, needs and knowledge from the I&APs;
- Identify additional or new stakeholders and people affected by, or interested in, the proposed project;
- Gather perceptions and comments on the specialist studies;
- Ensure that all issues raised by I&APs have been adequately addressed and/or assessed; and
- Share the findings of the BA process, such as significant impacts, mitigation measures, management actions, and monitoring programmes.

The PPP must include consultation with the following key members:

- The Competent Authority (DEFF);
- All state departments which have laws relating to the proposed activity or the proposed location of the activity;
- All organs of the state which have jurisdiction relating to the proposed activity or the proposed location of the activity;
- Landowners;
- Land Occupiers;
- Landowners and Land Occupiers on adjacent properties;
- Local and District Municipalities
- Municipal Ward Councilors;
- Ratepayers Associations; and
- Any additional registered and potential I&APs.

### 5.2 ACTIVITY ON LAND OWNED BY PERSON OTHER THAN THE APPLICANT

In accordance with Section 39 (1), stipulated in Chapter 6 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), which states that: *“If the proponent [Applicant] is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land.”* Exclusions are made for applications in respect of linear activities or Strategic Infrastructure Projects as contemplated in the Infrastructure Development Act (Act No.

23 of 2014) as per Section 39 (2), however, as per GN 113 (repealed by GN 787), the route alignment of the line deviation must be pre-negotiated with landowners and proof of landowner consent must be submitted with the application.

Eskom SOC Ltd. has engaged with the landowners and received written consent, to undertake the proposed activities on the proposed properties, from the affected landowners. Refer to Appendix E2.

### 5.3 LEGISLATIVE REQUIREMENTS

Public consultation is a legal requirement (in terms of Regulation 41(2) of NEMA) and as such developers are required to conduct public consultation throughout the Basic Assessment process. The following is required:

#### 5.3.1 Site Notice

*According to Regulation 41(2) of the NEMA EIA Regulations 2014 (as amended) “the person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by:*

- (a) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of:
  - (i) The site where the activity to which the application or proposed application relates is or is to be undertaken; and*
  - (ii) Any alternative site.**

Refer to Appendix E4 for proof of placement and the content of the site notice.

#### 5.3.2 Newspaper Advertisement

- (c) Placing an advertisement in:
  - (i) One local newspaper; or*
  - (ii) Any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;**
- (d) Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph (c)(ii);*

A newspaper advertisement (English and Afrikaans version side by side) was placed in Ons Kontrei (local newspaper) on 12 March 2021, in order to notify the general public of the proposed development. Refer to Appendix E3 for proof of placement.



### 5.3.3 I&AP and Stakeholder Notifications

- (b) Giving written notice, in any of the manners provided for in section 47 D of the Act, to:*
- (i) The occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner and to any alternative site where the activity is to be undertaken;*
  - (ii) Owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;*
  - (iii) The municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area;*
  - (iv) The municipality which has jurisdiction in the area;*
  - (v) Any organ of state having jurisdiction in respect of any aspect of the activity; and*
  - (vi) Any other party as required by the competent authority;*

Contact details of all stakeholders identified (I&AP list) are provided in Appendix E8. Letters of notification and Background Information Documents (BIDs) were distributed via email to all stakeholders on the 16<sup>th</sup> of April 2021 and via registered mail on the 19<sup>th</sup> of April 2021. Refer to Appendix E6 for proof of notifications.

An advertisement was also placed in a local newspaper, *Ons Kontrei*, on 11 March 2021 notifying the public of the proposed development (refer to Appendix E3).

Public participation during the Draft BAR review period will focus on providing information on the project and gathering stakeholders' views on the Draft BAR, Draft EMP and Specialist Assessments, to gather perceptions and comments on the results of the specialist studies, and the content of both the BAR and EMPr

Notification emails, as well as cell phone messages (sms) and/or phone calls will be sent/made to registered I&APs as well as key stakeholders to inform I&APs that the Draft BAR and associated documents are available for review. The notifications will also stipulate the dates of the review period. All comments received, either via emails, SMS's or as written correspondence will be included in an Issue and Response Trail (inclusive of responses thereto) which in turn will be included in the Final BAR. Amendments and corrections to the draft Specialist Reports, BAR and EMPr might be required in order to deal with comments on the draft documents received from IAPs. If substantial changes are required, a decision on whether to re-release the BAR and related documents will need to be taken. In addition, electronic copies will be sent directly to the following stakeholders/authorities: (a) National DEFF, (b) DEFF: Biodiversity and Conservation, (c) Western Cape Department of Environmental Affairs and Development Planning (DEADP), (d) Western Cape Department of Water and Sanitation (DWS), (e) CapeNature and (f) Heritage Western Cape (Provincial Heritage Authority). Proof of this will be incorporated into the Final BAR.

Similarly, all I&APs will be notified of the submission of the Final BAR to the competent authority (DEFF).

#### 5.3.4 Stakeholder Identification and Registered I&APS

*A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of:*

- (a) All persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;*
- (b) All persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and*
- (c) All organs of state which have jurisdiction in respect of the activity to which the application relates.*

An I&AP database, including all identified and registered I&APs, has been included in Appendix E7 of this report.

#### 5.3.5 Issues Raised by I&APS

No comments have been received from I&APs based on the initial public participation conducted. A Comments and Response Report (CCR), included in Appendix F, will incorporate any comments received during the 30-day public review of the Draft BAR and will be submitted as part of the Final BAR.

## 6 ALTERNATIVES

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One (1) of the requirements of a Basic Assessment is to investigate alternatives associated with a proposed project.

### 6.1 REASONABLE & FEASIBLE ALTERNATIVES

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

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

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

### 6.2 FUNDAMENTAL INCREMENTAL & NO-GO ALTERNATIVES

#### 6.2.1 Fundamental Alternatives

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

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

#### 6.2.2 Incremental Alternatives

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

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

#### 6.2.3 No-go Alternative

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

### 6.3 ANALYSIS OF ALTERNATIVES

Table 6-1 illustrates the methodology used to assess the identified alternatives. The table includes the assessment of the advantages and disadvantages and provides further comments on the selected alternatives.

**Table 6-1: Alternatives which were considered for the proposed 15km line deviation associated with the 400kV Juno-Gromis Transmission line..**

ALTERNATIVE TYPE	ALTERNATIVE	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
<b>FUNDAMENTAL ALTERNATIVES</b>					
<b>LOCATION ALTERNATIVES</b>	<p><b>Alternative 1: Location of the deviation within a Strategic Transmission Corridor</b></p> <p>The proposed deviation of the Juno Gromis 400 kV has been incorporated into a Strategic Transmission Corridor as identified by the Minister. These corridors are of strategic importance when planning for the development of electricity transmission and distribution infrastructure, in terms of section 24(3) of the National Environmental Management Act, 1998 (Act No. 107 of 1998). As such no location alternatives will be assessed for the proposed development.</p>	<ul style="list-style-type: none"> <li>• Outside urban edge, and not close to residential areas.</li> <li>• Existing access roads to the site.</li> <li>• Livestock grazing will be able to continue around the pylon structures.</li> <li>• Suitable topography.</li> <li>• Pre-negotiated route corridor with relevant landowners.</li> <li>• The 1km wide route corridor allows for micro-siting of pylon structures to avoid identified sensitivities.</li> </ul>	<ul style="list-style-type: none"> <li>• Clearance of natural vegetation.</li> <li>• Towers will be placed within 32 m of wetlands and/or watercourses.</li> <li>• New proposed service road to follow beneath the length of the servitude.</li> </ul>	YES	The pre-selected proposed corridor needs to connect to the remainder of the authorised 400 kV Juno-Gromis Transmission Line.

ALTERNATIVE TYPE	ALTERNATIVE	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
	<p><b>Alternative location 2:</b> No alternative route corridor has been identified.</p>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<p>N/A</p>	<p>No alternative route corridor has been identified because the preferred route corridor was pre-negotiated with the landowners and occurs within a Strategic Transmission Corridor.</p>
<p><b>TYPE OF ACTIVITY</b> This refers to the fundamental activity options within the proposed location.</p>	<p><b>Alternative activity 1: Electricity transmission: This application entails the deviation of a section of an approved (i.e. positive EA) transmission line and as such no other activity is considered to be reasonable and/or feasible in this instance.</b></p>	<ul style="list-style-type: none"> <li>• The 15km transmission line deviation is critical for the implementation of the authorised Juno-Gromis 400kV route.</li> <li>• Outside urban edge, and not close to residential areas.</li> <li>• Existing access roads to the site.</li> <li>• Livestock grazing will be able to continue around the pylon structures.</li> <li>• Suitable topography.</li> <li>• Pre-negotiated route corridor with relevant landowners.</li> <li>• The 1km wide route corridor allows for micro-siting of pylon structures to avoid identified sensitivities.</li> </ul>	<ul style="list-style-type: none"> <li>• The loss of 5 ha of indigenous vegetation.</li> <li>• Towers will be placed within 32 m of wetlands and/or watercourses.</li> </ul>	<p>YES</p>	<p>The No-Go Option has been assessed as an alternative to the development of the proposed 15km line deviation.</p>

ALTERNATIVE TYPE	ALTERNATIVE	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
	<p><b>Alternative activity 2:</b> The “no-go” option, which entails no development within the proposed location.</p>	<ul style="list-style-type: none"> <li>• The site will remain largely undeveloped/in a natural state and will continue to be used as grazing land.</li> <li>• Most of the adverse impacts associated with the proposed 15km line deviation and associated infrastructure are unlikely to occur in the absence of the development.</li> </ul>	<ul style="list-style-type: none"> <li>• The benefits associated with the proposed 15km line deviation, such as enhancing the supply to the Western Cape which has been plagued by outages, will be lost. The 15km line deviation is a critical for the operation of the entire 230km 400kV Juno-Gromis Transmission line.</li> <li>• The socio-economic benefits associated with the proposed construction of the 15km deviation, such as the creation of employment and the provision of a continuous power supply, will be lost</li> </ul>	<p>YES</p>	
<p><b>INCREMENTAL (DESIGN/ROUTING/TECHNOLOGY) ALTERNATIVES</b></p>					

ALTERNATIVE TYPE	ALTERNATIVE	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
<p><b>ROUTE DESIGN &amp; pylon locations</b></p>	<p><b>Alternative layout 1:</b> Current proposed route design and pylon locations has been determined based on the outcome of various specialist assessments. However, exact positions of pylons can only be determined during detailed design and once micro-siting is complete which occurs after the EA is issued, as such no additional layout alternatives are required at this time.</p>	<ul style="list-style-type: none"> <li>The preferred layout alternative has considered the environmental sensitivities of an area 1 km in width, including all sensitivities identified by the National Screening Tool and specialist assessments, to determine the suitable routing of the 15km line deviation and placement of pylon structures and associated infrastructure, such as access roads.</li> <li>Micro-siting will be conducted prior to construction to ensure minimal environmental damage when placing infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>The loss of 5 ha of indigenous vegetation.</li> <li>Towers will be placed within 32 m of wetlands and/or watercourses.</li> </ul>	<p>YES</p>	<p>-</p>
<p><b>OPERATIONAL ASPECTS</b> This relates mostly to alternative ways in which the development or activity can operate in order to reduce environmental risks or impacts</p>	<p><b>Alternative operational activities:</b> Careful implementation of the EMPr (with updates to the working document) to inform the operational aspects of the 15km line deviation associated with the Juno-Gromis 400kV Transmission line.</p>	<ul style="list-style-type: none"> <li>The operational aspects of the 15km line deviation and associated infrastructure will be informed by the EMPr, which will be updated to include the recommendations, mitigation measures and conditions of the EA (including Stakeholder and I&amp;AP input), Specialist Assessments, and the Environmental Authorisation.</li> </ul>	<ul style="list-style-type: none"> <li>Unanticipated environmental and/or social impacts could still occur during the operation and maintenance of the 15km line deviation which will require the EMPr to be updated with additional recommendations and mitigation measures, as frequently as required.</li> </ul>	<p>YES</p>	<p>The EMPr will inform the operational activities of the 15km line deviation and associated infrastructure and should be updated with additional recommendations and/or mitigation measures when required. The implementation of the recommendations and mitigation measure in the EMPr will significantly reduce the environmental and social risks associated</p>

ALTERNATIVE TYPE	ALTERNATIVE	ADVANTAGES	DISADVANTAGES	FURTHER CONSIDERATION/ ASSESSMENT?	COMMENT
					with the proposed project.

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## 7 DESCRIPTION OF THE ENVIRONMENT

The criteria used to assess the sensitivity of the proposed project area included climate, geology and soils, topography, vegetation, surface water, land use and specialist findings.

### 7.1 CLIMATE

The information provided herewith is based on the climate data for Nuwerus, Western Cape Province, the closest urban area in proximity to the project area.

The Western Cape has a Mediterranean climate with moderately hot summers and mild to cold winters. Average maximum daily temperatures in Nuwerus reach a high of 30°C in February and a low of 5°C in July (Figure 7-1). Rainfall occurs throughout the year with the greatest rainfall occurring during the winter months, but total annual rainfall is less than 280mm, resulting in a Koppen classification of BWk and BSk. July receives the greatest rainfall (15 mm) while February receives the lowest rainfall (4 mm). The prevailing wind direction is from the south-west (Meteoblue, 2020).

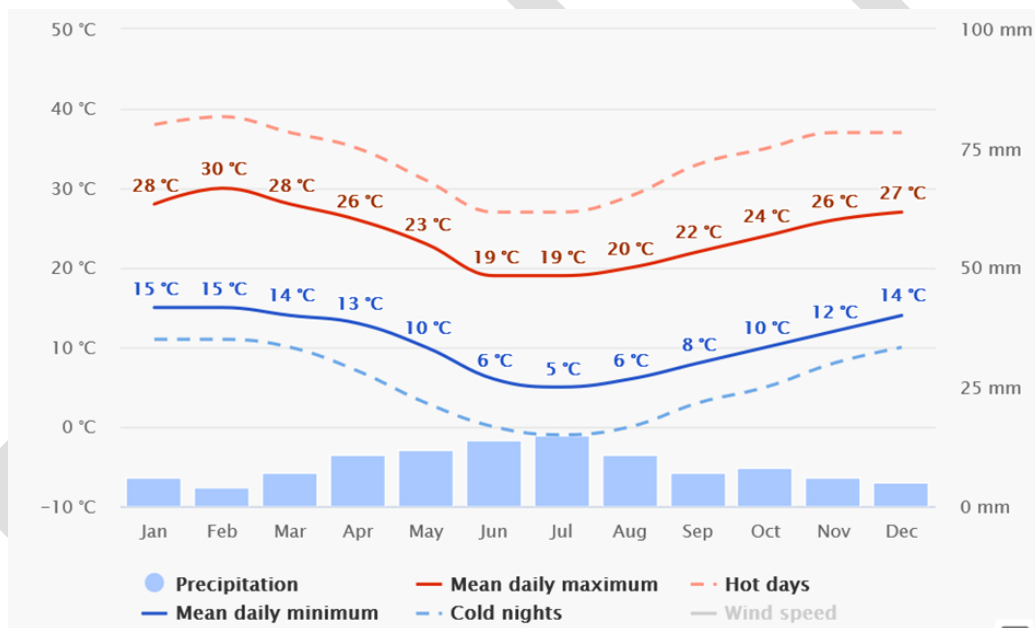


Figure 7-1: Climate data for Nuwerus, Western Cape Province (source: <https://www.meteoblue.com>).

### 7.2 TOPOGRAPHY

The topography of the project area decreases in elevation towards the Groot Goerap River. The elevation of the project area on either side of the river is relatively flat, ranging between 120 m and 80 m above sea-level and decreasing to 40 m as a result of the incision by the Groot Goerap River (Figure 7-3 and Figure 7-4).

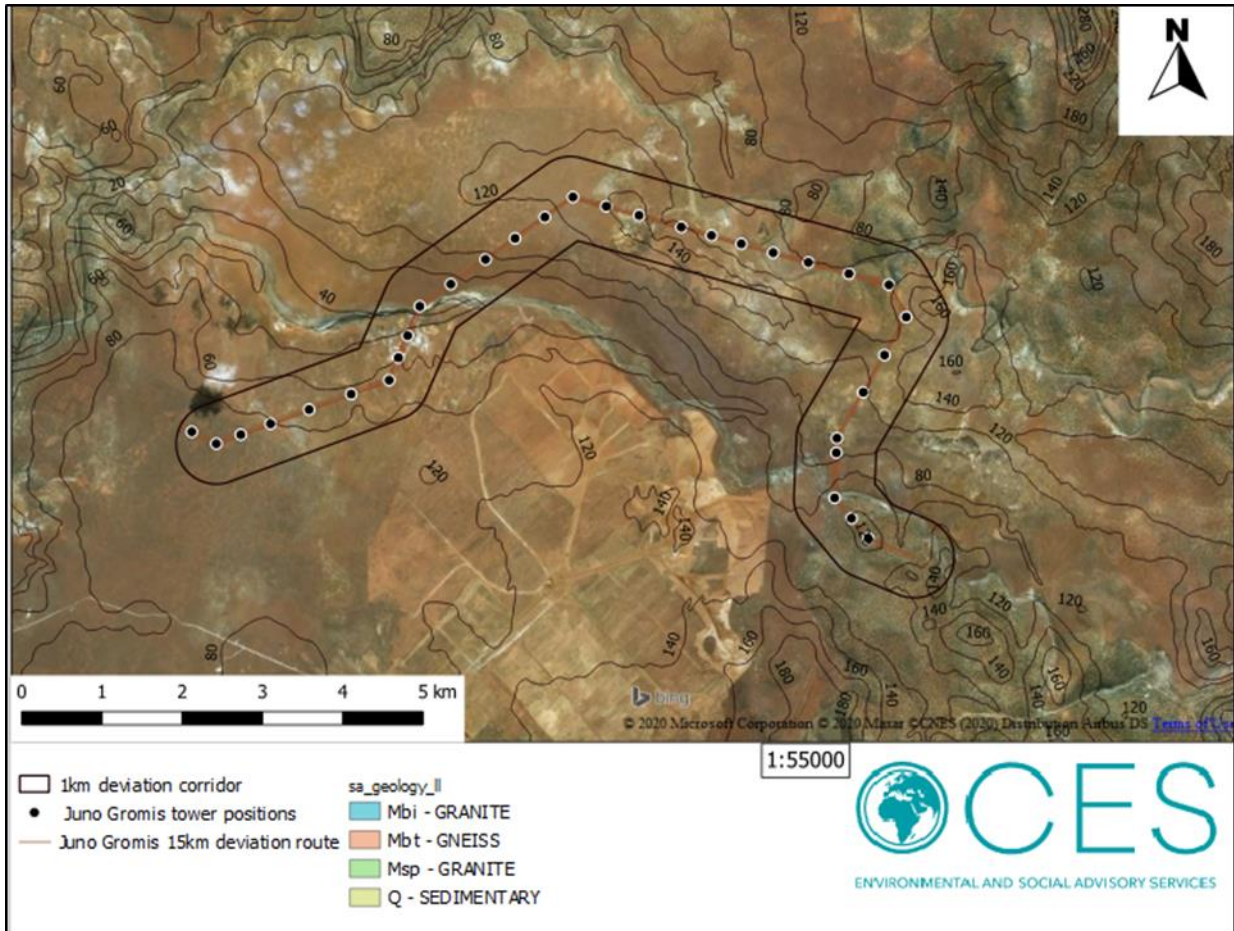


Figure 7-2: Topography Map of the study area.

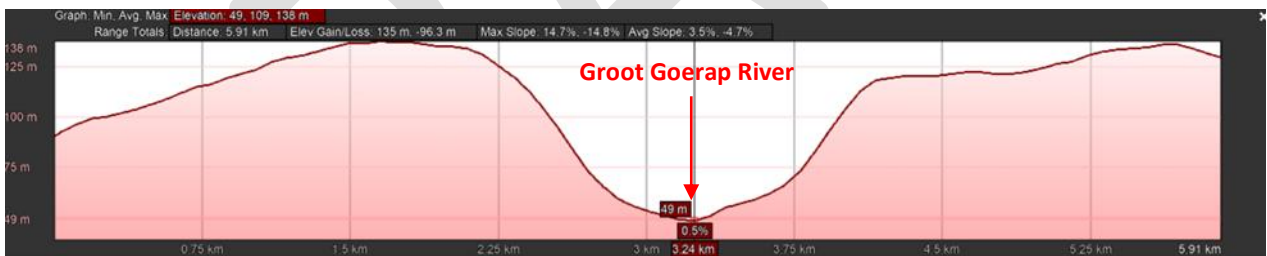


Figure 7-3: Elevation of profile of the study site from north to south (Google Earth Pro, 2020).



Figure 7-4: Elevation of profile of the study site from east to west (Google Earth Pro, 2020).

### 7.3 GEOLOGY

The geology underlying the majority of the project area consists of Quaternary sedimentary deposits (calcrete and sand). The eastern portion of the project area consists of igneous (granite) and metamorphic (gneiss) deposits, belonging to the Spektakel Suite (Figure 7-5).

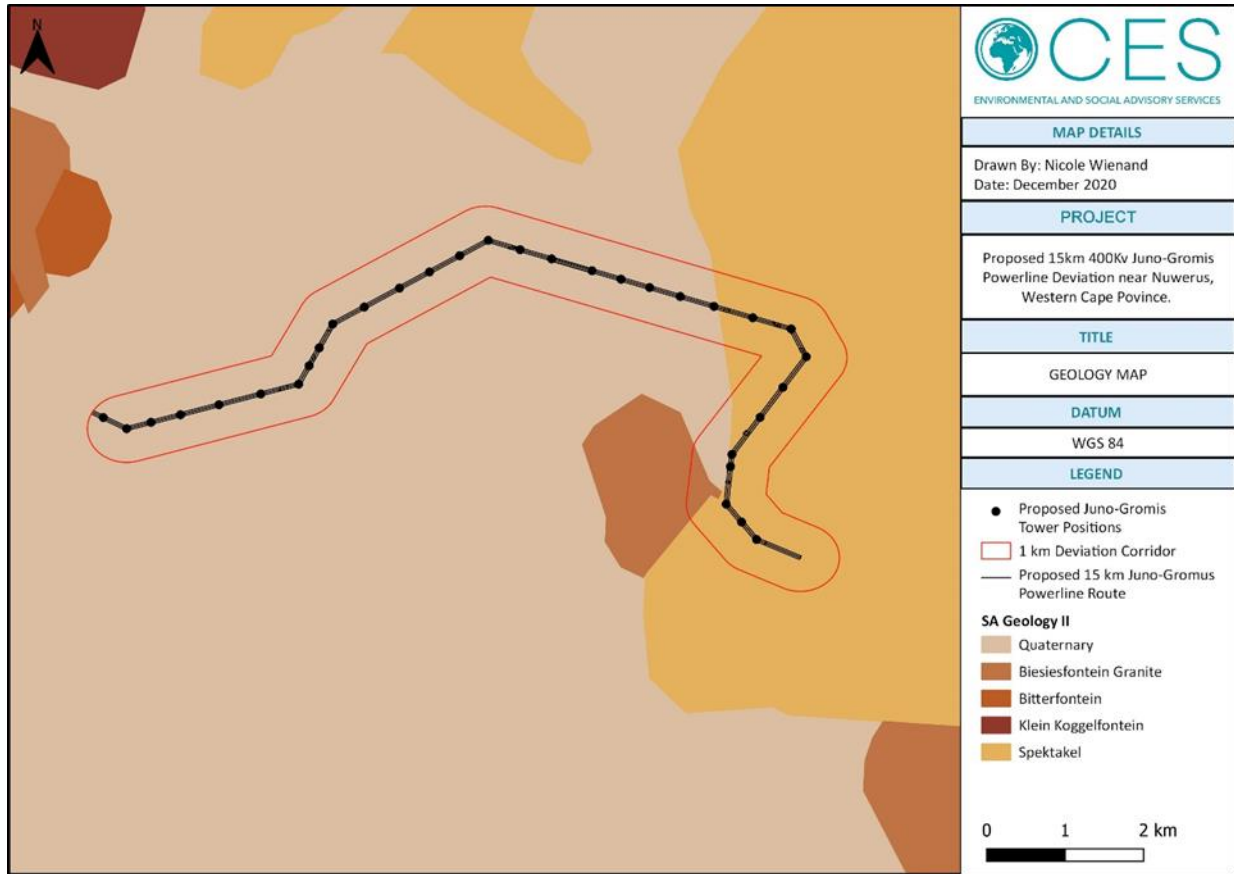


Figure 7-5: South African Geology II Map of the study area.

## 7.4 SOILS

The soils underlying the study site are classified as Ferralic Arenosols. Arenosols are sandy soils derived from the weathering of old, usually quartz-rich parent material or rock, and/or soils derived from recently deposited desert or beach sands. They are typically characterised by a loamy sand or coarser texture that extends to a depth of approximately 100 cm from the soil surface, less than 35% rock fragments, and the absence of diagnostic horizons below 50 cm from the soil surface (ISRIC, n.d).

## 7.5 LAND COVER AND CURRENT LAND USE

According to the South African National Land-Cover (2018) spatial dataset, the majority of the project area occurs within Low Shrubland (Succulent Karoo) (Figure 7-6 below). Other land uses scattered throughout the site include Fallow Lands and Old Fields, Open Woodlands (restricted to drainage areas), Natural Grassland, Eroded Land and Bare Riverbed Material.

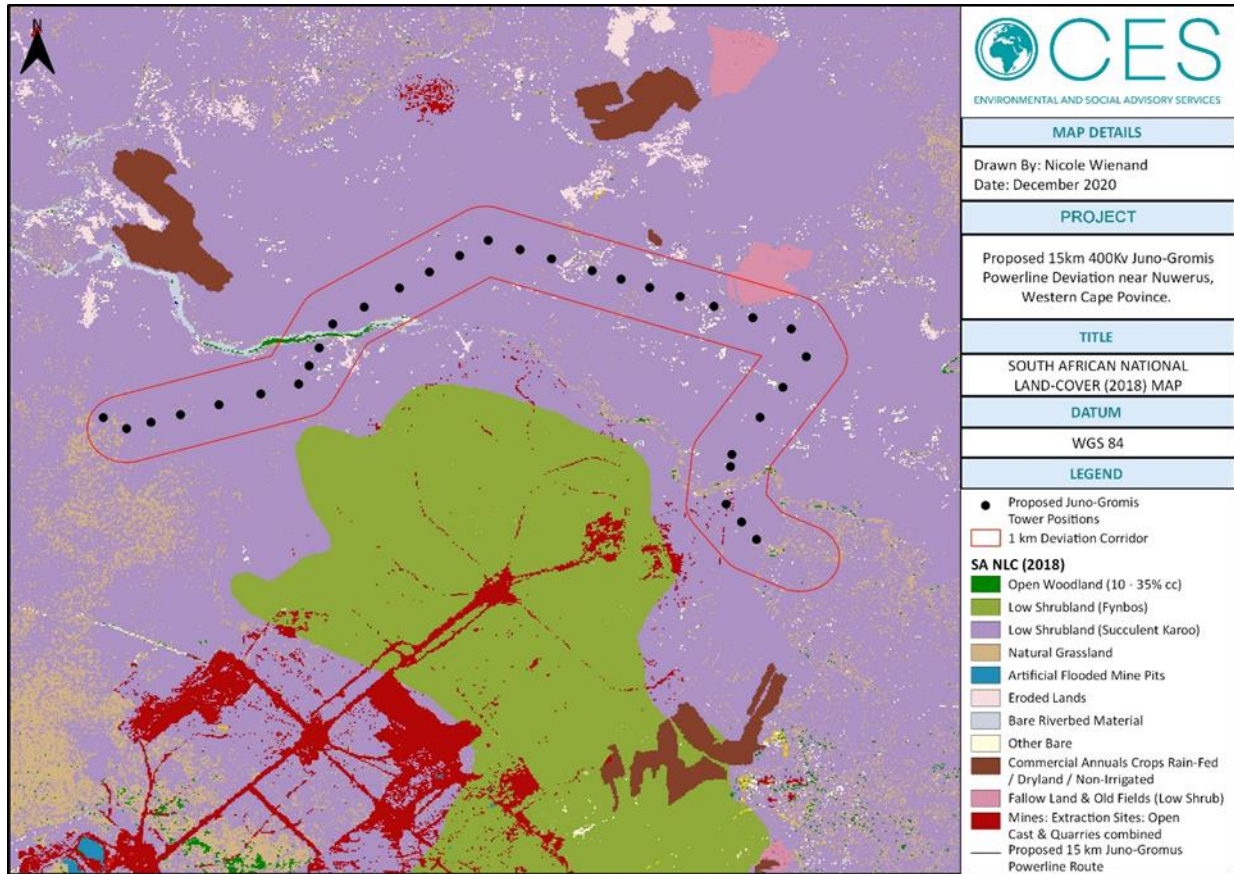


Figure 7-6: Landcover of the project area and surrounds.

## 7.6 VEGETATION AND FLORISTICS

The following National and Provincial Plans are used to describe vegetation floristics that may potentially occur within the development footprint:

- SANBI classification (Mucina and Rutherford, 2018); and
- DAFF Forestry classification.

### 7.6.1 SANBI Classification (Mucina et al., 2018)

As per SANBI's National Vegetation Map (2018), seven vegetation types are expected to occur at the proposed site (Figure 7-7):

#### **Namaqualand Inland Duneveld – Least Threatened**

This vegetation type occurs in the Northern Cape Province at two patches; one is between Kotzesrus north to Groen River and the second one is located between Wallekraal and Hondeklipbaai. This vegetation unit occurs on the coastal peneplain with mobile dunes comprised of quaternary aeolian, deep, loose, red to yellowish sand. The vegetation is dominated by non-succulent shrubs belonging to the genera *Berkheya*, *Eriocephalus*, *Euclea*, *Lycium*, *Searsia*, *Tetragonia*, *Tripteris* and *Roepera* interspersed with grasses such as *Ehrharta* and *restioids* such as *Willdenowia*.

This vegetation is listed as Least Threatened with a conservation target of 26%. Currently, none of this vegetation is statutorily conserved although there is no evidence of transformation.

### **Namaqualand Heuweltjieveld**

Namaqualand Heuweltjieveld occurs in the Northern Cape along the western foothills of the Namaqualand Escarpment. It is characterised by undulating plains that lead up the escarpment, and soils are typically relatively rich and derived from underlying granite or gneiss. The vegetation cover comprises a mosaic of low shrubland communities dominated by leaf-succulent shrubs that occur on slightly raised, rounded termite mounds or “heuweltjies”; ascribed to former activity of harvester termites (*Microhodotermes viator*). It is classified as Least Threatened on a national basis (DEA 2011), with a conservation target of 28% of its original extent. Approximately 11% has been statutorily conserved (mostly in the Namaqua National Park) and 3-4% has been transformed by cultivation (Rouget *et al.* 2004). Given that this vegetation type has moderate to low levels of species of conservation concern, it is considered to be of relatively low sensitivity (Todd, 2014).

According to the national vegetation map, a small portion of this vegetation occurs along the south eastern portion of the proposed powerline. However, it was not recorded during the field survey due to access issues described above.

### **Namaqualand Strandveld**

Namaqualand Strandveld occurs within the Western and Northern Cape Provinces from Gemsboksvlei as far south as Donkins Bay. It occurs on the coastal peneplain and can penetrate deeply inland (up to 40km), particularly in the northern region of its extent and is typically separated from the coast by the Namaqualand Coastal Duneveld. This vegetation type is characterised by low growing shrubland, rich in species and dominated by erect and creeping succulent shrubs such as *Cephalophyllum*, *Didelta*, *Othonna*, *Ruschia*, *Tetragona* and *Roepera* as well as non-succulent shrubs such as *Eriocephalus*, *Lebeckia*, *Pteronia* and *Salvia*. It has a rich component of annual flora that flowers during the late winter/early spring.

The threat status for this vegetation type is not provided by Mucina and Rutherford (2006) although it is noted that this vegetation is threatened by coastal mining for heavy metals. The conservation target for this species is 26% and none of this vegetation is currently statutorily conserved. Ten percent has been transformed.

According to the map (Figure 7-7), this vegetation type occurs throughout the site.

### **Namaqualand Sand Fynbos**

Namaqualand Sand Fynbos occurs within the coastal plain in the Western and Northern Cape Provinces at altitudes between 60-300m above sea level. This vegetation type occurs on aeolian, deep, loose, red sand overlying marine sediments and is characterised by scattered shrubs such as *Leucospermum praemorsum*, *Leucospermum rodolentum*, *Wiborgia obcordate* and *Gymnosporia buxifolia* that are 1-1.5m tall but dominated by *Restionaceae* in between. Restioid and asteraceous fynbos are dominant with localised pockets of proteoid fynbos. This vegetation type is listed as Least Threatened. The conservation target for this vegetation type is 29% but presently only 1-2% has been statutorily conserved within the Namaqualand National Park.

Although listed as least threatened, this vegetation type is considered to be sensitive due to its limited and restricted extent, relatively high abundance of species of conservation concern and threats from mining operations in the area.

Although the National Vegetation map indicates that there are two patches of Sand Fynbos that occur within the centre of the proposed deviation, this vegetation type was not noted to occur on site.

### **Southern Namaqualand Quartzite Klipkloppe Shrubland**

This vegetation type occurs in the Western Cape Province and is associated with quartzite hills between the Knersvlakte and southern Kamiesberg foothills around the towns of Nuwerus and Bitterfontein. This vegetation type is dominated by asteraceous and leaf succulent shrubs with a similar structure to the Namaqualand Klipkloppe shrubland. The major difference between this vegetation type and the Namaqualand Klipkloppe shrubland are the number of endemic species associated with this vegetation type that do not occur within the regular Klipkop Shrubland. This vegetation type falls within the Nuwerus Centre of plant endemism. The conservation target for this vegetation type is 28%.

### **Namaqualand Riviere**

Namaqualand Riviere occurs along dry riverbeds throughout Namaqualand in the Western and Northern Cape Provinces. It is characterised by the presence of alluvial shrubland that includes species such as *Suaeda fruticosa*, *Roepera morgsana*, *Ballota africana* and *Didelta spinosa* and patches of tussock graminoids along riverbanks and banks of intermittent rivers. This vegetation type is listed as Least Threatened with a conservation target of 24%. Only a small portion is statutorily protected in nature reserves and almost 20% has been transformed for cultivation.

According to the national vegetation map, this vegetation type occurs along the river that the proposed powerline will cross.

### **Knersvlakte Quartz Vygieveld**

Knersvlakte Quartz Vygieveld occurs in the Western Cape Province from Bitterfontein to just south of Klaver. This vegetation type is characterised by slightly undulating landscapes with prominent but patchy layers of quartzite. The vegetation is typically dwarf succulent shrublands with a number of compact and subterranean vygies. This vegetation type is listed as Least Threatened with a conservation target of 28%. Approximately 5% is statutorily conserved Moedverloren Nature Reserve.

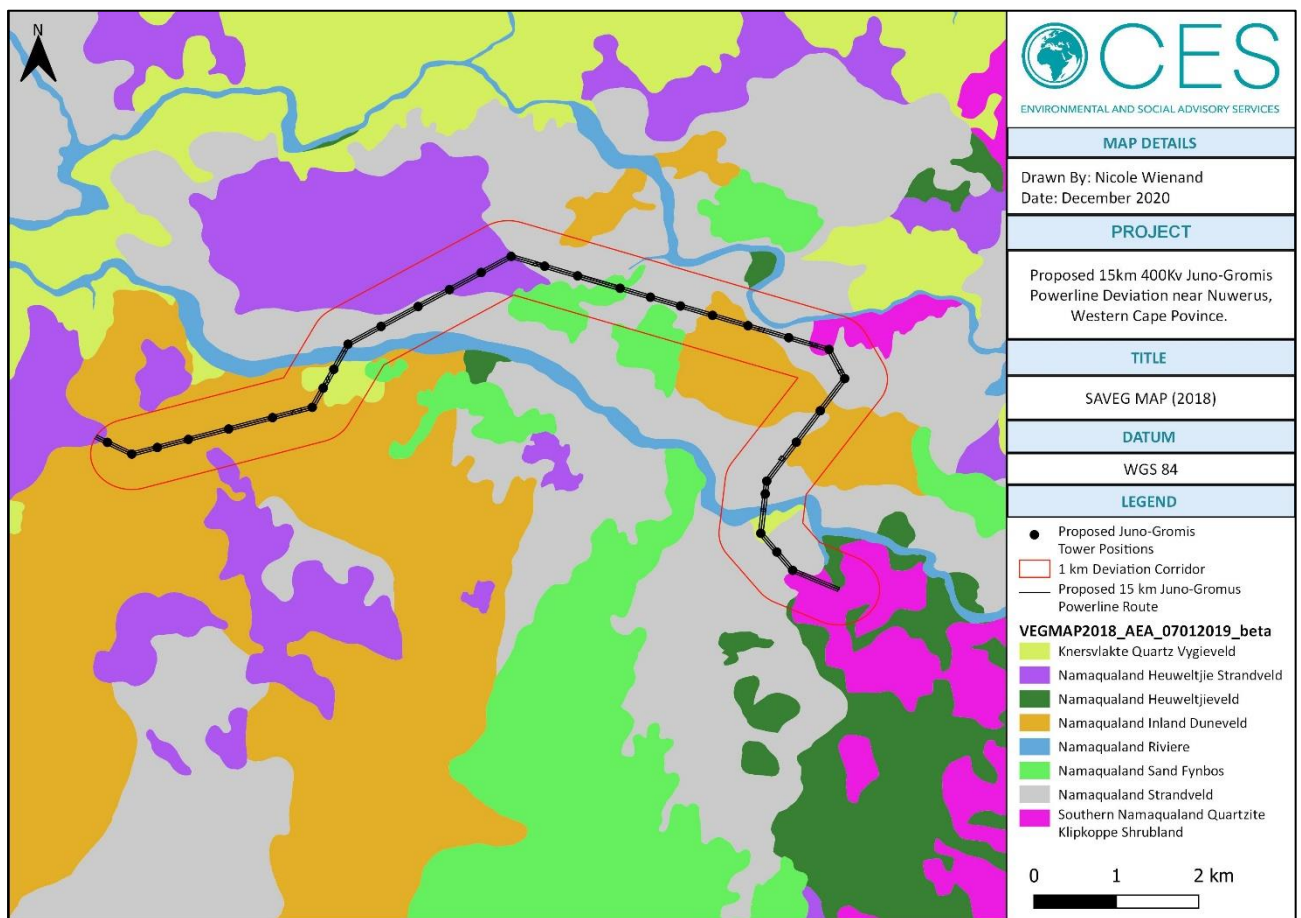


Figure 7-7: SANBI (2018) vegetation types within and surrounding the project area.

### 7.6.2 Vegetation types recorded on site

While National level vegetation maps have described broad vegetation types, local conditions and micro-habitats (rainfall, soil structure, rocky outcrops, etc.) can result in variations in plant composition. According to the Terrestrial Biodiversity (Ecological) assessment undertaken for the proposed powerline, the dominant vegetation type north of the river is Namaqualand Strandveld.

This vegetation type was characterised by a shrub layer of 1-1.5m in height with a cover of 40-50% and was associated with the red sand dunes that are dominant in this area (Figure 7-8). Dominant species included *Eriosephalus racemosa*, *Roepera morgsana*, *Asparagus capensis* and *Othonna cylindrica*. The understory was dominated by grass species such as *Aristida* and *Ehrhata* and low growing succulents (*Conicosia pugioniformis*, *Cleretum bruynsii*, *Tylecodon wallichii*). Due to the timing of the survey flowering annuals and geophytes could not be identified. However, it is these species that would be dominant during the late winter/ early spring period. Figure 7-11 illustrates the distribution of the vegetation.

In addition to the Strandveld, there were small, scattered rocky outcrops that appear to be representative of Southern Namaqualand Quartzite Klipkloppe Shrubland along the north-eastern portion of the powerline route (Figure 7-9). These areas are characterised by exposed rocks and red, shallow soils. Shrub species such as *Pteronia* and *Searsia* occur on the edge while the rocky areas are dominated by succulents such as *Quaqua mammillaris*, *Euphorbia*, *Tylecodon cf. wallichii*, *Didelta spinosa* and *Antimimma sp.* These areas must be avoided.

The riverbed was dominated by reeds with shrub species such as *Roepera margsana* and *Didelta spinosa* occurring along the banks (Figure 7-10).

Due to time constraints as a result of the mine not granting the specialists timeous access, the portion of powerline to the south east and south west of the river could not be sampled. The precautionary principal has been applied and the vegetation types identified by the SANBI National Vegetation Map used to describe the areas where access was not feasible. As such the vegetation type south west of the river is Namaqualand Inland Duneveld with a small patch of Knersvlakte Quartz Vygieland. South east of the river is also a small patch of Knersvlakte Quartz Vygieland and Southern Namaqualand Quartzite Klipkoppe Shrubland.



**Figure 7-8: Namaqualand Strandveld found to occur on red sand dunes and dominated by *Eriocephalus racemosa*, *Roepera margsana*, *Asparagus capensis* and *Othonna cylindrica***

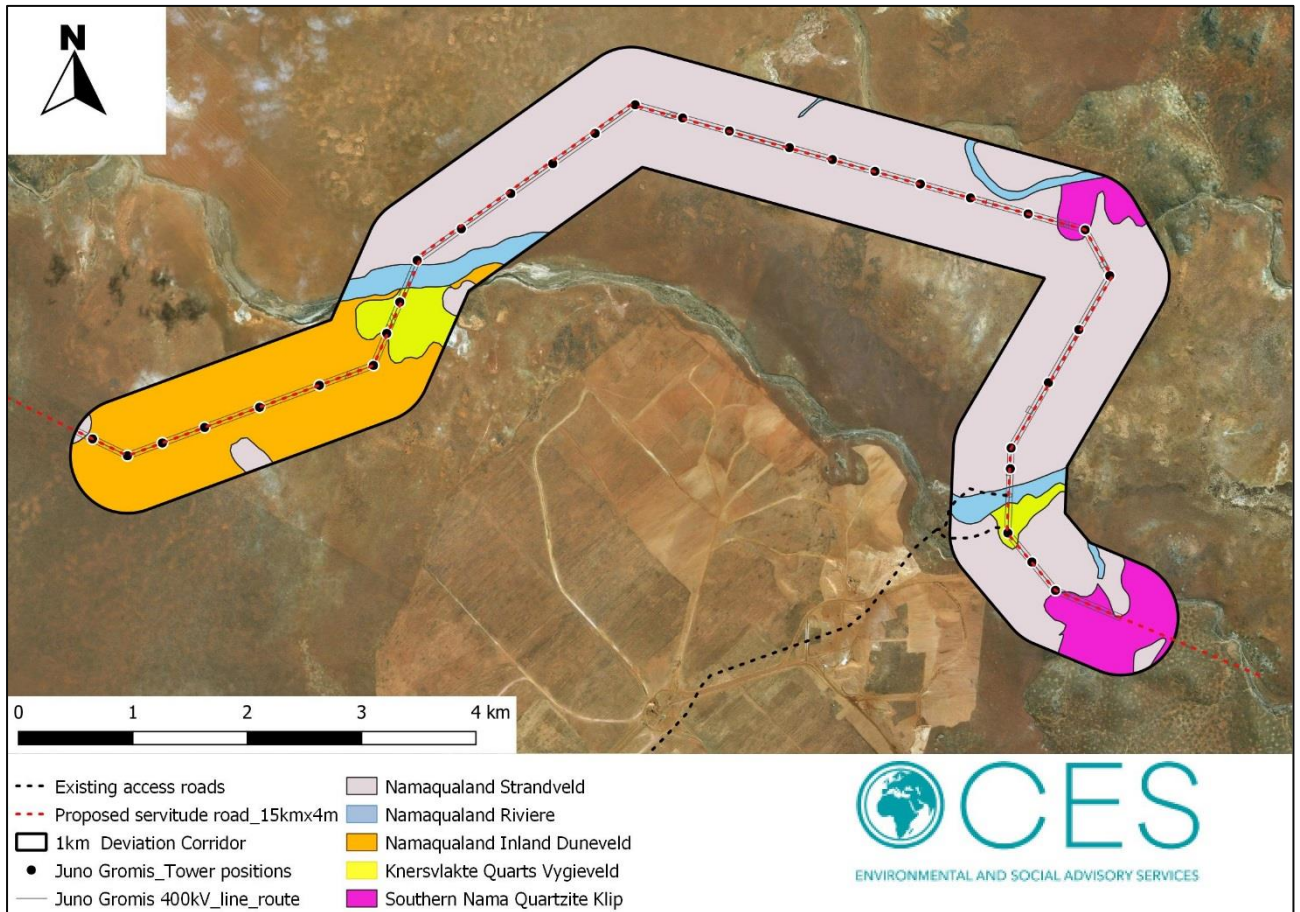




**Figure 7-9: Rocky outcrop representing Southern Namaqualand Quartzite Klipkloppe Shrubland along the north eastern section of the powerline. These areas must be avoided.**



**Figure 7-10: Namaqualand Riviera vegetation. The riverbed was dominated by reeds.**



**Figure 7-11: Vegetation map of the proposed project site based on data collected from the field survey.**

### 7.6.3 Species of Conservation Concern

Twenty-eight species of conservation concern (SCC) were recorded for the site. Seven of these were confirmed. These seven species are listed as Least Concern on the South African Red Data List but are listed as schedule 4 on the Western Cape Provincial Nature Conservation Ordinance Act and as such have fallen into the category of SCC.

Further to the above, twenty-one additional SCC were identified as possibly occurring on site. This species list is a combination of records obtained from the Plants of Southern Africa (POSA) website and from the DEA screening report. The likelihood of each species occurring within the site is assessed in Table 7.7 and the text below.

**Table 7-1: List of species listed as schedule 4 on the Western Cape PNCO list.**

Family	Scientific Name	Species of special concern	IUCN Status	Probability of occurrence on site	Comment	
AMARYLLIDACEAE	<i>Boophone haemanthoides</i>	Least Concern, Schedule 4 (PNCO)	Not Evaluated	Confirmed	Occurs in the Northern and Western Cape. Stable population occurring in the Northern and Western Cape (Snijman and Victor, 2004).	
APOCYNACEAE	<i>Quaqua mammillaris</i>	Least Concern, Schedule 4 (PNCO)	Not Evaluated	Confirmed	Occurs in the Northern and Western Cape. Stable population occurring in the Northern and Western Cape (Victor, 2005).	
AIZOACEAE	<i>Conicosia pugioniformis</i>	Least Concern, Schedule 4 (PNCO)	Not Evaluated	Confirmed	Stable population	
	<i>Lampranthus stipulaceus</i>		Not Evaluated	Confirmed	Automated status of Least Concern assigned to this species (Foden and Potter, 2005a).	
	<i>Mesembryanthemum crystallinum</i>		Not Evaluated	Confirmed	Widespread species throughout the Western, Eastern and Northern Cape (Burgoyne, 2006).	
	<i>Ruschia sp.</i>		Not Evaluated	Confirmed		
	<i>Tetragonia fruticosa</i>		Least Concern/Schedule 4 (PNCO)	Not Evaluated	Confirmed	Automated status of Least Concern assigned to this species. Occurs within the Eastern Cape, Northern Cape and Western Cape (Foden and Potter, 2005b)
	<i>Psilocaloun junceum</i>			Not Evaluated	High	Stable population. Occurs in the Eastern Cape, Western Cape and Northern Cape (Burgoyne, 2006).
	<i>Prenia pallens</i>			Not Evaluated	High	Stable population. South African endemic occurring in the Western Cape (Burgoyne, 2006).
	<i>Ruschia floribunda</i>		DDT/Schedule 4 (PNCO)	Not Evaluated	High	Restricted range (Raimonod and Cholo, 2008).
	<i>Ruschia subpaniculata</i>		Least Concern/Schedule 4 (PNCO)	Not Evaluated	High	Assigned automated status of LC (Foden and Potter, 2005).
	<i>Ruschia bipapillata</i>		Vulnerable/Schedule 4 (PNCO)	Not Evaluated	Medium	Range restricted species that occurs between Koekenaap and Klawer with an EOO of 2781km <sup>2</sup> and known from fewer than 10 locations (von Staden, 2016).
	<i>Drosanthemum salicola</i>		Least Concern/Schedule 4 (PNCO)	Not Evaluated	High	Widespread and common along the west coast of South Africa but declining due to habitat loss (von Staden, 2020).
	<i>Antimima komkansica</i>		Vulnerable/Schedule 4 (PNCO)	Not Evaluated	High	Endemic, localised species with an EOO of 17km <sup>2</sup> recorded at three locations between Brand-se-Baai and Komkans (von Staden, 2015).
ASTERACEAE	<i>Helichrysum dunense</i>	Vulnerable	Not Evaluated	Low	Five known populations of this species occur along the coast of the	

Family	Scientific Name	Species of special concern	IUCN Status	Probability of occurrence on site	Comment
					Western Cape Province and Northern Cape Province, It has an EOO of 1500km <sup>2</sup> (Helme and Raimondo, 2006).
	<i>Leucoptera nodosa</i>	Vulnerable	Not Evaluated	High	This species occurs from lamberts Bay to Kleinsee and has an EOO of 2854 km <sup>2</sup> . It is threatened by habitat loss as a result of mining, infrastructure developments and overgrazing (Helme and von Satden, 2013).
FABACEAE	<i>Aspalathus obtusata</i>	Vulnerable	Vulnerable	High	This species is associated with Rocky Quartz ridges and has a small EOO of 11 265 km <sup>2</sup> with small, isolated populations occurring in the Northern Cape and Western Cape Provinces and which are severely fragmented (Helme and von Staden, 2013).
	<i>Otholobium incanum</i>	Endangered	Not Evaluated	High	This species has a very small EOO of 565km <sup>2</sup> between the Groot Goerap River to Doringbaai and is only known from three locations. It is thus a rare and localised species (Helme <i>et. al.</i> , 2012).
IRIDACEAE	<i>Babiana brachystachys</i>	Least Concern, Schedule 4 (PNCO)	Not Evaluated	High	Found between Lambert's Bay and Hondeklipbaai, this species is threatened by habitat loss from heavy mineral mining (Goldblatt and Victor, 2016).
POLYGALACEAE	<i>Muraltia obovata</i>	Vulnerable	Not Evaluated	Medium	This species occurs between Brandse-Baai and Saldanha and is characterised by small subpopulations of less than 50 individuals and is associated with sandy flats. This species is threatened by habitat loss as a consequence of agricultural expansion and mining (Helme <i>et.al.</i> , 2013).
PROTEACEAE	<i>Leucospermum praemorsum</i>	Vulnerable	Near Threatened	Low	This species occurs from Namaqualand to the Cedarberg Mountains and outside of the Fynbos biome, occurs on linear dune systems. It is threatened by habitat loss due to agriculture, overgrazing and too infrequent fires (Rebello <i>et. al.</i> , 2005).
	<i>Leucospermum rodolentum</i>	Vulnerable	Near Threatened	Low	This species occurs along the west coast of South Africa from Namaqualand down to the Cape

Family	Scientific Name	Species of special concern	IUCN Status	Probability of occurrence on site	Comment
					Peninsula and is associated with Sand Fynbos (Rebelo <i>et. al.</i> , 2005).
SCROPHULARIACE AE	<i>Manuela cinerea</i>	Vulnerable	Not Evaluated	Low	Known from less than 10 locations with an EOO of less than 600km <sup>2</sup> . Threatened by habitat loss from heavy mineral mining sand and diamond mining (Helme and Raimondo, 2005).
	<i>Sensitive Species 703</i>	Vulnerable	Not Yet Evaluated	Low	This species is associated with quartzitic outcrops within the Knersvlakte Quartz Vygieveld, Southern Namaqualand Quartzite Klipkoppe Shrubland and the Namaqualand Sand Fynbos. It has a small EOO of 11000 km <sup>2</sup> , only occurs at 5-10 locations and is declining due to mining activities in the area.
	<i>Sensitive species 91</i>	Critically Endangered	Not Yet Evaluated	Medium	This species is extremely range restricted with a small EOO of 254km <sup>2</sup> occurring west of Koekenaap (von Staden and Helme, 2015).
	Sensitive Species 276	Near Threatened/ Schedule 4 (PNCO)	Not Evaluated	Medium	Range restricted species with an EOO of 4027km <sup>2</sup> and an Area of Occupancy of 100km <sup>2</sup> . This species occurs in the Western Cape and Northern Cape and occurs in the Knersvlakte and southern Namaqualand coast around Kotzesrus and Lutzville. (Klak <i>et. al.</i> , 2018.).
	Sensitive Species 345	Vulnerable	Not Evaluated	High	This species occurs in the Northern and Western Cape between Veldrif and Wallekraal. It has an EOO of 12 000km <sup>2</sup>
	Sensitive Species 754	Endangered	Not Evaluated	Low	This species is found within Cape Seashore and Namaqualand Seashore vegetation and is associated with rock outcrops close to the seashore.

*Antimima komkansica (Vulnerable)*

This is a localised species with a small Extent of Occurrence (EOO) of 17km<sup>2</sup> occurring along the west coast in the north of the Western Cape Province. This species is associated with Namaqualand Strandveld and Namaqualand Heuweltjieveld, both of which occur within the assessed area. It is therefore **Highly** likely that this species is present.

*Sensitive Species 276 (Near Threatened)*

This species has an EOO of 4027km<sup>2</sup> and an Area of Occupancy (AOO) of 100km<sup>2</sup>. It is associated with Namaqualand Riviere, Knersvlakte Quartz Vygieveld and Southern Namaqualand Quartzite Klipkloppe Shrubland. It is described as being associated with saline soils characterised by a cover of quartz pebbles. There was a small patch of Southern Namaqualand Quartzite Klipkloppe Shrubland in the north eastern corner showing quartzite present on the surface. It is therefore possible that this species is present within this area and the likelihood of occurrence has been rated as **Medium**.

*Babiana brachystachys (Least Concern)*

Although listed as Least Concern, this species is threatened by heavy mineral sand mining and it is believed that two historical subpopulations from the Namaqua Sands operation are likely to be extinct. Since the powerline is located directly adjacent to this mine site, this species has been highlighted as a species of conservation concern despite its red list status of Least Concern.

This species is associated with Sandveld and Strandveld and given that the site visit confirmed that a large majority of the powerline is in Strandveld, there is a **High** probability of this species occurring on site. Given the survey was done in early summer, this species probably went undetected as it would not have been flowering at the time of the field survey.

*Manulea cinerea (Vulnerable)*

*Munulea cinerea* occurs in the Northern Cape and Western Cape Provinces from Lamberts Bay to the Orange River and has a small EOO of 600km<sup>2</sup>. Less than 10 locations for this species are known (Helme and Raimondo, 2005).

This species is associated with coastal dunes occurring up to 500m inland in vegetation types such as Namaqualand Inland Duneveld, Namaqualand Coastal Duneveld, Namaqualand Strandveld and Richtersveld Coastal Duneveld. Given that this species typically occurs within a 500m belt from the coast, the likelihood of it occurring in the project site is **Low**. The project site is located 10km inland.

*Ruschia floribunda (DDT)*

This species is listed as Data Deficient on the South African Red List. It is listed as a South African endemic occurring in the Western Cape. The distribution map indicates that it occurs along the west coast in the north of the province. With so little information available on its distribution and habitat preferences, and because there are historical records of collection of this species from the area, the precautionary approach is used and it is assumed that the likelihood of it occurring on site is relatively **High**.

*Ruschia bipapillata (Vulnerable)*

This species is range restricted and known from fewer than 10 locations within the north western portion of the Western Cape Province. It prefers deep, sandy soils and is associated with Namaqualand Strandveld and Namaqualand Heuweltjie Strandveld which were identified to occur on site (von Staden, 2016). It is probable that this species may occur on site given that the habitat requirements are present. However, occurrence data on the GBIF website indicates these populations are found closer to Lutzville and information on the plant profile on the South African Red Data List indicates it occurs near Koekenaap and the Gifberg Mountains which are south of the site. As such, the likelihood of this species occurring on site is **Medium**.

*Helichrysum dunense (Vulnerable)*

*Helichrysum dunense* has an EOO of 1500km<sup>2</sup> and occurs along the west coast of the Western Cape and Northern Cape and is associated with coastal calcareous dunes (Helme and Raimondo, 2006). The major habitats this species is associated with (Namaqualand Coastal Duneveld, Richtersveld Coastal Duneveld, Langebaan Dune Strandveld, Saldanha Flats Strandveld, Lambert's Bay Strandveld, Alexander Bay Coastal Duneveld, Cape Seashore Vegetation, Namaqualand Seashore Vegetation, Lower Gariep Alluvial Vegetation) were not found within the project area and as such the likelihood of this species occurring on site is **Low**.

*Leucoptera nodosa (Vulnerable)*

*Leucoptera nodosa* is found along the west coast of South Africa in the Western Cape and Northern Cape Province between Lamberts Bay and Kleinsee and is associated with Coastal dune Strandveld including Namaqualand Strandveld and Namaqualand Heuweltjie Strandveld (Helme and von Satden, 2013). It is known from less than 10 locations and is described as a rare and localised species that occurs in isolated subpopulations scattered throughout its EOO. This species is currently threatened by habitat loss as a consequence of mining, overgrazing and infrastructure development. Based on collection records for this species (GBIF, 2021) the likelihood of it occurring on site is **High**.

*Aspalathus obtusata (Vulnerable)*

*Aspalathus obtusata* is found in small, fragmented populations in Namaqualand, north of Koingnaas to the Matsikamma Mountain and Lamberts Bay occurring in both the Western and Northern Cape Provinces. It has an EOO of 11 265 km<sup>2</sup> and is threatened by habitat loss due to mining and habitat degradation. This species is associated with rocky quartz ridges found in Namaqualand Strandveld, Namaqualand Heuweltjie Strandveld and Knersvlakte Quartz Vygiveld (vegetation types recorded on site). Although not recorded on site, there are records of this species on the GBIF website indicating that this species has been collected from the area near the mine site. The likelihood of this species occurring on site is therefore **High**.

*Otholobium incanum (Endangered)*

This species is a rare and localised species with a small EOO of 565 km<sup>2</sup> and is only known from three locations between the Groot Goerap River (which the powerline crosses) and Dorinbaai (Helme et. al. 2012). This species is found in Namaqualand Inland Duneveld, Namaqualand Strandveld and Knersvlakte Quartz Vygiveld on calcareous soils. There is a small patch of this soil that the western portion of the powerline crosses. It is located south of the river. It is likely that this species may occur on site, but the pylons can be located to avoid these areas.

*Muraltia obovata (Vulnerable)*

*Muraltia obovata* occurs in the Western and Northern Cape Provinces with a distribution that stretches from Brand-se-Baai to Saldanha (Helme et. al., 2013). It characterised by small subpopulations of less than 50 individuals and the total population is estimated to be less than 5000 species. Habitat loss as a result of agricultural expansion and open cast mining poses a threat to this species. There is a record on iNaturalist (<https://www.inaturalist.org/observations/11070149>) indicating that this species has been found at the Namakwa Sands mine site directly adjacent to the project area. As such, it is highly likely that this species may occur within the sandy flats surrounding the project site but since the project site itself is located on ridges and hills, the likelihood of its occurrence is **Medium**.

*Lecospermum praemosum (Vulnerable)*

Although this species occurs from Namaqualand to the Cedarberg Mountains, there are no records on either iNaturalist or GBIF website indicating records of this species in the vicinity of the project site.

Additionally, no protea species were recorded during the field survey. As such the likelihood of this species occurring on site is **Low**.

*Lecospermum rodolentum (Vulnerable)*

This species occurs from Namaqualand down to the Cape Peninsula and is associated with Sand Fynbos on the west coast lowlands (Rebelo et. al., 2005). The closest occurrence record for this species in relation to the site is 16km south. No evidence of fynbos was recorded on site nor were any proteoid species observed. The likelihood of this species being present on site is therefore **Low**.

*Sensitive Species 703*

Since this species is associated with fynbos, which was not recorded at the site, and given that the closest record of occurrence to the site in north east of Nuwerus (approximately 50km away) the likelihood of this species occurring at the site is **Low**.

*Sensitive species 91*

This species occurs in coastal sands and is known from a limited area between Brand-se-Baai and Olifants River. This species is known from two collection localities, one of which is located at the existing open cast mine near Brand-se-Baai (von Staden and Helme, 2015). This species occurs in Namaqualand Sand Fynbos, and although no fynbos vegetation types at the site were observed, given that the one known population was at the mine site, there is a **medium** likelihood that it will occur on site.

*Sensitive Species 345*

This species has an EOO of 12 000km<sup>2</sup> and occurs in West Coast Strandveld and Succulent Karoo Shrubland. It is associated with white and red Aeolian soils and occurs under karroid bushes. The species is known from five locations although more undiscovered populations are likely. This species has been recorded adjacent to the Namakwa Sands mine site and as such is **highly** likely to occur within the project site.

*Sensitive Species 754*

This species is associated with Cape Seashore vegetation and is found on rock outcrops close to the seashore. Based on its habitat preference it is very **unlikely** to occur within the project site.

Of the twenty-one additional species identified from the POSA website and the DEFF national screening report, and based on habitat preference and available collection records, thirteen species have a high significance of occurring on site, two have a medium likelihood and six have a low likelihood of occurrence on site.

#### 7.6.4 Alien Invasive Species Present on site

The site is typically intact and because it has been protected from grazing has a high species diversity. No alien invasive plant species were present within the site.



### 7.6.5 Forest Classification (NFA)

No natural forest, or forest patches, will be impacted by the proposed development.

## 7.7 FAUNA

The following sub-sections reference the Terrestrial Biodiversity (Ecological) Impact Assessment (Appendix C) undertaken as part of the Basic Assessment Process.

### 7.7.1 Amphibians


Of the 60 species of amphibians known to occur in the Western Cape ten (10) have a distribution which coincides with the project area (Appendix 2 of the Terrestrial Biodiversity (Ecological) Impact Assessment) (Turner & de Villiers, 2017; Du Preez & Carruthers, 2017; IUCN, 2020).

Of these two species have been recorded within the same Quarter Degree Square (QDS) of the project area, namely the Cape River Frog (*Amietia fuscigula*) and Karoo Toad (*Vandijkophrynus garipeensis garipeensis*) and six within the same municipality as the project area, the Namaqua Rain Frog (*Breviceps namaquensis*), Raucous Toad (*Sclerophrys capensis*), Cape Sand Frog (*Tomopterna delalandii*), Cape Sand Toad (*Vandijkophrynus angusticeps*) and African Clawed Frog (*Xenopus laevis*). No amphibians were recorded during the field survey, given that the survey was conducted outside of the breeding season this is not unusual. Six of these amphibian species require permanent water for their breeding cycle. Given that these rivers are ephemeral, it is unlikely these species will occur if they do it will be along the water course. These include *A. delalandii*, *A. fuscigula*, *A. poyntoni*, *S. capensis*, *S. grayii* and *X. laevis*. Whereas although *T. delalandii*, *V. angusticeps* and *V. g. garipeensis* require water they can breed in temporary depressions which may form throughout the project area.

The WC supports 15 known threatened and near-threatened amphibian species (Turner & de Villiers, 2017, Minter et al., 2004). No threatened or near-threatened species have a distribution which includes the project area.

In total, 36 amphibian species are endemic to the Western Cape Province (Turner & de Villiers, 2017) and none of these have a distribution which includes the project area. However, one SA endemic is range restricted and has a distribution which includes the project area (*B. namaquensis*). It is highly likely it will occur in the project area (Table 7-2). Although range restricted, they are not exclusively dependent on the project area, therefore, the loss of the developable area will unlikely impact on the viability of the population.

**Table 7-2: Range restricted amphibian in relation to the project area (black star) (IUCN, 2020).**

Species	Threat Status	Habitat	Distribution
<p>Namaqua Rain Frog</p> <p><i>(Breviceps namaquensis)</i></p>	<p>LC</p>	<p><i>It is a fossorial species that lives in scrub-covered sandy areas in the Succulent Karoo biome.</i></p> <p><i>It breeds by direct development and is not associated with water.</i></p> <p>(IUCN SSC ASG, 2013)</p>	

### 7.7.2 Reptiles

Of the 153 reptile species that occur in the WC, 59 species have a distribution that coincides with the project area (Appendix 3 of the Terrestrial Biodiversity (Ecological) Impact Assessment) (IUCN, 2020; Branch, 1998; Bates et al. 2014; Turner & de Villiers, 2017).

Approximately 21 of these species have been recorded in the Matzikama Municipality, 8 Lizard species, 11 snake species and two tortoise species (iNaturalist, 2020). Approximately 14 reptile species have been recorded within the same QDS as the project area, 10 lizards, one snake and three tortoises (ADU, 2020). During the field survey several Angulate Tortoise (*Chersina angulate*) shells were found across the project area and Lizard's observed onsite include the Giant Desert Lizard (*Meroles ctenodactylus*) and Knox's Desert Lizard (*Meroles knoxii*).

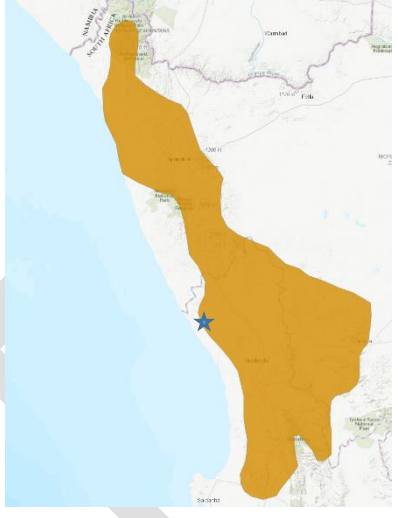


#### **Reptiles Species of Conservation Concern**

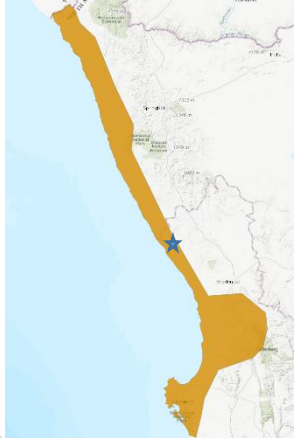
The WC Province supports 20 threatened or near threatened reptile species and 22 endemic reptile species (Bates et al., 2014; Turner & Villiers, 2017). The project area intersects the distribution of Sensitive Species 4 which is listed as Endangered and the Tent tortoise (*Psammobates tentorius*) listed as near-threatened. No WC Province endemics have a distribution which includes the project area. However, four SA endemics have a distribution which includes the project area (**Error! Reference source not found.**).

Sensitive species 4 may occur in the rockyout crop in the north east of the project area. *M. ctenodactylus* was confirmed onsite. Habitat is available for *S. sexlineatus* within the project area. *Ruschia* plant occur in the project area and thus habitat is available for *A. litoralis*.

Although range restricted these species are not endemic to the project area and not exclusively dependent on it, therefore, the loss of the developable area will not impact on the viability of the population.

**Table 7-3: Threatened and Range Restricted species with a distribution that includes the project area.**

Species	Threat Status	Habitat	Distribution
Sensitive Species 4	EN	Occurs in Namaqualand succulent blomveld, heuweltjieveld, fynbos and strandveld shrub vegetation. It prefers rocky terrain, such as Namaqualand and Hardeveld granite koppies in the northern portion of its distribution and Sandveld and Cederberg sandstone koppies and rocky ridges in the south. Species 4 home range is 0.35 ha and only moves 30-50m a day. Although endangered it is considered well protected in South Africa. (Hofmeyr, et al., 2018)	
Giant Desert Lizard ( <i>Meroles ctenodactylus</i> )	LC	Inhabits sparsely vegetated areas with loose sand (Branch 1998). Recorded from well-vegetated dune slacks and dune hummocks as well as sandy flats (Branch 2013). Individuals forage during the day on the sand surface and shelter under the sand. (Tolley, et al., 2020)	
Coastal Legless Skink ( <i>Acontias litoralis</i> )	LC	Fossorial species found in sparsely vegetated coastal dunes in sandy soils. Common at the base of <i>Ruschia crassisejala</i> under leaf litter. (Bauer & Conradie, 2018)	

Species	Threat Status	Habitat	Distribution
Striped Dwarf Burrowing Skink ( <i>Scelotes sexlineatus</i> )	LC	Inhabits sandy soils in Succulent Karoo and fynbos at elevations of 0-500.  (Bauer, et al., 2018)	

### 7.7.3 Mammals

The WC is home to 172 mammal species, 68 of which have a distribution which includes the Project Area (Birss, 2017; Child et al., 2016, IUCN, 2020) (Appendix 4 of the Terrestrial Biodiversity (Ecological) Impact Assessment). Approximately 25 mammal species have been recorded within a 30km radius of the project area (MammalMAP, 2020; iNaturalist, 2020).

The mammals observed onsite during the field survey were predominantly domestic livestock, namely sheep. Indigenous mammals observed include three Bat-eared Fox, two Cape Gysbok, one Four-striped Grass Rat, Springbok, and evidences of Aardvark (spoor, burrow and feeding sites).

#### **Mammal Species of Conservation Concern**

The Western Cape has 24 threatened mammal species and 13 near threatened species (Birss, 2017). Four (4) vulnerable species and three (3) Near-Threatened species have a distribution which includes the project area (**Error! Reference source not found.**).

**Table 7-4: Threatened Mammal Species with a distribution that includes the project area**

Name	Threat Status	Habitat	Likelihood of occurrence
Grant's Golden Mole ( <i>Eremitalpa granti granti</i> )	VU	Strandveld, Succulent Karoo and Namib Desert.  Soft sands with clumps of the dune grass ( <i>Aristida sabulicola</i> ), Ostrich Grass ( <i>Cladoraphis spinosa</i> ) and Long Bushman Grass ( <i>Stipagrostis ciliata</i> ).  Specializes on termites, but also consumes other invertebrates and small vertebrates.  (Maree, 2015)	Possible  The project area is predominantly shrubland interspersed with grass but may be more grass dominant in the wet season
Black Foot Cat ( <i>Felis nigripes</i> )	VU	Karoo semi-desert with sparse shrub and tree cover. Predominantly ground-dwellers and during the day use dens in termite mounds or made by other animals  (Sliwa, et al., 2016)	Possible  The heuweltjieveld hosts an abundance of termitaria. It has been recorded in the NW of WC (pre-2000).
White-tailed Rat ( <i>Mystromys albicaudatus</i> )	VU	Very little is known about this rare species in the wild and more research is required into their habitat requirements and ecology.  They exhibit a preference for Dune Thicket on sloped clay soils and are often associated with calcrete soils within grasslands. In addition, they are never found on soft, sandy substrate, rocks, wetlands or riverbanks. (Avenant, et al. 2019).	Unlikely even though it has been recorded in the NW of WC (pre-2000) the majority of the project area is covered in soft sand.
Leopard ( <i>Panthera pardus</i> )	VU	Wide habitat tolerance and highly varied diet. Habitats include woodland, grassland savannah and mountain habitats but also occur widely in coastal scrub, shrubland and semidesert. (Swanepoel, et al. 2016)	Unlikely.  No records exist for the most NW corner of the WC. Generally restricted to the Cederberg and other rocky mountain ranges in the WC.
African Clawless Otter ( <i>Aonyx capensis</i> )	NT (CITES II)	African Clawless Otters are predominantly aquatic and seldom found far from water. They are also found in many seasonal or episodic rivers in the Karoo (South Africa).  (Okes, et al., 2016).	Possible along the River System when the river is in flow.
Spectacled Dormouse ( <i>Graphiurus ocellaris</i> )	NT	Associated with rock piles, outcrops, crevices and stone kraals and occurs within the Cape sandstone formations.  (Wilson, et al. 2016)	Unlikely. Nearest record is in the Cederberg
Grey Rhebok ( <i>Pelea capreolus</i> )	NT	Rocky hills of mountain fynbos. Predominantly browsers, often feeding on ground-hugging forbs, and largely water independent. Western Cape, they are often observed on agricultural lands.  (Taylor, et al., 2016).	Unlikely. Nearest record is in the Cederberg

#### 7.7.4 Birds

The first and second Southern African Bird Atlas Projects (Harrison et al, 1997; and [www.sabap2.adu.org.za](http://www.sabap2.adu.org.za)) recorded a combined total of approximately 148 bird species in the broader area within which the proposed project is located. These are the species which could occur on the proposed site if conditions are right, but they have not been confirmed on site. Included amongst these 148 species are 9 regionally Red Listed bird species. Two of these, Black Harrier, *Circus maurus*, and Ludwig's Bustard, *Neotis ludwigii*, are Endangered, two are Vulnerable (Secretarybird *Sagittarius serpentarius* and Southern Black Korhaan *Afrotis afra*), and five are Near Threatened (Barlow's Lark *Calendulauda barlowi*, Greater Flamingo *Phoenicopterus ruber*, Lesser Flamingo *Phoenicopterus minor*, Double-banded Courser *Rhinoptilus africanus*, and Chestnut-banded Plover *Charadrius pallidus*).

The avifaunal field survey, conducted in November 2020, recorded 38 bird species (27 by general inventory and a further 11 by walked transect). Two of these 38 species are regionally Red Listed: Secretarybird and Southern Black Korhaan.

Walked transects on site recorded a total of 17 small bird species. The most abundant of these was Mountain Wheatear *Oenanthe monticola*, followed by White-throated Canary *Crithagra albogularis* and White-backed Mousebird *Colius colius*. No regionally Red Listed or otherwise priority bird species were recorded by this method.

**Table 7-5: Summary of walked transect data.**

Common name	Taxonomic name	Birds	Records
Mountain Wheatear	<i>Oenanthe monticola</i>	6	1
White-throated Canary	<i>Crithagra albogularis</i>	5	2
White-backed Mousebird	<i>Colius colius</i>	4	1
Cape Weaver	<i>Ploceus capensis</i>	3	1
Capped Wheater	<i>Oenanthe pileata</i>	3	1
Karoo Prinia	<i>Prinia maculosa</i>	3	2
Namaqua Warbler	<i>Phragmacia substriata</i>	3	2
Spike-heeled Lark	<i>Chersomanes albofasciata</i>	3	2
Ant-eating Chat	<i>Myremcochichla arnoti</i>	2	1
Familiar Chat	<i>Cercomela familiaris</i>	2	2
Karoo Chat	<i>Cercomela schlegelii</i>	2	1
Karoo Lark	<i>Calendulauda albescens</i>	2	2
Bokmakierie	<i>Telophorus zeylonus</i>	1	1
Cape Bunting	<i>Emberiza capensis</i>	1	1
Common Fiscal	<i>Lanius collaris</i>	1	1
Grey-backed Sparrow Lark	<i>Eremopterix verticalis</i>	1	1
Lark-like Bunting	<i>Emberiza impetuani</i>	1	1

Table 7-6 below summarises the priority bird species for the site and their likelihood of occurrence on site and possible impacts. Two priority species (Secretarybird & Southern Black Korhaan) were confirmed on site during the avifaunal specialist's field survey, and a third (Ludwig's Bustard) is considered Probable for occurring on site. These species are particularly susceptible to collision with overhead power lines. These species could occur anywhere on site in the strandveld and are not associated with any particular habitat feature. This means that the collision risk will be high for the full section of power line.

**Table 7-6: Priority bird species of the site.**

Common name	Taxonomic name	SAB AP1	SAB AP2	Taylor et al 2015	TOPS list	IUCN 2021	Endemic	Recorded on site	Likelihood of occurring on site	Possible impacts
Bustard, Ludwig's	<i>Neotis ludwigii</i>	1	1	EN	VU	EN			Probable	Collision with earth wire
Harrier, Black	<i>Circus maurus</i>	1		EN		EN	1		Possible	Collision with earth wire
Sandpiper, Curlew	<i>Calidris ferruginea</i>	1		LC		NT			Unlikely	-
Courser, Double-banded	<i>Rhinoptilus africanus</i>	1		NT		LC			Possible	Habitat destruction
Flamingo, Greater	<i>Phoenicopterus ruber</i>	1	1	NT		LC			Unlikely	-
Lark, Barlow's	<i>Calendulauda barlowi</i>	1		NT		LC			Possible	Habitat destruction
Flamingo, Lesser	<i>Phoenicopterus minor</i>	1	1	NT		NT			Unlikely	-
Plover, Chestnut-banded	<i>Charadrius pallidus</i>	1		NT		NT			Possible	Habitat destruction
Korhaan, Southern Black	<i>Afrotis afra</i>		1	VU		VU	1	1	Confirmed	Collision with earth wire
Secretarybird	<i>Sagittarius serpentarius</i>	1		VU		EN		1	Confirmed	Collision with earth wire

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## 7.8 SURFACE WATER

This section largely references the Aquatic Compliance Report undertaken by Toni Belcher (2020). Refer to the specialist report in Appendix C for a detailed overview of surface water features on the study area.

### 7.8.1 Catchment and Study Area

The study area is located on the undulating lowland Coastal Plain within southern Namaqualand in the Western Cape Province. The area under assessment falls within the catchment of the Sout River that lies between the N7 highway in the east and the Atlantic coastline in the west. It is a relatively dry and undeveloped area that is drained by a few seasonal and ephemeral streams.

The study area is located within the lower Sout River System, crossing the Groot Goerap River and following an alignment south of the Klein Goerap River. The upper limit of the estuary is located approximately 8.5 km downstream of the downstream crossing for the proposed powerline under consideration. Refer to Figure 7-12 below.

The Sout River System consists of the Sout River itself and three main tributaries, the Klein-Goerap, Groot-Goerap, and the Vorsbrak. The river is still in a good condition with the only impacts on the river being agricultural activities in the upper reaches of the system and salt mining at the river mouth. The proposed transmission line and proposed access road routes will traverse the Groot-Goerap River. The rivers are all non-perennial lowland systems within the study area that only tend to flow for short periods following local rainfall events. The associated vegetation is thus largely terrestrial and the substrate sand with bedrock.

Where distinct riparian vegetation does occur along the larger watercourses, it has been mapped as Namaqualand Riviere vegetation. The vegetation type occurs along the Groot Goerap, Klein Goerap, and Sout Rivers in the study area. This vegetation type occupies the riverbeds and banks of intermittent rivers, throughout Namaqualand and is described as comprising of a complex of alluvial shrubland (*Suaeda fruticosa*, *Zygophyllum morgsana*, *Ballota africana*) with patches of tussock graminoids (Mucina & Rutherford 2006). It is considered a Least Threatened vegetation type.

In terms of Freshwater Ecosystem Priority Areas (FEPA), the Sout River has not been identified as a FEPA River. The Sout River Estuary and associated wetland areas in the lower river have been mapped as a FEPA wetland/estuary area. Estuary FEPAs are the national priority estuaries identified in the National Biodiversity Assessment (2011). The estuary is considered of medium size and largely modified as a result of the salt mining currently being undertaken within the estuary. The estuary has not been ranked as being important in the rating assessment undertaken for South African estuaries compiled in 2007 in the C.A.P.E Estuary Conservation Plan.

In terms of the Critical Biodiversity Areas (CBA) mapping (refer to section 7.9.1 below), the river corridors of the Groot Goerap, Klein Goerap, and Sout Rivers have been mapped aquatic CBAs due to the fact that the river corridor has been mapped as natural valley floor wetlands in the National Wetland Map version 5 (NWM5). The adjacent riparian zones are mapped as aquatic Ecological Support Areas (ESAs) (refer to section 7.9.1 below) as they provide important functionality in the movement of biota.



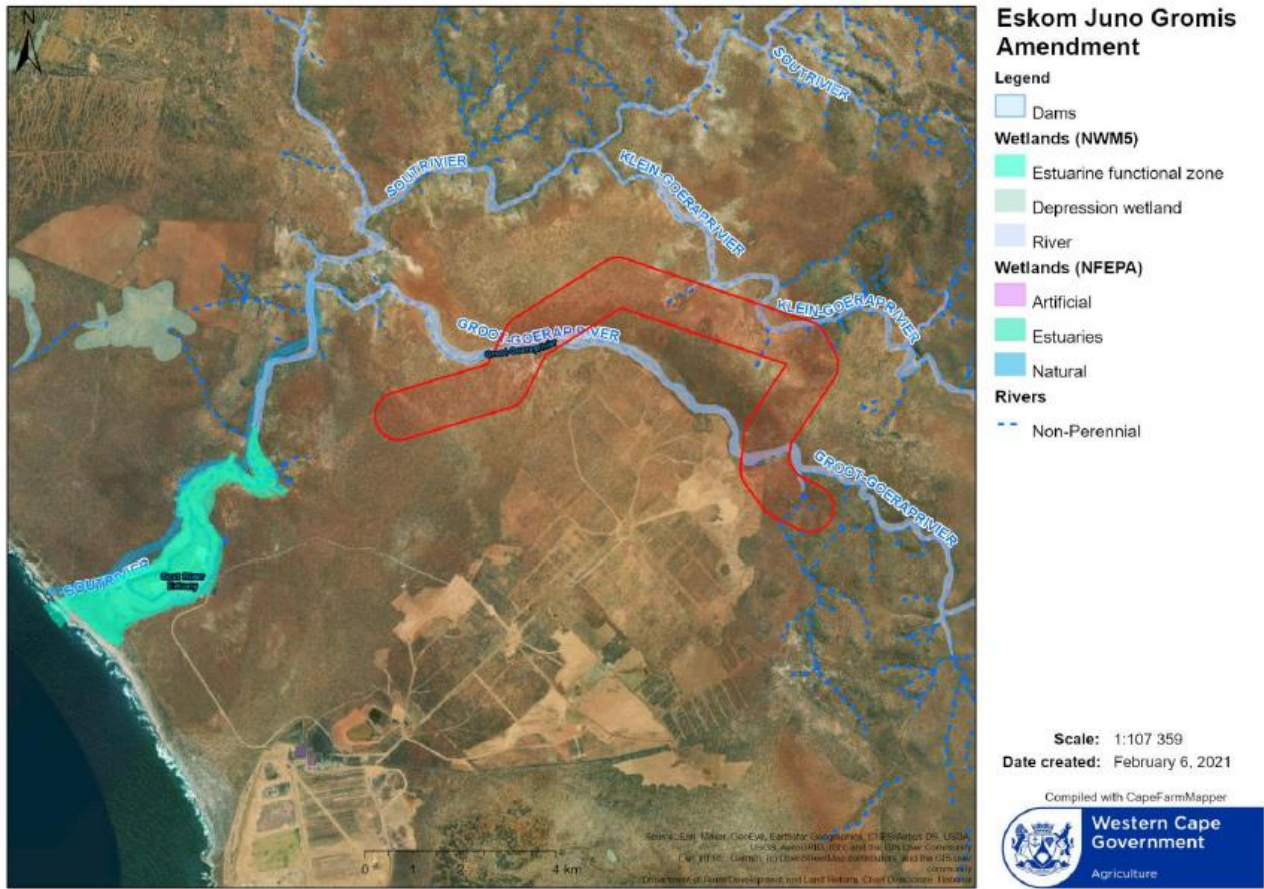


Figure 7-12: Surface water features present on site (CapeFarmMapper, 2021).

7.8.2 River Classification

The results of the habitat integrity assessment are summarised in Table 7-7. The instream as well as the riparian vegetation of the lower Groot and Klein Goerap rivers within the proposed powerline corridor varies from Largely Natural to Moderately Modified condition, largely as a result of some flow and water quality modification in the upstream catchment. There are also limited direct habitat impacts that have resulted in some loss of indigenous riparian vegetation and the subsequent low-density invasion of alien plants.

Table 7-7: Index of Habitat Integrity Assessment results and criteria assessed for the lower Groot and Klein Goerap Rivers within the corridor for the proposed powerline diversion

INSTREAM HABITAT INTEGRITY	Score	RIPARIAN ZONE HABITAT INTEGRITY	Score
Water Abstraction	5	Vegetation Removal	5
Flow Modification	7	Exotic Vegetation	2
Bed Modification	7	Bank Erosion	7
Channel Modification	5	Channel Modification	4
Water Quality	4	Water Abstraction	8
Inundation	2	Inundation	9
Exotic Macrophytes	0	Flow Modification	6
Exotic Fauna	0	Water Quality	5
Rubbish Dumping	2		
INTEGRITY CLASS	B	INTEGRITY CLASS	B/C

The Ecological Importance and Sensitivity (EIS) assessment considers several biotic and habitat determinants surmised to indicate either importance or sensitivity. The Lower Groot and Klein Goerap Rivers are considered to be of a Moderate to High ecological importance and sensitivity. This is due to the fact that it is directly upstream of the Sout River Estuary and the aquatic habitat associated with the river is particularly important in providing refugia in an arid area.

**Table 7-8: Results of the EIS assessment for the Lower Groot and Klein Goerap Rivers within the corridor for the proposed powerline diversion**

Biotic Determinants	Lower Groot and Klein Goerap Rivers
Rare and endangered biota	3
Unique biota	2
Intolerant biota	2
Species/taxon richness	2
<b>Aquatic Habitat Determinants</b>	
Diversity of aquatic habitat types or features	3
Refuge value of habitat type	2
Sensitivity of habitat to flow changes	1
Sensitivity of flow-related water quality changes	1
Migration route/corridor for instream and riparian biota	2
National parks, wilderness areas, Nature Reserves, Natural Heritage sites, Natural areas, PNEs	2
<b>RATINGS</b>	<b>2.0</b>
<b>EIS CATEGORY</b>	<b>Moderate/high</b>

According to the gazetted Water Resource Classification of the Olifants Doring Water Management Area (Government Gazette Co 843 of 3 October 2014), the recommended ecological category for Groot Goerap and Klein Goerap Rivers in Quaternary Catchments F60B and F60D as well as the downstream Sout river is a B Category (largely natural). The FEPA mapped wetlands along the watercourses should also be maintained in a largely natural condition.

## 7.9 BIODIVERSITY INDICATORS

South Africa's policy and legislative framework for biodiversity is well developed, providing a strong basis for the conservation and sustainable use of biodiversity. South Africa is one of the few countries in the world to have a Biodiversity Act and a National Biodiversity Institute.

Key assessments and legal publications provide a framework for, and access to, biodiversity information. Some of these include:

- The National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA);
- NEM:BA List of Ecosystems in need of Protection;
- NEM:BA List of Threatened or Protected Species;
- NEM:BA List of Alien Invasive Species;
- The National Environmental Management: Protected Areas Act (Act 57 of 2003) (NEMPAA);
- The National Biodiversity Assessment (NBA) (2018);
- The National Biodiversity Framework (2008) (NBF);
- The National Protected Area Expansion Strategy (2008) (NPAES); and
- Important Bird Areas (2015) (IBA).

In addition to national legislation, some of South Africa's nine provinces have their own provincial biodiversity legislation, as nature conservation is a concurrent function of national and provincial government in terms of the Constitution (Act 108 of 1996). The Western Cape Biodiversity Spatial Plan (WCBSP) (2017) includes a map of biodiversity importance for the entire province, covering both the terrestrial and freshwater realms, as well as major coastal and estuarine habitats

### 7.9.1 Western Cape Biodiversity Spatial Plan (WCBSP, 2017)

The Western Cape Biodiversity Spatial Plan (WCBSP, 2017) maps biodiversity priority areas, including Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) which require safeguarding to ensure the persistence of biodiversity and ecosystems functioning, through a systematic conservation planning process.

CBA's are defined as *"areas of high biodiversity and ecological value and need to be kept in a natural or near-natural state, with no further loss of habitat or species"* (WCBSP Handbook, 2017). The provided map distinguishes between CBA 1 areas, which are those that are likely to be in a natural condition, and CBA 2 areas, which are areas that are potentially degraded or represent secondary vegetation.

ESA's are *"Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas (Pas) or CBAs and are often vital for delivering ecosystem services. They support landscape connectivity, encompass the ecological infrastructure from which ecosystem goods and services flow, and strengthen resilience to climate change."* ESA's should be maintained in a functional and natural state although some habitat loss may be acceptable. As with the CBAs, a distinction is made between ESA 1 that are areas in a natural, near natural or moderately degraded condition and ESA 2 which are degraded and need to be restored.

According to the WCBSP (2017), the footprint of the powerline falls within Other Natural Area. However, the powerline does traverse a number of ESA 1 (Rivers) areas and is adjacent to a few CBA1 areas (Figure 7-13 below). With careful placement of infrastructure, these areas can be avoided. The desired management objectives of the affected biodiversity priority areas are tabulated below (

Table 7-9 below).

As mentioned in section 7.8.2 above, the river corridors of the Groot Goerap, Klein Goerap, and Sout Rivers have been mapped as aquatic CBAs and the adjacent riparian zones are mapped as aquatic ESAs as they provide important functionality in the movement of biota.

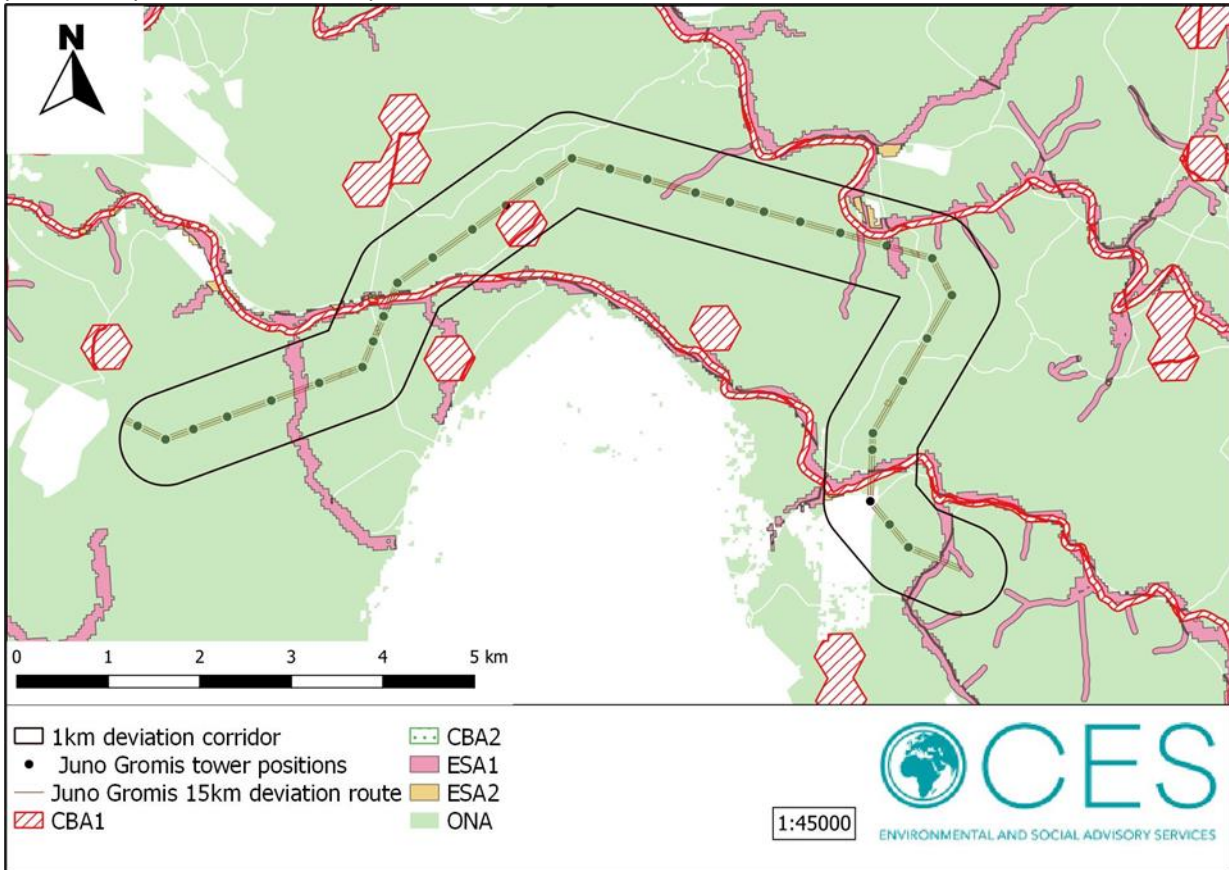


Figure 7-13: WCBSP (2017) CBA map of the project area.

**Table 7-9: Desired Management Objectives of the WCBS (2017) Biodiversity Priority Areas**

Category	Sensitivity Features	Desired Management Objective	Recommendation
CBA 1	Terrestrial Areas	Maintain in a natural or near natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.	It is recommended that all infrastructure avoids these areas. It may be necessary to shift the north western portion of the line slightly so as to avoid the CBA that lies directly adjacent to it.
ESA 1	River	Maintain in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised.	It is recommended that the location of the towers are sited so as to avoid being located within these areas.
ONA	Natural Area	Minimise habitat and species loss and ensure ecosystem functionality through strategic landscape planning. Offers flexibility in permissible land-uses, but some authorisation may still be required for high-impact land-uses.	It is recommended that existing roads are used where feasible and that laydown areas and new roads are kept to a minimum.

### 7.9.2 Threatened Ecosystems

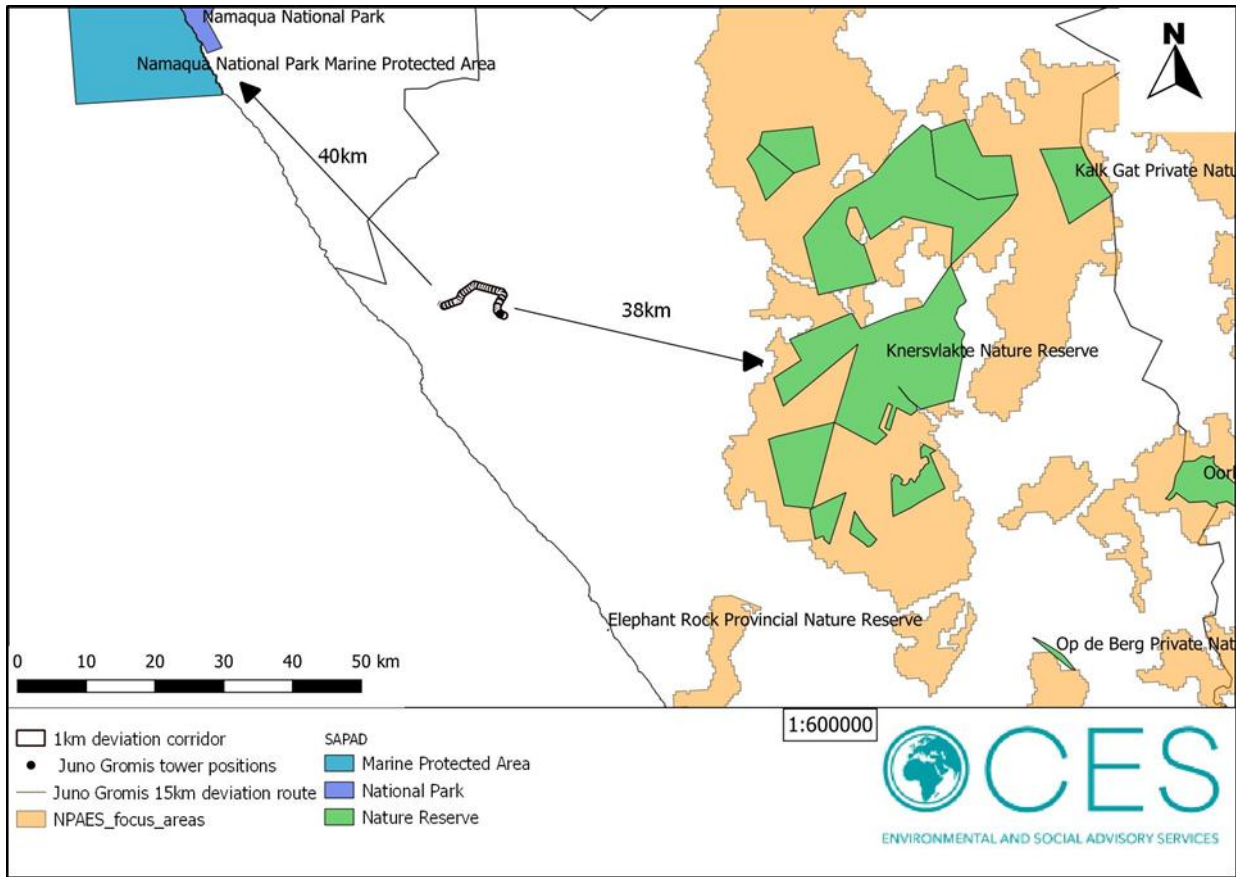
The National Environmental Management: Biodiversity Act, (Act No. 10 OF 2004) (NEM:BA) provides a National List of Ecosystems that are threatened and in need of protection – GN 1002 of 2011. According to the NEM:BA List of threatened ecosystems, the project **does not** occur within or near to a threatened ecosystem.

These findings are supported by the NBA (2018) Terrestrial ecosystem threat status assessment (Skowno et al., 2019) which confirmed that the ecosystems within and surrounding the project area are classified as Least Concern. The nearest threatened ecosystem identified by the NBA (2018) is Bokkeveld Sandstone Fynbos which is located approximately 81 km south-east of the project area.

### 7.9.3 Protected areas

The National Protected Areas Expansion Strategy (NPAES, 2008) was developed to “*achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change.*” The NPAES originated as Government recognised the importance of protected areas in maintaining biodiversity and critical ecological processes. The NPAES sets targets for expanding South Africa’s protected area network, placing emphasis on those ecosystems that are least protected.

The project is not located within an NPAES Focus Area, formal or informal protected area. The nearest NPAES Focus Area (Knersvlakte Hantam NPAES Focus Area) is located approximately 38 km south-east of the study site. The site is not located within a protected area as identified by the South African Protected Areas Database (SAPAD, 2019) (Figure 7-14 below).



**Figure 7-14: NPAES Focus Areas and Protected Areas.**

## 7.10 SOCIAL SETTING

The project area falls within the ambit of the MLM within the WCDM. The WCDM covers approximately 31,100 km<sup>2</sup> and has a population of approximately 450,610 (STATS SA, 2018). The WCDM consists of the following five local municipalities: Saldanha Bay Municipality, Swartland Municipality, Bergrivier Municipality, Cederberg Municipality and MLM.

The MLM covers an area of 12,900 km<sup>2</sup>. The area was formerly managed by the District Municipality and is commonly known as the District Municipal Area (DMA). The municipal area comprises 18 towns and/or villages, with the nearest towns to the project area being Lutzville and Nuwerus. The project area falls within Ward 8 of the MLM. Infrastructure development, upgrades to sporting facilities, and provision of running water to residential properties were highlighted as the ward’s priority service needs.

The MLM has a total population of 74,636 with 20,821 households, and a population growth rate of 1.28% per annum. It has unemployment rate of 18.9%. The three (3) largest economic sectors within the MLM include agriculture, forestry and fishing (24.5%), wholesale and retail trade, catering and accommodation (16.3%), and manufacturing (13.6%).

The MLM is characterized by an arid environment, however the Olifants River and its associated canal systems supports a flourishing agricultural sector that is mainly built on viticulture. Apart from the previously DMA to the north as well as the towns of Doring Bay, Strandfontein and Vanrhynsdorp, the rest of the

population is concentrated along the river and canal system. Vredendal is by far the largest town in the area and it is also centrally located rendering it the logical economic and administrative centre of the municipal area (MLM IDP (2017-2022)).

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## 8 KEY FINDINGS OF THE SPECIALIST STUDIES

The table below lists the specialist studies undertaken for the proposed 15km power line deviation (as per Appendix G: DEFF Screening Tool Report for the application area). Please refer to Appendix C for copies of the specialist reports or compliance statements.

Specialist studies undertaken as per the DEFF Screening Tool	Specialists appointed
<b>Terrestrial Biodiversity Impact Assessment</b> as per the Gazetted Terrestrial Biodiversity Assessment Protocol	Ms Tarryn Martin and Ms Amber Johnson from CES: Botanical and Faunal Specialists) (refer to Appendix C1)
<b>Plant and Animal Species Assessment</b> as per the Gazetted General Requirement Assessment Protocol (at the time of commissioning).	
<b>Aquatic Biodiversity Impact Assessment</b> as per the Gazetted Aquatic Biodiversity Assessment Protocol.	Ms Antonia Belcher (refer to Appendix C2)
<b>Avifaunal Impact Assessment</b> as per the Gazetted Avian Assessment Protocols	Mr Jon Smallie of Wild Skies Pty Ltd (refer to Appendix C3)
<b>Palaeontology Impact Assessment</b> as per the Gazetted General Requirement Assessment Protocol.	CTS Heritage (refer to Appendix C4)
<b>Archaeological and Cultural Heritage Impact Assessment</b> as per the Gazetted General Requirement Assessment Protocol.	

The sub-sections below provides summaries of the key findings of the site verifications assessments and specialist studies conducted.

### 8.1 TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT

A Terrestrial Biodiversity (Ecological) Impact Assessment, which assessed both fauna and flora within the project area, was conducted by CES. A site visit was undertaken in November 2020 to assess the site-specific ecological state, current land-use, identify potential sensitive ecosystems and identify fauna and flora species associated with the proposed project activities. The site visit also served to identify potential impacts of the proposed development, and its impact on the surrounding ecological environment.

The project infrastructure will result in the loss of approximately 5.7 ha of natural vegetation comprised of Namqualand Strandveld, Southern Namaqualand Quartzite Klipkloppe Shrubland, Namaqualand Riviere, Knersvlakte Quartz Vygieland. Two (2) quartz rocky outcrops were identified on site which provide an important habitat typically with higher species diversity and higher number of SCC. The proposed new servitude access road will be required to avoid the rock outcrops including the proposed 100m no-go rock outcrop buffers. As such, one of the pylon structure (GRO/JUN 452A) will be required to be relocated outside of this area (refer to Figure 9-2 below).

The Species Environmental Assessment guideline (SANBI, 2020) was applied to assess the Site Ecological Importance (SEI) of the project area. The habitats and the species of conservation concern in the project area were assessed based on their conservation importance, functional integrity and



receptor resilience (Table 2.1). The combination of these resulted in a rating of SEI and interpretation of mitigation requirements based on the ratings.

The sensitivity map was developed using available spatial planning tools as well as by applying the SEI sensitivity based on the field survey.

**Table 8-1: Criteria for establishing Site Ecological importance and description of criteria**

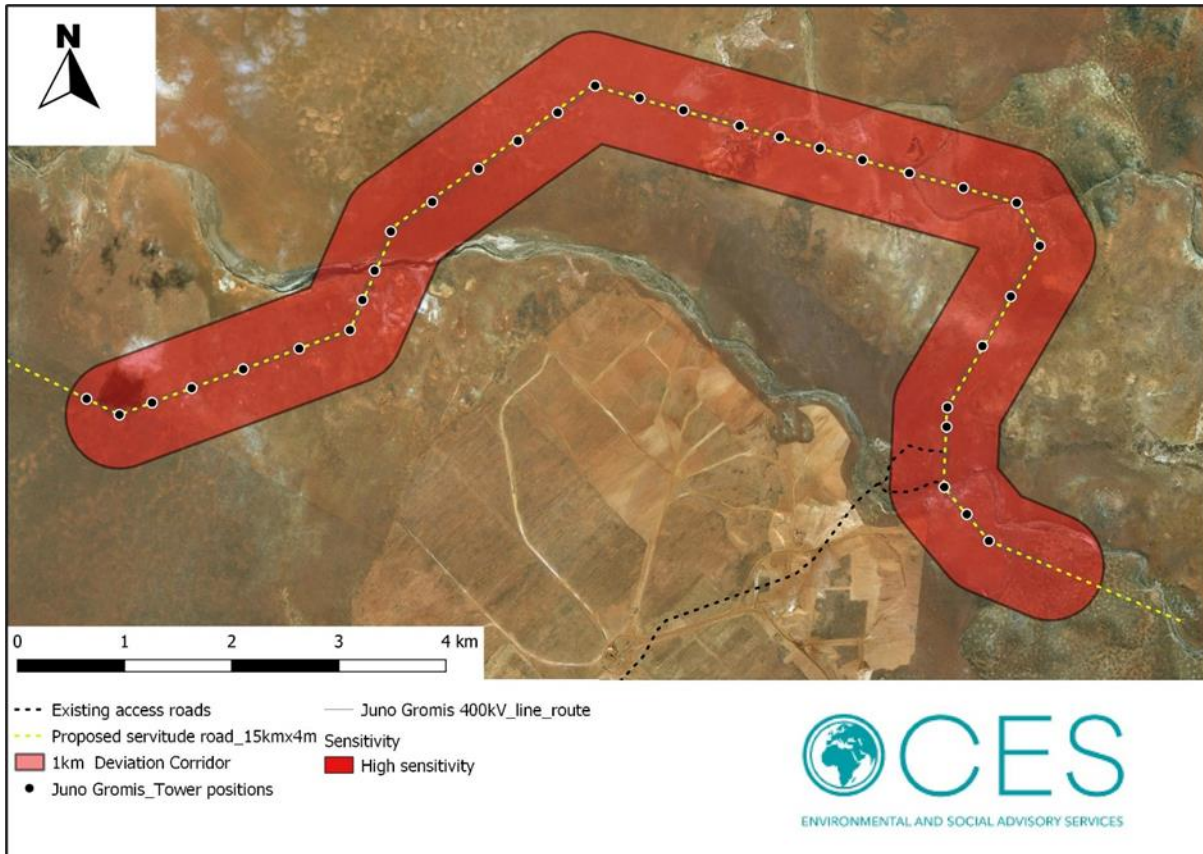
Criteria	Description
Conservation Importance (CI)	<i>The importance of a site for supporting biodiversity features of conservation concern present e.g. populations of IUCN Threatened and Near-Threatened species (CR, EN, VU &amp; NT), Rare, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes.</i>
Functional Integrity (FI)	<i>A measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts.</i>
Biodiversity Importance (BI) is a function of Conservation Importance (CI) and the Functional Integrity (FI) of a receptor.	
Receptor Resilience (RR)	<i>The intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention.</i>
Site Ecological Importance (SEI) is a function of Biodiversity Importance (BI) and Receptor Resilience (RR)	

**Table 8-2: Evaluation of Site Ecological Importance (SEI) of habitat and SCC**

Habitat / Species	Conservation Importance (CI)	Functional Integrity (FI)	Receptor Resilience	SEI
Namaqualand Strandveld	High	High	Medium	<b>HIGH</b>
	<i>One critically endangered, one endangered and six vulnerable species of conservation concern with EOO of &gt;10 km<sup>2</sup>, that are either known from less than 10 locations or have a population of &lt; 10 000 mature individuals remaining.</i>	<i>Good habitat connectivity with potentially functional ecological corridors. Only minor current negative impacts and good rehabilitation potential.</i>	<i>Succulent Karoo plants in Namaqualand typically have a short lifespan of &lt;20 years (Jurgens et al., 1999 in Desmet, 2007) resulting in a high spatial and temporal dynamic in community structure and composition as a result of the high turnover of individuals. Additionally, species diversity in Namaqualand is not distributed evenly at either a local or regional scale with rocky substrates typically supporting a high species diversity than surrounding plains (Desmet and Cowling, 1999). The Namaqualand Strandveld observed at the site was not characterised by rocky outcrops but rather red aeolian sand dunes with little variation in plant species composition and structure. The areas that will be disturbed by the proposed powerline appear to be able to recover relatively quickly</i>	

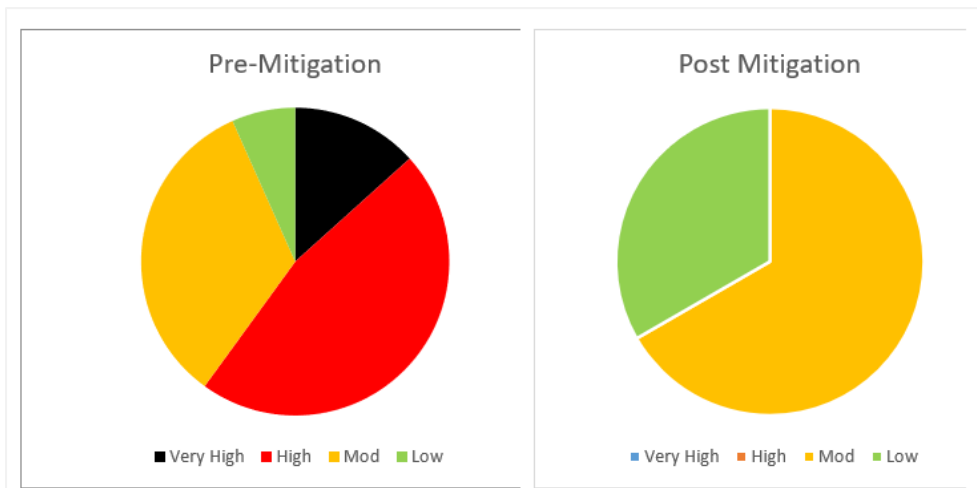
Habitat / Species	Conservation Importance (CI)	Functional Integrity (FI)	Receptor Resilience	SEI
			(5-10 years) given the high turnover and short lifespan of species in Namaqualand.	
Southern Namaqualand Quartzite Klipkloppe Shrubland	Medium	High	Low	HIGH
	>50% of receptor contains natural habitat with potential to support SCC.	Good habitat connectivity with potentially functional ecological corridors. Only minor current negative impacts and good rehabilitation potential.	Quartz rocky outcrops typically have a higher species diversity and higher number of SCC. Disturbance to these areas can result in the permanent loss of this habitat type resulting in the permanent loss of populations with restricted distributions associated with these habitat features. Habitat is therefore unlikely to recover fully after a relatively long period (>15 years). Species will have a low likelihood of returning to a site once the disturbance or impact has been removed.	
Namaqualand Riviere	This vegetation type has been assessed in the aquatic report.			
Knervlakte Quartz Vygieland	High	Medium	Very Low	HIGH
	<i>Three vulnerable and one Near Threatened species of conservation concern with EOO of &gt;10 km<sup>2</sup>, that are either known from less than 10 locations or have a population of &lt; 10 000 mature individuals remaining.</i>	Medium (>5ha but <20ha) of semi-intact area for any conservation status of ecosystem type.	The core of this vegetation type is found to the north and northwest of Vanrhynsdorp with smaller scattered patches elsewhere. Quartz fields in arid regions of south Africa represent edaphically defined special habitats with distinct vegetation units. This vegetation type carries one of the largest local densities of endemic species. More than 60 species from three genera have been found to be associated with this vegetation type. Disturbance to this habitat that cause significant change to the habitat type will result in the permanent loss of species found here. Species associated with this habitat are therefore unlikely to remain at the site or return to the site if the disturbance significantly alters the habitat type.	

Habitat / Species	Conservation Importance (CI)	Functional Integrity (FI)	Receptor Resilience	SEI



**Figure 8-1: Terrestrial Biodiversity Sensitivity Map**

Fifteen ecological impacts were identified for the project site; two were rated as very high, seven were rated as high, five as moderate and one as low (Figure 8-2). If mitigation measures are implemented these impacts will be reduced to ten impact of moderate significance and five impacts of low significance.



**Figure 8-2: Pie charts summarising the number of high, moderate and low ecological impacts before and after mitigation.**

The Ecological Specialist recommends that the footprint of the proposed development avoids the Southern Namaqualand Quartzite Klipkloppe Shrubland patches and the Knersvlakte Quartz Vygieland.

A ground-truthing survey must be undertaken between July and August (flowering season) to establish areas with high populations of SCC and ensure that these areas are avoided. Populations with species listed as Critically Endangered (CR) and Endangered (EN) must be avoided as no further loss must be permitted for these species.

Where the destruction of SCC (not listed as EN or CR) cannot be avoided, plant permits must be obtained, and an *in-situ* search and rescue program implemented for species that can successfully be relocated. The search and rescue must include both fauna and flora.

Furthermore, the development footprint of the proposed powerline and associated infrastructure (roads and laydown areas) must be demarcated to prevent any encroachment of construction or operational activities into surrounding natural areas. Minor location deviations from the proposed works is deemed acceptable but the footprint may not be made larger.

**Refer to the attached Terrestrial Biodiversity, Plant and Animal Species Impact Assessment Report (Appendix C1).**

## 8.2 AQUATIC BIODIVERSITY IMPACT ASSESSMENT

An Aquatic Assessment was undertaken by Toni Beltcher for the proposed 15km power line deviation. The site was visited for a single day in June 2016 and the watercourses were assessed in the winter rainfall period, with an additional site visit being conducted in November 2020.

Within the 1km route corridor of the proposed powerline diversion, it was found that the aquatic ecosystem constraints consist of the lower Groot Goerap and Klein Goerap Rivers and their associated aquatic habitats. Small drainage features also drain the hillsides to the south of both rivers. These features do not provide any aquatic habitat of significance but simply provide a conduit for water draining the steeper banks south of the rivers (Figure 8-3 below).

### 8.2.1 Impact Assessment

Potential impact consists largely of the direct modification or loss of aquatic habitat and the associated impacts on aquatic biota and, to a lesser degree, potential flow and water quality impacts that would mostly take place in the construction phase of the project. The potential impacts on the aquatic ecosystems are associated with:

- Construction of the powerline.
- Establishment of any new access roads for the new powerline.
- Longer-term maintenance activities.

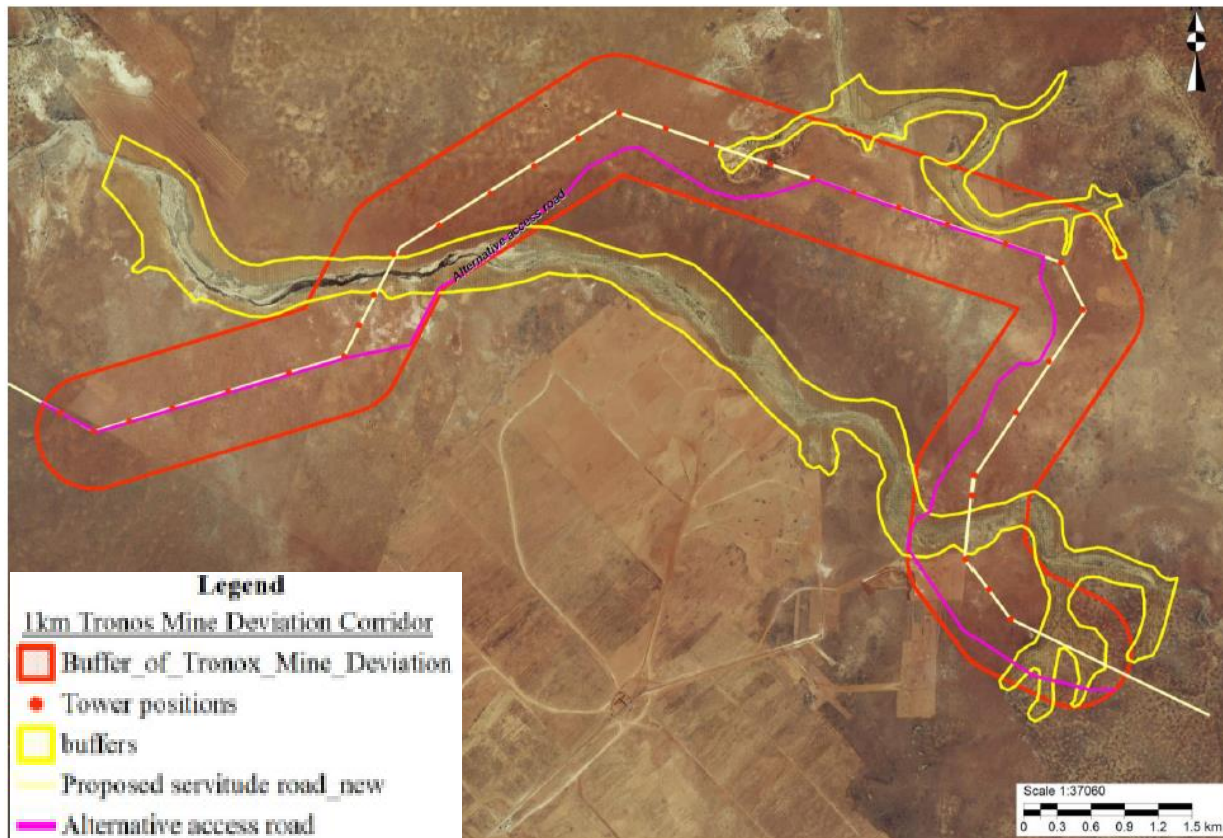
All impacts were rated as LOW significance pre- and post-mitigation. Aquatic buffers (no-go areas) have been recommended as a way of avoiding sensitive aquatic areas. The buffer varies between 15m and 200m depending on the bank slope and sensitivity of the aquatic habitats (refer to Figure 8-3 below).

The drainage lines should also be avoided to prevent erosion of these areas from occurring and as such have also been included in the recommended buffers.

The proposed powerline pylon structures are outside of the recommended aquatic buffers (see Figure 8-3). The new servitude road proposed for the construction and maintenance of the powerline should avoid being placed within the recommended aquatic buffers. Where possible, existing farm roads should be utilised. The route that would avoid most of the recommended buffers and make use of existing roads would need to be placed in the southern extent of the indicated corridor, as shown by the purple line in Figure 8-3 below. Mitigation measures such as the shaping of the roads to prevent a concentration of runoff along roads on slopes should be put in place to prevent erosion of the watercourses occurring as a result of concentrated runoff from the roads.

### 8.2.2 Cumulative impacts

Land use activities upstream and downstream of the proposed route corridor have resulted in a direct modification to the aquatic habitat and more specifically to the riparian and estuarine habitats associated with the river. These aquatic habitats are considered to be of a moderate to high ecological importance and sensitivity and thus further degradation of this aquatic habitat should not be allowed to occur. It can be expected that the proposed powerline deviation would, however, not result in any impacts to the aquatic habitats provided that construction and maintenance activities remain outside of the recommended buffer areas (no-go areas).



**Figure 8-3: Mapped aquatic constraints associated with the proposed project activities**

Refer to the attached Aquatic Biodiversity Impact Assessment Report (2020) (Appendix C2).

### 8.3 AVIFAUNAL IMPACT ASSESSMENT

An Avifaunal Impact Assessment was undertaken by WildSkies Pty Ltd in November 2020 for the proposed 15km line deviation.

The site survey determined that the micro habitats available to birds on site are strandveld, and riverine (including incised river banks) vegetation. Two priority species (Secretarybird & Southern Black Korhaan) were confirmed on site during the survey, and a third (Ludwig's Bustard) is considered Probable. These species are particularly susceptible to collision with overhead power lines, could occur anywhere on site in the strandveld and are not associated with any particular habitat feature. This means that the collision risk will be high for the full section of power line.

The following findings with respect to the proposed power line route deviation were made:

- Destruction of avifaunal habitat during construction and maintenance of the power line will be of Low Negative Significance both pre and post mitigation. Required mitigation consists mainly of measures to limit the amount of natural vegetation impacted on.
- Disturbance of birds in the study area during construction of the power line will be of Low Negative Significance. This is since no sensitive bird species are known to breed on or near the site and so disturbance will have a relatively small effect on local bird populations.

- » Electrocution of large birds such as eagles on the power line pylons will be of Low Negative Significance pre mitigation since the clearances on a 400kV power line are sufficient to be safe for all perching birds. No mitigation is required for this impact.
- » Collision of large birds in flight with the overhead power line will be of Moderate Negative Significance pre mitigation. This should be mitigated to Low Negative Significance by installing line marking devices onto the earth wire of the power line on high risk sections according to standard methods.

To summarise, the following mitigation measures will be necessary:

- » A pre-construction avifaunal walk through should be conducted to:
  - Confirm final layout and identify any sensitivities that may arise between the conclusion of the BAR process and the construction phase.
  - Identify any sensitive species breeding on site that may arise between the conclusion of the BAR process and the construction phase.
- » The earth wires on this full section of power line should be fitted with an approved anti bird collision line marking device to make cables more visible to birds in flight and reduce the likelihood of collisions.
- » All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.
- » All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.

If these mitigation measures are implemented correctly, the avifaunal specialist recommends the proposed project be authorised.

**Refer to the attached Avifaunal Impact Assessment Report (2020) (Appendix C3).**

## **8.4 HERITAGE, ARCHAEOLOGICAL & PALAEOLOGICAL IMPACT ASSESSMENT**

CTS Heritage undertook the Heritage, Archaeological and Paleontological Impact Assessment (HIA) for the proposed development. The findings are summarized below.

### **8.4.1 Archaeology**

The foot survey conducted provided a good description of the heritage resources located within the route of the proposed powerline. Fourteen (14) locations were recorded containing low density and diffuse Later and Middle Stone Age artefact scatters with one location containing eroded and exposed Early Stone Age material in an old quarry and donga. The presence of small deflation bays was recorded, and low densities of artefacts were found in these areas. The majority of the findings were graded as Not Conservation Worthy (NCW) due to the very low densities of the scatters and the lack of organic or other cultural material. Four sites (GROMIS006, 011, 012 and 013) were graded as IIIC (low significance) and more time was spent recording the spatial extent and nature of the finds in these areas. They have therefore been sufficiently recorded and do not warrant further mitigation as they will not be much affected by the placement of pylon footings. However, the grade IIIC sites are likely to be negatively impacted by the proposed access road associated with the deviation and as such, it is recommended that a no-go buffer of 20m is established around each of the sites that has

been graded IIC to ensure that these sites are not impacted. One pylon (GRO/JUN 452B) is located partly within the 20m buffer of GROMIS006 IIC site, however, the specialist confirmed that this would not require the relocation of pylon GRO/JUN 452B, however, the proposed servitude access road would need to deviate around the 20m buffer.

#### 8.4.2 Palaeontology

The foundations for the proposed 32 pylons will be excavated in the late Quaternary surficial Hardevlei Fm. yellowish dunes, the Koekenaap Fm. red coversands and the underlying, harder, brown aeolianites of the mid-Quaternary Dorbank Formation which have been affected by pedogenesis. The main concern is for rare fossil bones that may be unearthed in the foundation excavations. In the Hardevlei and Koekenaap formations, the fossil bones that may occur are likely to be in an archaeological context, possibly associated with harvested marine shells such as limpets. The surficial sands are underlain by scatters of MSA material on the palaeosurface formed on the Dorbank Fm. The associated fossil bones are of late Quaternary age and comprise mainly of extant species (modern fauna) but could include species that did not historically occur in the region. The paleontological sensitivity of the surficial sand formations is therefore considered to be LOW.

The fossil bone finds in the Dorbank Formation are sparsely scattered and are generally poorly preserved and fragmented larger limb bones of antelopes and zebra, but significant finds may occur. Most finds have been at lower elevations in diamond-mine pits close to the coast and finds in excavations farther inland are very seldom. In view of the small volumes of deposit excavated for the pylon foundations, relative to the extensive exposures in prospecting trenches and mine pits, the likelihood of intersecting fossil bones in any one excavation is low. The paleontological sensitivity is considered to be LOW.

#### 8.4.3 Anticipated Impacts on Heritage Resources

The proposed development will not negatively impact on any significant archaeological resources. The isolated artefacts were determined to have low heritage significance and as such, no further mitigation is recommended for these observations.

No areas of particular paleontological sensitivity are identified. When fossils are found in low-sensitivity formations, they are often very significant additions to the geological understanding of the area. Although of low probability, any find could be of considerable importance and could add to the scientific knowledge of the area in a significant and positive outcome of successful paleontological mitigation. As such, it is recommended that the Heritage Western Cape (HWC) Fossil Finds Procedure (Appendix 4 of the HIA) is implemented for the duration of excavation activities for the pylons.

#### 8.4.4 Recommendations

There is no objection to the proposed development with regard to impacts to archaeological resources provided that a no-go buffer of 20m is established around each of the four sites that has been graded IIC (refer to Figure 8-5 below: sites GROMIS006, 011, 012 and 013) to ensure that these sites are not impacted. In terms of paleontology, no further mitigation is recommended on condition that the HWC Fossil Finds Procedure is implemented for the duration of excavation activities.

Refer to Figure 8-4 below for a map of the identified heritage features identified within the broader project area. Figure 8-6 below provides the paleontology sensitivity map of the project area.



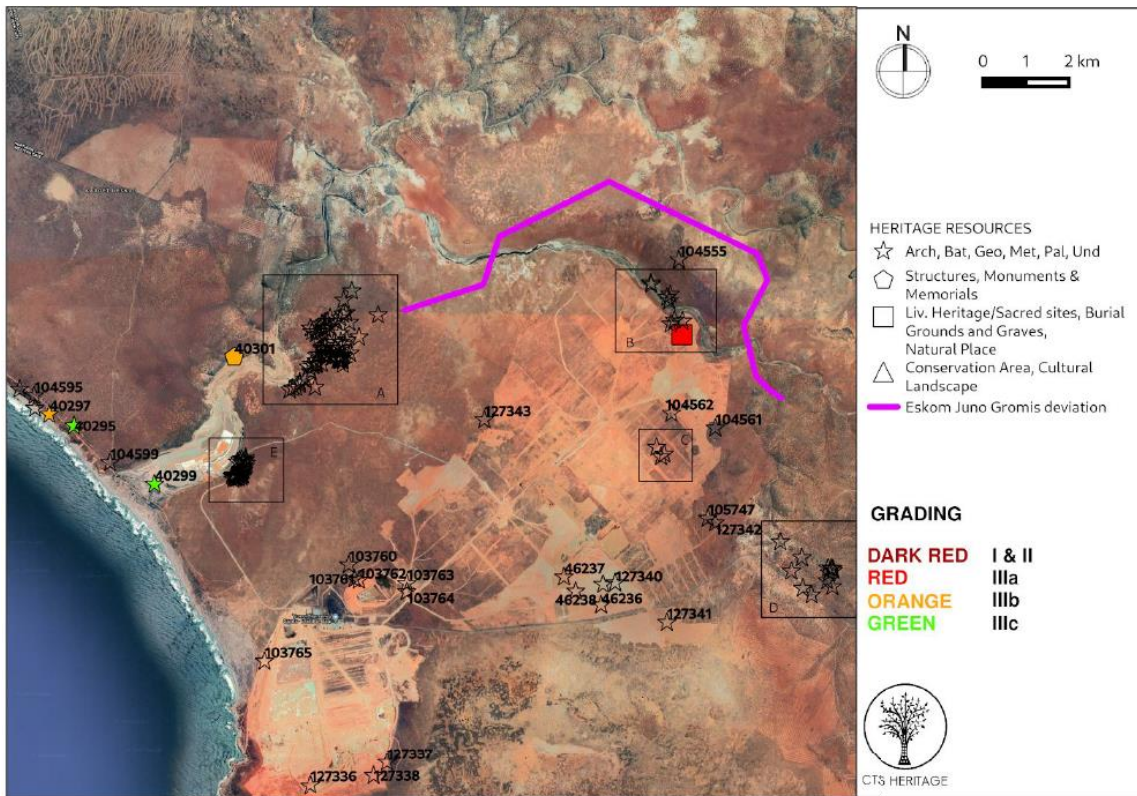


Figure 8-4: Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated.

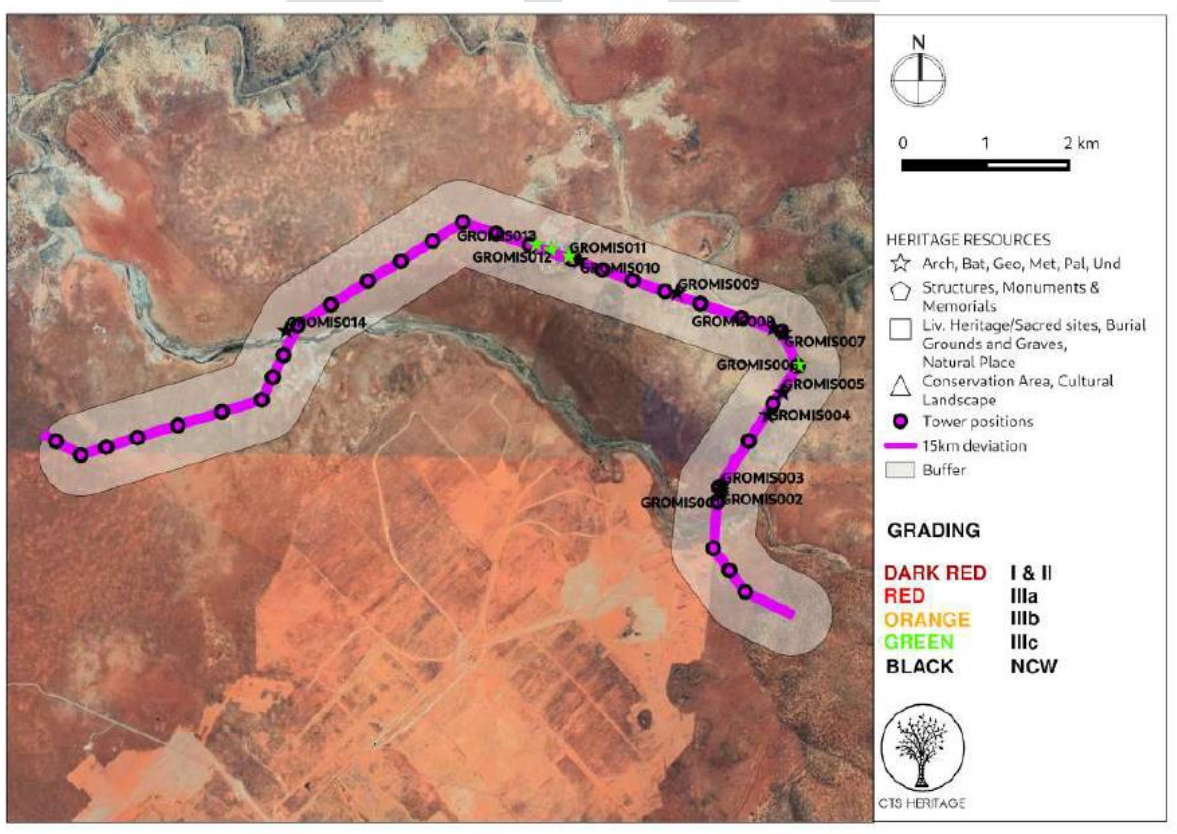
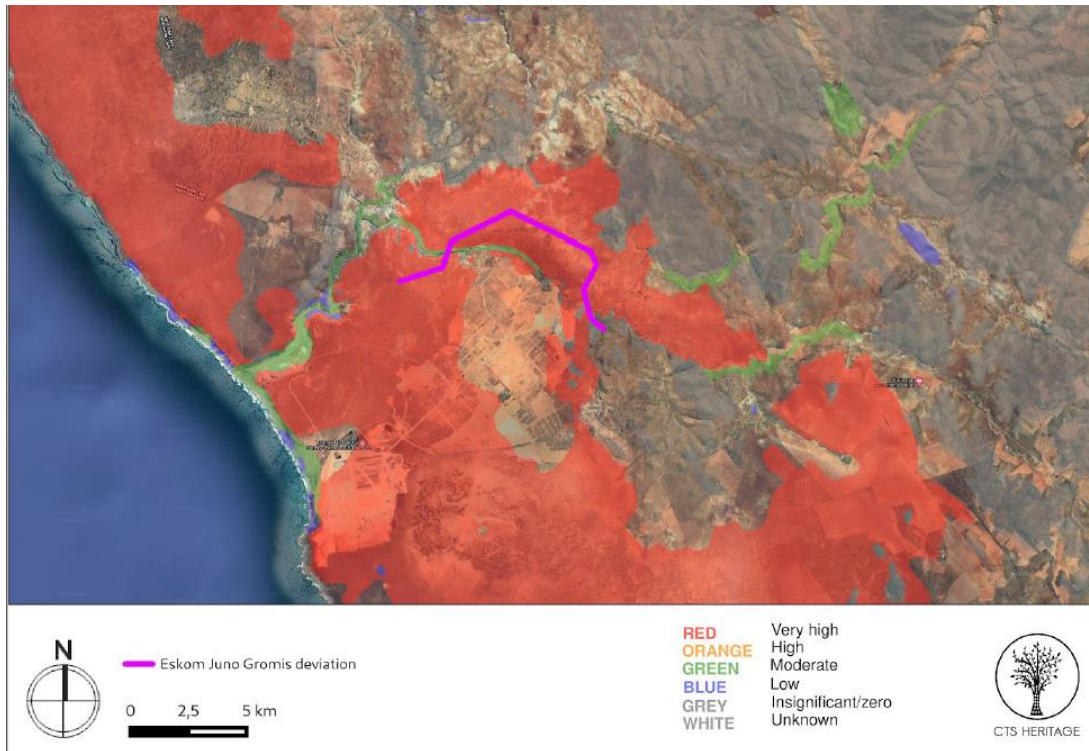


Figure 8-5: Map of heritage resources identified within the 1km route corridor.



**Figure 8-6: Palaeo-sensitivity Map (indicating very high fossil sensitivity underlying the study area).**

Refer to the attached Heritage, Archaeological and Paleontological Impact Assessment Report (Appendix C4).

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## 9 SENSITIVITY ASSESSMENT

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The following section provides an assessment of the sensitivity of the study area.

### 9.1 CONSERVATION AND SPATIAL PLANNING TOOLS

Several conservation planning tools are available for the study area. These tools allow for the potential identification of any sensitive and important areas from an ecological perspective at the early stage of a development and allow for the fine-tuning of plans and infrastructure layouts.

The tools identified as relevant to the project are summarised below:

- SANBI Vegetation Threat Status;
- NEMBA Threatened Ecosystems and TOPS list;
- WCBS (2017) Critical Biodiversity Areas (Terrestrial and Aquatic); and
- Provincial Nature and Environmental Conservation Ordinance No. 19 of 1974.
- The National Biodiversity Assessment (NBA, 2018); and
- The National Freshwater Ecosystem Priority Areas (NFEPA) project.

### 9.2 SENSITIVITY MAPPING

The final sensitivity map of the study area was developed based on the findings of the BAR (taking into consideration the conservation and spatial planning tools as listed in section 9.1 above), site-specific sensitivities as identified by the specialist studies (Chapters 7 and 8), as well as the environmental sensitivities identified by the national web based environmental screening tool (as shown in Appendix G).

The proposed 1km corridor of the 15km line deviation falls within areas identified by specialists as ranging from **VERY HIGH** to **LOW** sensitivity. The combined sensitivity for the site is considered Very High for watercourses and High for the remaining portion of the site (Figure 9-1). The reasons for the sensitivities are explained in Table 9-1 below.

The routing of the proposed 15km line deviation and micro-siting of the pylon structures has taken into consideration areas of high sensitivity, as shown in Figure 9-1. The Eskom proposed new servitude access road will need to be rerouted in sections to avoid areas classified as 'Very High' sensitivity. The specialist proposed servitude route (shown in green in Figure 9-1 below) is recommended.

Only one (1) pylon structure will be required to be relocated, namely GRO/JUN 452A which is located within a 100m no-go buffer area of an important rocky outcrop which provides an important habitat typically with higher species diversity and higher number of SCC. Pylon GRO/JUN 452B can remain as is, as per the heritage specialist's recommendations.

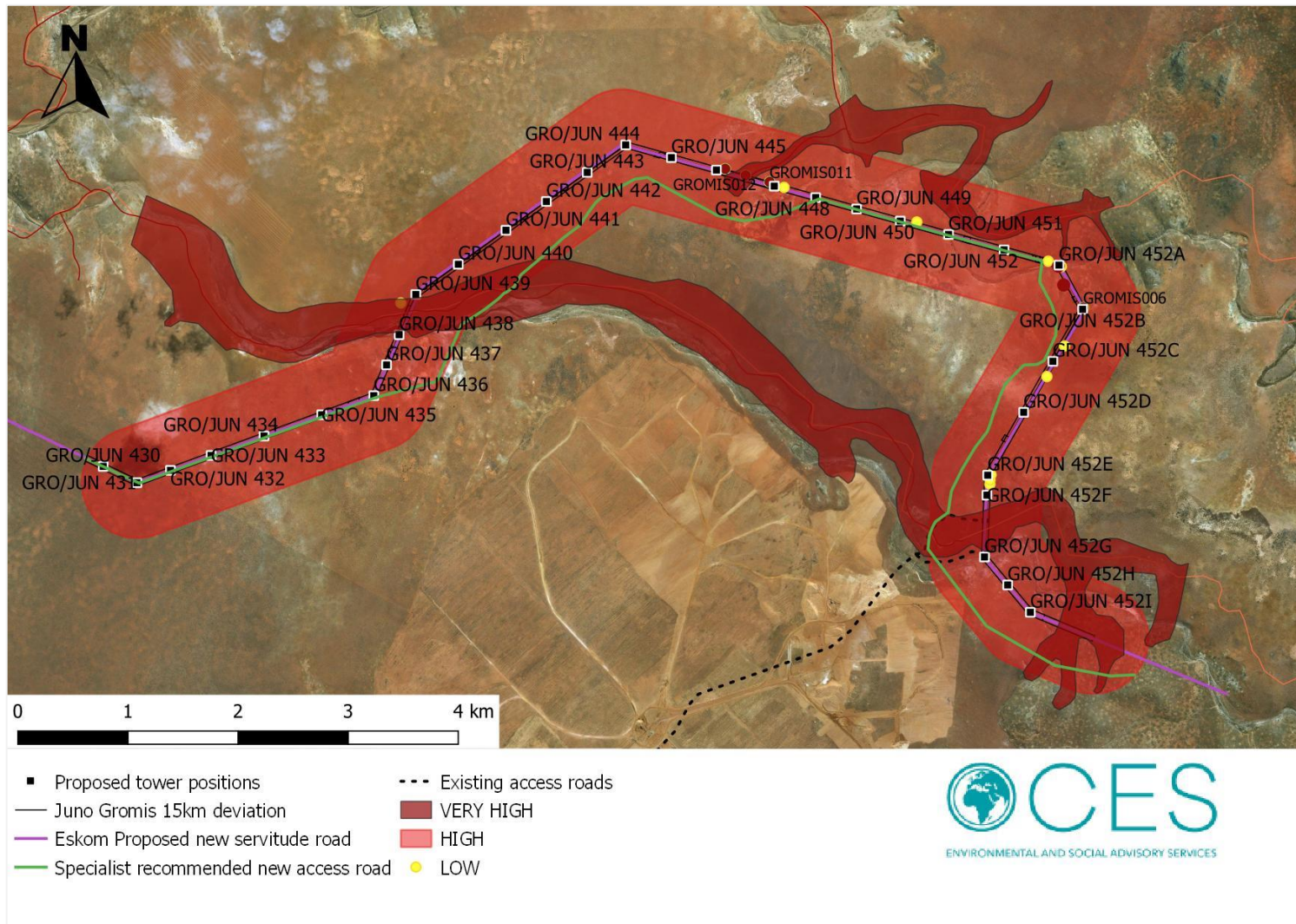
As all vegetation units were classified as high sensitivity, construction within areas classified as 'High' sensitivity is permissible provided that plant permits are applied for, where required, prior to construction in those areas.

Regarding avifauna, two priority species (Secretarybird & Southern Black Korhaan) were confirmed on site during the survey, and a third (Ludwig's Bustard) is considered probable. These species are

particularly susceptible to collision with overhead power lines. These species could occur anywhere on site in the strandveld and are not associated with any particular habitat feature. This means that the collision risk will be high for the full section of power line.

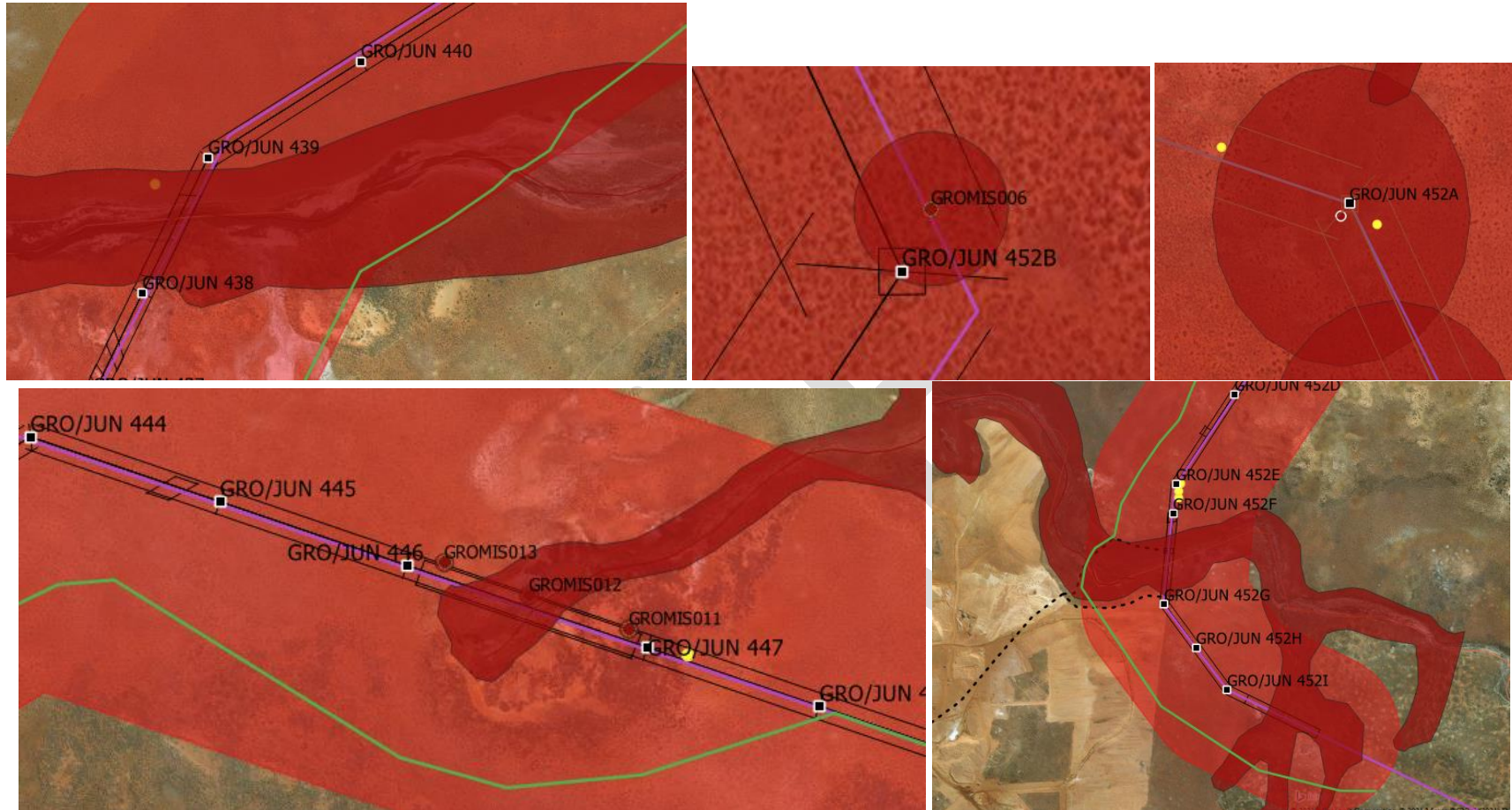
**Table 9-1: Summary of site-specific environmental sensitivities within the study area.**

SENSITIVE ENVIRONMENT	DESCRIPTION	RISK
<b>Aquatic Biodiversity</b>	<ul style="list-style-type: none"> <li>• Watercourses and wetlands</li> <li>• Aquatic CBAs - Groot Goerap and Klein Goerap Rivers</li> <li>Riparian zones classified as aquatic ESAs</li> <li>• 'No-go' buffer areas</li> <li>• Namaqualand Riviere vegetation</li> </ul>	<b>VERY HIGH</b>
<b>Heritage &amp; Archaeological</b>	<ul style="list-style-type: none"> <li>• Four sites were graded as IIIC (GROMIS006, 011, 012 and 013) and a no-go 20m conservation buffer.</li> </ul>	<b>VERY HIGH</b>
<b>Terrestrial Biodiversity (including flora and fauna)</b>	<ul style="list-style-type: none"> <li>• Quartz rocky outcrops typically have a higher species diversity and higher number of SCC.</li> <li>• 100m no-go rocky outcrop buffers</li> </ul>	<b>VERY HIGH</b>
	<ul style="list-style-type: none"> <li>• Namaqualand Strandveld, Southern Namaqualand Quartzite Klipkloppe Shrubland, Knersvlakte Quartz Vygieland vegetation.</li> </ul>	<b>HIGH</b>
<b>Avifauna</b>	<ul style="list-style-type: none"> <li>• Collision risk will be high for the full section of power line for priority species (Secretarybird, Southern Black Korhaan and Ludwig's Bustard).</li> </ul>	<b>HIGH</b>
<b>Heritage &amp; Archaeological</b>	<ul style="list-style-type: none"> <li>• The rest of the findings were graded as Not Conservation Worthy (NCW) due to the very low densities of the scatters and the lack of organic or other cultural material.</li> </ul>	<b>LOW</b>
<b>Palaeontology</b>	<ul style="list-style-type: none"> <li>• The paleontological sensitivity of the surficial sand formations is therefore considered to be LOW.</li> <li>• In view of the small volumes of deposit excavated for the pylon foundations, relative to the extensive exposures in prospecting trenches and mine pits, the likelihood of intersecting fossil bones in any one excavation is low. The paleontological sensitivity is considered to be LOW.</li> </ul>	<b>LOW</b>
<b>Agricultural</b>	<ul style="list-style-type: none"> <li>• The DEFF screening report rates the sites as largely 'Low' sensitivity. According to DAFF Land Capability (2016), the project area has a very low to low land capability rating and a grazing capacity of 45 Ha/Large Stock Unit, which is poor.</li> <li>• In addition, 26 of the 32 proposed pylon structures fall on land zoned as 'mining' owned by Tronox Mineral Sands Pty Ltd</li> </ul>	<b>LOW</b>



**Figure 9-1: Final Sensitivity Map**

**ESKOM JUNO GROMIS 400kV LINE DEVIATION**



**Figure 9-2: Areas of concern: requiring re-routing of proposed new servitude access road and relocation of pylon GRO/JUN 452A.**

## 10 IMPACT ASSESSMENT

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### 10.1 CES ASSESSMENT METHODOLOGY

To ensure a balanced and objective approach to assessing the significance of potential impacts, a standardised rating scale was adopted which allows for the direct comparison of specialist studies. This rating scale has been developed in accordance with the requirements outlined in Appendix 1 of the EIA Regulations (2014 and subsequent 2017 amendments).

#### ***Impact significance pre-mitigation***

This rating scale adopts six key factors to determine the overall significance of the impact prior to mitigation:

1. **Nature of impact:** Defines whether the impact has a negative or positive effect on the receiving environment.
2. **Type of impact:** Defines whether the impact has a direct, indirect or cumulative effect on the environment.
3. **Duration:** defines the relationship of the impact to temporal scales. The temporal scale defines the significance of the impact at various time scales as an indication of the duration of the impact. This may extend from the short-term (less than 5 years, equivalent to the construction phase) to permanent. Generally, the longer the impact occurs the greater the significance of any given impact.
4. **Extent:** describes the relationship of the impact to spatial scales i.e. the physical extent of the impact. This may extend from the local area to an impact that crosses international boundaries. The wider the spatial scale the impact extends, the more significant the impact is considered to be.
5. **Probability:** refers to the likelihood (risk or chance) of the impact occurring. While many impacts generally do occur, there is considerable uncertainty in terms of others. The scale varies from unlikely to definite, with the overall impact significance increasing as the likelihood increases.
6. **Severity or benefits:** the severity/beneficial scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on the receiving environment. The severity of an impact can be evaluated prior and post mitigation to demonstrate the seriousness of the impact if it is not mitigated, as well as the effectiveness of the mitigation measures. The word 'mitigation' does not only refer to 'compensation', but also includes concepts of containment and remedy. For beneficial impacts, optimization refers to any measure that can enhance the benefits. Mitigation or optimisation should be practical, technically feasible and economically viable.

For each impact, the duration, extent and probability are ranked and assigned a score. These scores are combined and used to determine the overall impact significance prior to mitigation. They must then be considered against the severity rating to determine the overall significance of an activity. This is because the severity of the impact is far more important than the other three criteria. The overall significance is either negative or positive (Criterion 1) and direct, indirect or cumulative (Criterion 2).

**Table 10-1: Evaluation Criteria.**

<b>Duration (Temporal Scale)</b>		
<i>Short term</i>	<i>Less than 5 years</i>	
<i>Medium term</i>	<i>Between 5-20 years</i>	
<i>Long term</i>	<i>Between 20 and 40 years (a generation) and from a human perspective also permanent</i>	
<i>Permanent</i>	<i>Over 40 years and resulting in a permanent and lasting change that will always be there</i>	
<b>Extent (Spatial Scale)</b>		
<i>Localised</i>	<i>At localised scale and a few hectares in extent</i>	
<i>Study Area</i>	<i>The proposed site and its immediate environs</i>	
<i>Regional</i>	<i>District and Provincial level</i>	
<i>National</i>	<i>Country</i>	
<i>International</i>	<i>Internationally</i>	
<b>Probability (Likelihood)</b>		
<i>Unlikely</i>	<i>The likelihood of these impacts occurring is slight</i>	
<i>May Occur</i>	<i>The likelihood of these impacts occurring is possible</i>	
<i>Probable</i>	<i>The likelihood of these impacts occurring is probable</i>	
<i>Definite</i>	<i>The likelihood is that this impact will definitely occur</i>	
<b>Severity Scale</b>	<b>Severity</b>	<b>Benefit</b>
<i>Very Severe/ Beneficial</i>	An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit.
<i>Severe/ Beneficial</i>	Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these.	A long-term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these.
<i>Moderately severe/Beneficial</i>	Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way.
<i>Slight</i>	Medium- or short-term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.
<i>No effect/don't or can't know</i>	The system(s) or party(ies) is not affected by the proposed development.	In certain cases, it may not be possible to determine the severity of an impact.



\* In certain cases, it may not be possible to determine the severity of an impact thus it may be determined: Don't know/Can't know.

**Table 10-2: Description of Overall Significance Rating**

Significance Rate		Description
<b>Don't Know</b>		<i>In certain cases, it may not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information.</i>
<b>NO SIGNIFICANCE</b>		<i>There are no primary or secondary effects at all that are important to scientists or the public.</i>
<b>LOW NEGATIVE</b>	<b>LOW POSITIVE</b>	<i>Impacts of low significance are typically acceptable impacts for which mitigation is desirable but not essential. The impact by itself is insufficient, even in combination with other low impacts, to prevent the development being approved. These impacts will result in negative medium to short term effects on the natural environment or on social systems.</i>
<b>MODERATE NEGATIVE</b>	<b>MODERATE POSITIVE</b>	<i>Impacts of moderate significance are impacts that require mitigation. The impact is insufficient by itself to prevent the implementation of the project but in conjunction with other impacts may prevent its implementation. These impacts will usually result in a negative medium to long-term effect on the natural environment or on social systems.</i>
<b>HIGH NEGATIVE</b>	<b>HIGH POSITIVE</b>	<i>Impacts that are rated as being high are serious impacts and may prevent the implementation of the project if no mitigation measures are implemented, or the impact is very difficult to mitigate. These impacts would be considered by society as constituting a major and usually long-term change to the environment or social systems and result in severe effects.</i>
<b>VERY HIGH NEGATIVE</b>	<b>VERY HIGH POSITIVE</b>	<i>Impacts that are rated as very high are very serious impact which may be sufficient by itself to prevent the implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects or very beneficial effects.</i>

**Impact significance post-mitigation**

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

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

**Table 10-3: Post-mitigation Evaluation Criteria**

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

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

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

### 10.2 IMPACT ASSESSMENT

The overall impacts associated with the current layout of the proposed 15 km powerline deviation as well as the “no-go alternative” is assessed below to evaluate the significance of the “as predicted” impacts (prior to mitigation) and the “residual” impacts (that remain after mitigation measures have been implemented).

#### 10.2.2 Planning and Design Phase

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>PLANNING AND DESIGN PHASE</b>														
<b>(SIGNIFICANCE WITHOUT MITIGATION)</b>												<b>(SIGNIFICANCE WITH MITIGATION)</b>		
<b>ENVIRONMENTAL POLICY</b>														
<b>Legal and policy compliance</b>	All	During the planning and design phase, failure to plan for the necessary licences and authorisations will result in non-compliance with relevant legal obligations. These include water use license and plant permits, where needed.	Negative	Direct	Severe	Regional	Long-term	May Occur	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>All relevant legislation and policy must be consulted, and the proponent must ensure that the project is compliant with such legislation and policy.</li> <li>All relevant permits, licenses and authorisations including Water Use Licences, and plant removal permits (if necessary) must be in place prior to commencement of construction.</li> </ul>	<b>LOW</b>
<b>BUILT ENVIRONMENT</b>														
<b>Layout Design</b>	Alternative 1: Preferred corridor	During the planning and design phase, failure to take into consideration sensitive areas identified during the Basic Assessment Process may result in unnecessary degradation of the surrounding terrestrial, aquatic and heritage environment.	Negative	Direct, Cumulative	Moderate	Study area	Medium-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.2: Site Establishment</b> of the generic EMPr must be implemented.</li> <li>The mitigation measures contained in <b>section 5.25: Finalising Tower Positions</b> of the generic EMPr must be implemented.</li> <li>All areas classified as ‘Very High’ Sensitivity, as per Figure 9.1 within the Basic Assessment Report must be considered no-go areas. The proposed servitude access road must be re-routed to avoid these areas, however, pylon structure GRO/JUN 452B can remain as is.</li> <li>Pylon structure GRO/JUN 452A must be relocated outside of the 100m no-go rocky outcrop buffers.</li> <li>The recommendations made by aquatic specialist regarding the proposed layout of new access roads must be adhered to.</li> </ul>	<b>LOW</b>

10.2.3 Construction Phase

Table 10-4: Assessment of impacts during the Construction phase.

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>CONSTRUCTION PHASE</b>														
(SIGNIFICANCE WITHOUT MITIGATION)												(SIGNIFICANCE WITH MITIGATION)		
<b>CONSTRUCTION PHASE</b>														
<b>ENVIRONMENTAL POLICY</b>														
Legal and policy compliance	All	During the construction phase, failure to adhere to existing policies, regulations, permits, authorisations and legal obligations will lead to the project being non-compliant with local, provincial and national policies, legislation, etc. and may lead to undue disturbance of the natural environment and/or closure of the facility.	Negative	Direct	Severe	National	Long-term	May Occur	Reversible	Resource will be partly lost	Achievable	HIGH	<ul style="list-style-type: none"> <li>The Applicant must employ an independent Environmental Control Officer (ECO) for the duration of the construction phase to audit the contractor's compliance with the specifications in the EA, EMPr and any other permits/authorisations.</li> <li>The ECO must undertake monthly audits during construction.</li> </ul>	LOW
<b>BUILT ENVIRONMENT</b>														
Site Establishment, Bulk Services and Infrastructure	Alternative 1: Preferred corridor	During the construction phase, inappropriate siting of the site camp could lead to unnecessary degradation of the surrounding environment. In addition, the uncontrolled clearing of vegetation and construction activities within or within close proximity to sensitive areas may result in degradation of the surrounding environment.	Negative	Direct, Indirect,	Moderately severe	Study area	Medium-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	MODERATE	<ul style="list-style-type: none"> <li>The applicable mitigation measures contained in the generic EMPr must be implemented.</li> </ul>	LOW
Material stockpiling	Alternative 1: Preferred corridor	During the construction phase, inappropriate location and management of material stockpiles may result in erosion and mobilization of materials into nearby watercourses.	Negative	Direct, Indirect	Moderately severe	Localised	Short-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.24: Stockpiling and Stockpile Areas</b> of the generic EMPr must be implemented.</li> </ul>	LOW
Stormwater management	Alternative 1: Preferred corridor	During the construction phase, failure to implement effective stormwater management measures may result in increased surface soil erosion and contamination of stormwater and resulting surrounding watercourses.	Negative	Direct, Indirect	Moderately severe	Study area	Long-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.7: Storm and Waste Water Management</b> of the generic EMPr must be implemented</li> </ul>	LOW
Waste management	Alternative 1: Preferred corridor	During the construction phase, poor management of handling, disposal and storage of general and hazardous waste may lead to the pollution of the surrounding environment.	Negative	Direct, Indirect	Moderately severe	Study area	Medium-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.8: Solid and Hazardous Waste Management</b> of the generic EMPr must be implemented</li> </ul>	LOW
Hazardous substances	Alternative 1: Preferred corridor	During the construction phase, inappropriate storage, use and handling of hazardous substances may result in the contamination of the surrounding environment.	Negative	Direct, Indirect	Severe	Study area	Medium-term	May Occur	Reversible	Resource will not be lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.8: Solid and Hazardous Waste Management</b> and <b>section 5.17: Hazardous Substances</b> of the generic EMPr must be implemented</li> </ul>	LOW
<b>TERRESTRIAL BIODIVERSITY</b>														
Loss of Namaqualand Strandveld	Alternative 1: Preferred corridor	<p>The clearing of land for the construction of the powerline and access road will result in the loss of up to 4.7 ha of Namaqualand Strandveld.</p> <p>The project will definitely result in the permanent loss of this vegetation type however, given that the loss will be limited to 4.7 ha, it is unlikely to impact on the extent and long-term</p>	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint.</li> <li>Activities within 500m of a wetland must obtain the necessary Water Use License prior to the commencement of such activities.</li> <li>Topsoil (20 cm, where possible) must be collected and stored in an area of low sensitivity and used to rehabilitate impacted</li> </ul>	MODERATE

		conservation of the vegetation, which is listed as Least Threatened.  The overall significance of the project activities at this site, provided the recommended mitigation measures are implemented, would be moderate negative.												<ul style="list-style-type: none"> <li>areas that are no longer required during the operational phase (e.g. laydown areas).</li> <li>Only indigenous species must be used for rehabilitation.</li> <li>Lay down areas must not be located within any watercourses or drainage lines.</li> <li>Employees must be prohibited from making open fires during the construction phase.</li> <li>An alien invasive management plan for the site must be created.</li> <li>An in-situ search and rescue plan must be developed and implemented for succulents and geophytes that will be impacted by the construction of the project site.</li> </ul>	
	Cumulative	Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. However, the footprint of the powerline is relatively small compared to the adjacent mine. The additional loss of vegetation will therefore have a Low cumulative impact.	Negative	Direct	Moderately severe	Local	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	LOW	<ul style="list-style-type: none"> <li>It is imperative that the applicant implement the mitigation measures listed above.</li> </ul>	LOW	
	No-Go	Given that the area has been protected from grazing by the mine fence and the vegetation is therefore mostly intact, if the project were not to go ahead, the vegetation would remain as is. The impact of the no-go alternative is therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE	
Loss of Southern Namaqualand Quartzite Klipkloppe Shrubland	Alternative 1: Preferred corridor	The clearing of land for the construction of the powerline will result in the loss of up to 0.55ha of Southern Namaqualand Quartzite Klipkloppe Shrubland which occurs as a single confirmed patch along the north east of the powerline route.  If the powerline infrastructure is located within this vegetation type, the impact will be of high significance. If the infrastructure is moved to avoid this area, the impact can be reduced to low or even negligible significance for this vegetation type.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource will be completely lost.	Difficult	HIGH	<ul style="list-style-type: none"> <li>In addition to the mitigation measures listed above, this vegetation type must be avoided as far as possible and the infrastructure layout designed to avoid impacting this vegetation type.</li> <li>No laydown areas must occur in this vegetation type.</li> <li>Access and service roads must avoid this vegetation type where possible.</li> <li>A botanical walkthrough of the final layout to ensure no populations of SCC is recommended. This must be done during the flowering season (July-August).</li> </ul>	MODERATE	
	Cumulative	It is difficult to implement mitigation measures specific to the cumulative impacts as the applicant only has jurisdiction over their development and not over other developments or farming activities in the area.  Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site. However, the footprint of the powerline is relatively small compared to the adjacent mine and the powerline has been shifted so that the infrastructure avoids impacting this vegetation type. There will therefore be no cumulative impact on this vegetation type from this development.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource will be completely lost.	Difficult	HIGH	<ul style="list-style-type: none"> <li>It is imperative that the applicant implement the mitigation measures listed above, including avoiding the placement of infrastructure within this vegetation type.</li> </ul>	MODERATE	
	No-Go	Given that the area has been protected from grazing by the mine fence and the vegetation is therefore mostly intact, if the project were not to go ahead, the vegetation would remain as is. The impact of the no-go alternative is therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Loss of Namaqualand Riviere	Alternative 1: Preferred corridor	The powerline will traverse this vegetation type with the pylons occurring on either side of this vegetation type. Based on the project layout, the impact to this vegetation type will be limited. It is estimated that the access road will result in the loss of 0.14 ha of this vegetation type.	Negative	Direct	Slight	Localised	Permanent	Unlikely	Irreversible	Resource will be completely lost.	Achievable	LOW	<ul style="list-style-type: none"> <li>In addition to the mitigation measures listed above, the following should be implemented:</li> <li>The footprint of each pylon must be placed to avoid impacting Namaqualand Riviere vegetation.</li> <li>No laydown areas must be located within Namaqualand Riviere vegetation type.</li> </ul>	LOW	
	Cumulative	Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site. However, the footprint of the powerline within this vegetation type is relatively small compared to the adjacent mine. The additional loss of vegetation will have a low cumulative impact.	Negative	Direct	Moderately severe	Regional	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>It is difficult to implement mitigation measures specific to the cumulative impacts as the applicant only has jurisdiction over their development and not over other developments or farming activities in the area. However, it is imperative that the applicant implement the mitigation measures listed above.</li> </ul>	LOW	

	No-Go	As per the above, under the no-go alternative the vegetation will remain unchanged and the current impacts are therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Loss of Knersvlakte Quartz Vygieland	Alternative 1: Preferred corridor	Two small patches of this vegetation type occur where the powerline crosses the river. One at the western crossing and a second at the eastern crossing.  It is estimated that approximately 0.34 ha of vegetation will be permanently lost if the existing layout is implemented with an impact significance of high. However, if the powerline is shifted to the west at the western crossing and the pylons and access roads are placed outside of this vegetation type, this can be reduced to low.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource will be completely lost.	Difficult	HIGH	<ul style="list-style-type: none"> <li>In addition to the mitigation measures listed above, the Knersvlakte Quartz Vygieland vegetation type should be listed as a no-go area and the infrastructure layout designed to avoid impacting this vegetation type.</li> <li>Where this is not feasible, the design should ensure that the footprint of the infrastructure is limited.</li> <li>A botanical walkthrough of the final layout to ensure no populations of SCC is recommended. This must be done during the flowering season (July-August).</li> </ul>	LOW
	Cumulative	Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. However, the footprint of the powerline is relatively small compared to the adjacent mine. The impact will be of high significance.  If the powerline is positioned to avoid impacting this vegetation type, the cumulative impact will be low.	Negative	Direct	Moderately severe	Regional	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>If the powerline is positioned to avoid direct impacts on this vegetation type, the cumulative impact will be low.</li> </ul>	LOW
	No-Go	As per the above, under the no-go alternative the vegetation will remain unchanged and the current impacts are therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Loss of Plant Species of Conservation Concern	Alternative 1: Preferred corridor (If SCC present)	The permanent loss of plant species of conservation concern may occur. Some of these are restricted range species with less than ten known populations. The severity of the impact will be of very high significance if a population of one or more of these species is affected.	Negative	Direct	Very Severe	Regional	Permanent	Definite	Irreversible	Resource will be completely lost.	Difficult	VERY HIGH	<ul style="list-style-type: none"> <li>A botanical walkthrough of the powerline route, by an experienced botanist with knowledge of the SCC that have been identified as possibly occurring within the site, must be undertaken between July and August (when the plants are flowering). If restricted range SCC populations are found, the towers and/or access road must be shifted to avoid these populations.</li> </ul>	MODERATE
	Alternative 1: Preferred corridor (If SCC not present)	If no populations of restricted range SCC are present, then the impact will be of moderate significance.	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource will be completely lost.	Achievable	MODERATE		LOW
	Cumulative	If populations of SCC with restricted ranges are present within the site and are impacted by the placement of infrastructure, the cumulative impact will be very high as some SCC have already been lost as a consequence of mining that is currently occurring in the region.  This impact can be reduced if a thorough botanical walkthrough of the site is undertaken during the optimum flowering season.	Negative	Direct	Very Severe	Regional	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	VERY HIGH	<ul style="list-style-type: none"> <li>If the powerline is positioned to avoid direct impacts on this vegetation type, the cumulative impact will be low.</li> </ul>	LOW
	No-Go	As per the above, under the no-go alternative the vegetation will remain unchanged and the current impacts are therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Impact on faunal species of conservation concern	Alternative 1: Preferred corridor	Sensitive species 4 may occur at rocky outcrops throughout the project area.	Negative	Direct	Moderately	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	HIGH	<ul style="list-style-type: none"> <li>Habitat is available within the project area for Species 4 and it is therefore recommended that a 100m no-go buffer is applied to all rocky outcrops.</li> </ul>	MODERATE
	Cumulative	If populations of SCC with restricted ranges are present within the site and are impacted by the placement of infrastructure, the cumulative impact will be very high as some SCC have already been lost as a consequence of mining that is currently occurring in the region.	Negative	Direct	Very Severe	Regional	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	VERY HIGH	<ul style="list-style-type: none"> <li>If the tower positions and access road route is planned to avoid direct impacts on rocky outcrops, the cumulative impact will be low.</li> </ul>	LOW

	No-Go	As per the above, under the no-go alternative the vegetation will remain unchanged and the current impacts are therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Reduced Faunal Habitat along new access roads and at poles footprints	Alternative 1: Preferred corridor	The project will definitely result in the temporary loss of habitat along new access roads and permanent habitat loss of the pylon footprint.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	HIGH	<ul style="list-style-type: none"> <li>Temporary new access roads used for construction must be decommissioned and rehabilitated to the original habitat type. At the very least these must be reduced in size and roads consolidated.</li> </ul>	MODERATE	
	Cumulative	Portions of habitat have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. The footprint of the powerline is relatively small compared to the adjacent mine.	Negative	Direct	Moderately severe	Regional	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>Powerline to avoid intact areas and place poles in degraded areas.</li> <li>Road network to be kept to a minimum.</li> </ul>	MODERATE	
	No-Go	Given that the area has been protected from grazing by the mine fence and the vegetation is therefore mostly intact, if the project were not to go ahead, the vegetation would remain as is. The impact of the no-go alternative is therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Disruption of Ecosystem Function and Process	Alternative 1: Preferred corridor	Fragmentation is one of the most important impacts on vegetation as it creates breaks in previously continuous vegetation, causing a reduction in the gene pool and a decrease in species richness and diversity. It also impacts on fauna as it separates habitats and necessitates fauna having to move across exposed areas like roads to get to another section of their habitat or territory. This impact occurs when more and more areas are cleared, resulting in the isolation of functional ecosystems, which results in reduced biodiversity and reduced movement due to the absence of ecological corridors.	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>Rehabilitate laydown areas.</li> <li>Use existing access roads and upgrade these where necessary.</li> </ul>	MODERATE	
	Cumulative	The powerline is located adjacent to the existing Namaqua Sands Mine which is already considered a highly fragmented environment. Since the footprint of the powerline is relatively small compared to the adjacent mine, the additional break in habitat caused by the construction of the powerline will be of moderate significance.	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>It is difficult to implement mitigation measures specific to the cumulative impacts as the applicant only has jurisdiction over their development and not over other developments or farming activities in the area. However, it is imperative that the applicant implement the mitigation measures listed above.</li> </ul>	MODERATE	
	No-Go	Under the no go alternative, habitat fragmentation has already occurred and will continue to do so while mining activities take place at the adjacent site.	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>N/A</li> </ul>	MODERATE	
Disturbance to faunal species and potential reduction in abundance and mortality of faunal species	Alternative 1: Preferred corridor	Faunal species will be disturbed during construction due to noise and vibrations of construction machinery. Faunal Species that vacate the immediate area may return following completion of construction or new individuals or species may inhabit the area. Construction machinery may cause unintentional mortalities of faunal species.  Even with the mitigations applied, construction will still have an impact on faunal species.	Negative	Direct	Moderately severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>Vehicles and machinery must meet best practice standards.</li> <li>Staff and contractors' vehicles must comply with speed limits of 40km/hr</li> <li>Project must start and be completed within the minimum timeframe. i.e. may not be started and left incomplete.</li> <li>ECO to walk ahead of clearing construction machinery and move slow moving species e.g. tortoises out of harm's way and into suitable neighbouring habitat.</li> <li>Any faunal species that may die as a result of construction must be recorded (photographed, gps co-ord) and if somewhat intact preserved and donated to SANBI.</li> <li>Any faunal species observed onsite must be recorded (photographed, gps co-ord) and loaded onto iNaturalist.</li> <li>Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.</li> </ul>	MODERATE	
	Cumulative	The adjacent mine has already caused an increase in ambient noise in the area. The additional noise generated from the construction of the powerline will be a short term impact and will be of moderate significance.	Negative	Direct	Moderately severe	Study Area	Short Term	Definite	Reversible	Resource could be partially lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>It is difficult to implement mitigation measures specific to the cumulative impacts as the applicant only has jurisdiction over their development and not over other developments or farming activities in the area. However, it is imperative that the applicant implement the mitigation measures listed above.</li> </ul>	LOW	

	No-Go	Under the no-go alternative, some faunal populations at the study site will still be impacted by noise from the adjacent mine.	Negative	Direct	Moderately severe	Study Area	Short Term	Definite	Reversible	Resource could be partially lost	Difficult	LOW	<ul style="list-style-type: none"> <li>N/A</li> </ul>	LOW
Establishment of Alien Plant Species	Alternative 1: Preferred corridor	No alien species were recorded at the sites. However, disruption of habitats often results in the infestation of alien species unless these are controlled. Should this happen the impact will be of high significance since the project site is of high sensitivity and the alien species could result in the displacement of indigenous species and possible local extinctions of SCC.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	HIGH	<ul style="list-style-type: none"> <li>The site must be checked regularly for the presence of alien invasive species.</li> <li>An alien invasive management plan must be incorporated into the EMP.</li> </ul>	LOW
	Cumulative	Since no alien invasive species were noted on the adjacent farmlands, there is currently no cumulative impact.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
	No-Go	Under the no-go alternative, the infestation of alien species is unlikely to occur. The significance of this impact will be negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
<b>AVIFAUNAL</b>														
Avifaunal habitat destruction during construction	Alternative 1: Preferred corridor	During construction, vegetation is altered or removed. This destroys avifauna habitat, makes it less useful to birds, or less attractive to sensitive species.	Negative	Direct	Slight	Localised	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	LOW	<ul style="list-style-type: none"> <li>A pre-construction avifaunal walk through should be conducted to confirm final layout and identify any sensitivities that may arise between the conclusion of the BAR process and the construction phase.</li> <li>All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li> <li>All temporary disturbed areas should be rehabilitated according to the site's rehabilitation plan, following construction.</li> </ul>	LOW
Disturbance of birds	Alternative 1: Preferred corridor	Disturbance of birds in the study area during construction of the power line will be of Low Negative Significance. This is since no sensitive bird species are known to breed on or near the site and so disturbance will have a relatively small effect on local bird populations.	Negative	Direct	Slight	Study Area	Short-term	Possible	Reversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>An avifaunal walk through should be conducted to confirm final layout and identify any sensitive species breeding on site that may arise between the conclusion of the BA process and the construction phase.</li> <li>All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li> </ul>	LOW
<b>AQUATIC</b>														
Disturbance of freshwater habitat and water quality impacts	Alternative 1: Preferred corridor	Construction activities would include the construction of foundations for each pylon or tower as well as the establishment of access roads alongside the powerline. The powerline comprises a 400kV line traversing the lower Groot Goerap River twice. Activities during the construction phase of the project could result in some disturbance of vegetation cover and disturbance to the bed and banks should activities need to take place within or adjacent to the delineated aquatic features.	Negative	Direct, Indirect	Moderately severe	Localised	Short Term	May Occur	Reversible	Resource could be partially lost	Difficult	LOW	<ul style="list-style-type: none"> <li>Construction activities must, as far as possible, occur outside of the delineated aquatic features and the proposed buffer zones. The recommended buffers for the Groot Goerap River at the proposed crossing vary depending on the slope and sensitivity of the banks within the study area.</li> <li>Placement of the powerline towers and the access roads to the pylons must not, as far as possible, be placed within the river channel, riparian zone, or the recommended buffer zones. The overhead powerlines may however cross over the buffer zones and the river.</li> </ul>	LOW
	Cumulative	The lower Groot Goerap and Klein Goerap Rivers are in a largely natural to moderately modified ecological condition mostly as a result of flow and water quality impacts in its upstream catchment. Land use activities upstream and downstream of the corridor of the proposed powerlines have resulted in a direct modification to the aquatic habitat and more specifically to the riparian and estuarine habitats associated with the river. These aquatic habitats are considered to be of a moderate to high ecological importance and sensitivity and thus further degradation of this aquatic habitat should not be allowed to occur. It can be expected that the proposed powerline would however not result in any impacts to the aquatic habitats if they are adequately mitigated and most importantly remain outside of the recommended buffer areas.	Negative	Direct, Indirect	Moderately severe	Regional	Short Term	May Occur	Reversible	Resource could be partially lost	Difficult	LOW	<ul style="list-style-type: none"> <li>As far as possible, existing access roads must be utilised to minimise the extent of disturbance in the area. If new roads do need to be established, the shortest route that would create the least disturbance within this area must be selected. An alternative access road route has been proposed by the aquatic specialist that largely makes use of existing tracks and crossings through the watercourses, which must be considered.</li> <li>The road crossing structures within the watercourses should preferably comprise a simple low water crossing / concrete slab type structure that would not impede the low flow in the watercourses or become blocked with sediment and debris.</li> <li>Due to the fact that the vegetation in the study area is still largely natural with minimal invasive alien plant growth, any</li> </ul>	NO SIGNIFICANCE





	No-go	The No-go alternative will result in the status quo being maintained which includes existing ambient noise continuing to be generated by the mine.	Negative	Direct	Slight	Localised	Long-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	LOW	<ul style="list-style-type: none"> <li>No mitigation applicable.</li> </ul>	LOW
Air quality and dust control	Alternative 1: Preferred corridor	During the construction phase, dust generated by construction activities on site and from construction vehicles could result in significant dust during windy conditions.	Negative	Direct	Moderately severe	Study area	Short-term	Definite	Reversible	Resource will not be lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.20: Dust Emissions</b> of the generic EMPr must be implemented, where applicable.</li> </ul>	LOW
	Cumulative	The adjacent sand mining activities may create dust pollution, which combined with the proposed construction activities, will contribute to a cumulative dust impact. However, dust generated from construction activities associated with the powerline will be a short-term impact and will be of low significance to the surrounding farm owners due to the remote nature of the site.	Negative	Direct	Slight	Localised	Short-term	Probable	Reversible	Resource will not be lost	Easily Achievable	LOW		LOW
	No-go	The No-go alternative will result in the status quo being maintained which includes existing ambient dust continuing to be generated by the mine.	Negative	Direct	Slight	Localised	Long-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	LOW	<ul style="list-style-type: none"> <li>No mitigation applicable.</li> </ul>	LOW
On-site fire risk	Alternative 1: Preferred corridor	During the construction phase, inadequate attention to fire safety awareness and fire safety equipment could result in uncontrolled fires, posing a threat to animals, vegetation and the surrounding landowners.	Negative	Direct	Severe	Study area	Long-term	May Occur	Irreversible	Resource will be lost	Easily Achievable	HIGH	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.23: Fire Prevention</b> of the generic EMPr must be implemented, where applicable.</li> </ul>	LOW
	No-go	Under the no-go alternative, this impact will not be applicable.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
Visual	Alternative 1: Preferred corridor	The project area is largely not sensitive from a landscape visual perspective, with small patches of high sensitivity due to having a slope ratio of between 1:4 and 1:10 gradient. The project area is remote, with the immediate visual receptor being that of the landowner, Tronox Mineral Sands Pty Ltd. The national screening tool confirmed that the project area is not close to any cultural heritage site, national route/freeway, main road, game farm, or mountain pass.	Negative	Direct	Slight	Study area	Short-term	Definite	Reversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.31: Landscaping and Rehabilitating</b> of the generic EMPr must be implemented after completion of construction activities within each area.</li> </ul>	LOW
	No-go	Under the no-go alternative, this impact will not be applicable.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	NO SIGNIFICANCE
<b>HERITAGE, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT</b>														
Impacts to significant cultural landscape, archaeology, and palaeontology heritage resources	Alternative 1: Preferred corridor	A representative record of the distribution of Middle Stone Age artefacts has been created through the survey which is consistent with previous findings in the area. The proposed development of the powerline and pylon footings is unlikely to negatively impact on any significant archaeological resources. However, the proposed development of the access road may negatively impact on the sites identified as grade IIIC and as such, it is recommended that they are conserved.	Negative	Direct	Slight	Study area	Permanent	May Occur	Irreversible	Resource will not be lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>The HWC Chance Fossil Finds Procedure must be implemented for the duration of construction activities.</li> <li>It is recommended that a no-go area of 20m is established around GROMIS006, 011, 012 and 013 IIC sites to ensure that no impact occurs these sites.</li> <li>Pylon GRO/JUN 452B will not require relocation, provided that GROMIS006 IIC site is not impacted by construction vehicles and activities associated with the construction of the pylon.</li> </ul>	LOW
	Cumulative	The proposed 15km line deviation and associated infrastructure will not result in a cumulative negative impact on heritage or paleontological resources, provided that the recommended mitigation measures are implemented.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE		NO SIGNIFICANCE
	No-Go	The no-go alternative is unlikely to result in impacts on archaeological, cultural heritage resources and palaeontology.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>

10.2.4 Operation Phase

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>OPERATION PHASE</b>														
<b>(SIGNIFICANCE WITHOUT MITIGATION)</b>												<b>(SIGNIFICANCE WITH MITIGATION)</b>		
<b>ENVIRONMENTAL POLICY</b>														
<b>Legal and Policy Compliance</b>	Alternative 1: Preferred corridor	During the operation phase, failure to adhere to all license, permits, authorisations and regulations may lead to financial penalties.	Negative	Direct	Severe	National	Long-term	May Occur	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The proponent must ensure that operation of the facility is compliant with the relevant legislation and policy and authorisations.</li> <li>These should include (but are not restricted to) the EA, WULA, plant removal permits and any other applicable permits/authorisations.</li> </ul>	<b>LOW</b>
<b>BUILT ENVIRONMENT</b>														
<b>Erosion and Stormwater Management</b>	Alternative 1: Preferred corridor	During the operation phase, uncontrolled runoff and lack of maintenance of river crossings and access roads/tracks may result in the erosion and sedimentation of the surrounding environment.	Negative	Direct, Indirect	Severe	Study area	Long-term	May Occur	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The mitigation measures contained in the generic EMPr must be implemented, where applicable to the operation phase.</li> </ul>	<b>LOW</b>
<b>Rehabilitation and Maintenance</b>	Alternative 1: Preferred corridor	During the operational phase, inadequate rehabilitation could lead to degradation of the study area and surrounding areas.	Negative	Direct, Indirect	Severe	Study area	Long-term	May Occur	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.31: Landscaping and Rehabilitation</b> of the generic EMPr must be implemented, where required.</li> </ul>	<b>LOW</b>
<b>ECOLOGICAL ENVIRONMENT</b>														
<b>Infestation of Alien Plant Species</b>	Alternative 1: Preferred corridor	If laydown areas and roads are not rehabilitated, these disturbed areas can become places for alien invasive species to become established and if left unmitigated these species can spread and establish themselves in intact vegetation resulting in the displacement of indigenous species and possible local extinctions of SCC.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them.</li> <li>An alien invasive management plan must be incorporated into the EMPr.</li> <li>The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.</li> </ul>	<b>LOW</b>
	Cumulative	Since no alien invasive species were noted on the adjacent farmlands there is currently no cumulative impact.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>
	No-Go	Under the no-go alternative, the infestation of alien species is unlikely to occur. The significance of this impact will be negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>
<b>AVIFAUNAL</b>														

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>OPERATION PHASE</b>														
<b>Disturbance of birds</b>	Alternative 1: Preferred corridor	Disturbance of birds in the study area during operation and maintenance of the power line will be of Low Negative Significance. This is since no sensitive bird species are known to breed on or near the site and so disturbance will have a relatively small effect on local bird populations	Negative	Direct	Slight	Study Area	Short-term	Possible	Reversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>All operation activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li> </ul>	LOW
<b>Electrocution of birds on power line</b>	Alternative 1: Preferred corridor	Electrocution of large birds such as eagles on the power line pylons will be of Low Negative Significance pre mitigation since the clearances on a 400kV power line are sufficient to be safe for all perching birds. No mitigation is required for this impact.	Negative	Direct	Slight	Global	Short-term	Unlikely	Irreversible	Resource will be lost	Difficult	LOW	<ul style="list-style-type: none"> <li>None required, as unlikely on 400kV lines</li> </ul>	LOW
<b>Collision of birds on overhead power line</b>	Alternative 1: Preferred corridor	Birds in flight collide with overhead cables (conductors or earth wires) whilst in mid-flight. This occurs when they don't see the cables until too late to take evasive action.	Negative	Direct	Severe	Global	Permanent	Possible	Irreversible	Resource will be lost	Difficult	MODERATE	<ul style="list-style-type: none"> <li>A pre-construction avifaunal walk through should be conducted to confirm final layout and identify any new sensitivities.</li> <li>The earth wires on high risk sections should be fitted with an approved anti bird collision line marking device to make cables more visible to birds in flight and reduce the likelihood of collisions.</li> </ul>	LOW
<b>AQUATIC</b>														
<b>Disturbance of habitat</b>	Alternative 1: Preferred corridor	Maintenance activities associated with the proposed powerline can result in disturbance of aquatic habitat and the provision of an ongoing opportunity for invasive alien plant growth.	Negative	Direct	Slight	Localised	Long-term	May Occur	Reversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>Maintenance of infrastructure related to the project should only take place via the designated access routes.</li> <li>Disturbed areas along the access routes should be monitored to ensure that these areas do not become subject to erosion or invasive alien plant growth.</li> </ul>	LOW
	Cumulative	The lower Groot Goerap and Klein Goerap Rivers are in a largely natural to moderately modified ecological condition mostly as a result of flow and water quality impacts in its upstream catchment. Land use activities upstream and downstream of the corridor of the proposed powerlines have resulted in a direct modification to the aquatic habitat and more specifically to the riparian and estuarine habitats associated with the river. These aquatic habitats are considered to be of a moderate to high ecological importance and sensitivity and thus further degradation of this aquatic habitat should not be allowed to occur. It can be expected that the proposed powerline would however not result in any impacts to the aquatic habitats if they are adequately mitigated and most importantly remain outside of the recommended buffer areas.	Negative	Direct, Indirect	Moderately severe	Regional	Short Term	May Occur	Reversible	Resource could be partially lost	Difficult	LOW		NO SIGNIFICANCE
	No-Go	Under the no-go alternative, no further impacts will take place on the aquatic habitat and the status quo will remain.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		LOW
<b>SOCIO-ECONOMIC</b>														
<b>Stimulation of Economic Growth and Strengthening of Electricity Supply</b>	Alternative 1: Preferred corridor	During the operation phase, it is anticipated that there will be some permanent job opportunities which may also result in some skills development and capacity building. The proposed 15km deviation, as part of the larger Kudu Integration Project's 230km 400kV Juno Gromis Transmission Line, will provide a more reliable electricity supply to the Western Cape, which has been plague by outages. This will have direct and indirect socio-economic benefits to the region.	Positive	Direct, Indirect	Beneficial	Regional	Long -term	Definite	N/A	N/A	Achievable	HIGH	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	HIGH

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>OPERATION PHASE</b>														
	No-go	Under the no-go alternative, the anticipated local and regional socio-economic benefits will not occur.	Negative	Direct, Indirect	Severe	Regional	Long-term	Definite	Reversible	Resource could be partially lost	Achievable	<b>MODERATE</b>	<ul style="list-style-type: none"> <li>No mitigation.</li> </ul>	<b>MODERATE</b>
<b>On-site Fire Risk</b>	Alternative 1: Preferred corridor	During the operation phase, there is the chance of fires which may harm staff and surrounding landowners/public.	Negative	Direct	Severe	Study area	Short-term	May Occur	Reversible	Resource will be lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The relevant mitigation measures contained in the generic EMPr must be implemented, where applicable to the operation phase.</li> </ul>	<b>LOW</b>
	No-go	Under the no-go alternative, this impact will not be applicable.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>
<b>Health and Safety</b>	Alternative 1: Preferred corridor	During the operational phase, failure to adequately train and monitor all staff regarding health and safety may result in non-compliance issues as well as risks of injury to workers and potential loss of life.	Negative	Direct	Severe	Localised	Short-term	May Occur	Irreversible	Resource will be lost	Achievable	<b>MODERATE</b>	<ul style="list-style-type: none"> <li>The Occupational Health and Safety Act (Act No 85 of 1993) must be adhered to at all times.</li> </ul>	<b>LOW</b>
	No-go	Under the no-go alternative, this impact will not be applicable.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>

**10.2.5 Decommissioning Phase**

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>DECOMMISSIONING PHASE</b>														
<b>(SIGNIFICANCE WITHOUT MITIGATION)</b>												<b>(SIGNIFICANCE WITH MITIGATION)</b>		
<b>ENVIRONMENTAL POLICY</b>														
<b>Legal and Policy Compliance</b>	Alternative 1: Preferred corridor	During the decommissioning phase, failure to adhere to all license, permits, authorisations and regulations may lead to financial penalties.	Negative	Direct	Severe	National	Short-term	Possible	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The proponent must ensure that decommissioning of all infrastructure is compliant with the relevant legislation, licenses and authorisations.</li> <li>These should include (but are not restricted to) the EA, WULA, plant removal permits and any other applicable permits/authorisations.</li> </ul>	<b>LOW</b>
<b>BUILT ENVIRONMENT</b>														
<b>Rehabilitation and Maintenance</b>	Alternative 1: Preferred corridor	During the decommissioning phase, inadequate rehabilitation could lead to degradation of the study area and surrounding areas.	Negative	Direct, Indirect	Severe	Study area	Long-term	Possible	Reversible	Resource will be partly lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.31: Landscaping and Rehabilitation</b> of the generic EMPr must be implemented, where required.</li> </ul>	<b>LOW</b>

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>DECOMMISSIONING PHASE</b>														
<b>ECOLOGICAL ENVIRONMENT</b>														
<b>Infestation of Alien Plant Species</b>	Alternative 1: Preferred corridor	No alien species were recorded at the site. However, disruption of habitats often results in the infestation of alien species unless these are controlled. Should this happen the impact will be of high significance since the project site is of high sensitivity and the alien species could result in the displacement of indigenous species and possible local extinctions of SCC.	Negative	Direct	Severe	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Achievable	<b>HIGH</b>	<ul style="list-style-type: none"> <li>The site must be checked regularly for the presence of alien invasive species.</li> <li>An alien invasive management plan must be incorporated into the EMP.</li> </ul>	<b>LOW</b>
	Cumulative	Since no alien invasive species were noted on the adjacent farmlands there is currently no cumulative impact.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>
	No-Go	Under the no-go alternative, the infestation of alien species is unlikely to occur. The significance of this impact will be negligible.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>NO SIGNIFICANCE</b>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<b>NO SIGNIFICANCE</b>
<b>Impacts of Noise on surrounding faunal populations</b>	Preferred Alternative	<p>Faunal species will be disturbed during construction due to noise and vibrations of construction machinery. Faunal Species that vacate the immediate area may return following completion of construction or new individuals or species may inhabit the area. Construction machinery may cause unintentional mortalities of faunal species.</p> <p>Even with the mitigations applied, the construction will still have an impact on faunal species.</p>	Negative	Direct	Moderate	Study Area	Permanent	Definite	Irreversible	Resource could be partially lost	Difficult	<b>MODERATE</b>	<ul style="list-style-type: none"> <li>Vehicles and machinery must meet best practice standards.</li> <li>Staff and contractors' vehicles must comply with speed limits of 40km/hr</li> <li>Project must start and be completed within the minimum timeframe. i.e. may not be started and left incomplete.</li> <li>ECO to walk ahead of decommissioning machinery and move slow moving species e.g. tortoises out of harm's way and into suitable neighbouring habitat.</li> <li>Any faunal species that may die as a result of construction must be recorded (photographed, gps co-ord) and if somewhat intact preserved and donated to SANBI.</li> <li>Any faunal species observed onsite must be recorded (photographed, gps co-ord) and loaded onto iNaturalist.</li> <li>Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.</li> </ul>	<b>MODERATE</b>
	Cumulative	The adjacent mine has already caused an increase in ambient noise in the area. The additional noise generated from the construction of the powerline will be a short-term impact and will be of moderate significance.	Negative	Direct	Low	Study Area	Short Term	Definite	Reversible	Resource could be partially lost	Difficult	<b>LOW</b>	<ul style="list-style-type: none"> <li>It is difficult to implement mitigation measures specific to the cumulative impacts as the applicant only has jurisdiction over their development and not over other developments or farming activities in the area. However, it is imperative that the applicant implement the mitigation measures listed above.</li> </ul>	<b>LOW</b>
	No-Go	Under the no-go alternative, some faunal populations at the study site will still be impacted by noise from the adjacent mine.	Negative	Direct	Moderate	Study Area	Short Term	Definite	Reversible	Resource could be partially lost	Difficult	<b>LOW</b>	<ul style="list-style-type: none"> <li>No mitigation measures</li> </ul>	<b>LOW</b>
<b>AVIFAUNAL</b>														
<b>Disturbance of birds</b>	Alternative 1: Preferred corridor	Disturbance of birds in the study area during decommissioning of the power line will be of Low Negative Significance. This is since no sensitive bird species are known to breed on or near the site and so disturbance will have a relatively small effect on local bird populations	Negative	Direct	Slight	Study Area	Short-term	Possible	Reversible	Resource could be partially lost	Achievable	<b>LOW</b>	<ul style="list-style-type: none"> <li>All decommissioning activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.</li> </ul>	<b>LOW</b>
<b>SOCIO-ECONOMIC</b>														

POTENTIAL ISSUES	ALTERNATIVES	SOURCE OF ISSUE	NATURE	TYPE	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	REVERSIBILITY	IRREPLACEABLE LOSS	MITIGATION POTENTIAL	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURES	SIGNIFICANCE OF IMPACT WITH MITIGATION
<b>DECOMMISSIONING PHASE</b>														
<b>Noise</b>	Alternative 1: Preferred corridor	During the decommissioning phase, decommissioning activities could result in an increase in ambient noise levels on site and affect surrounding occupiers.	Negative	Direct, indirect	Slight	Study area	Short-term	May Occur	Reversible	Resource will not be lost	Achievable	LOW	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.22: Noise</b> of the generic EMPr must be implemented, where applicable</li> </ul>	LOW
	Cumulative	The adjacent mine has already caused an increase in ambient noise in the area. The additional noise generated from decommissioning activities of the powerline will be a short-term impact and will be of low significance to the surrounding farm owners due to the remote nature of the site.	Negative	Direct	Slight	Localised	Short-term	Probable	Reversible	Resource will not be lost	Easily Achievable	LOW		LOW
	No-go	The No-go alternative will result in the status quo being maintained which includes existing ambient noise continuing to be generated by the mine.	Negative	Direct	Slight	Localised	Long-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	LOW		<ul style="list-style-type: none"> <li>No mitigation applicable.</li> </ul>
<b>Air quality and dust control</b>	Alternative 1: Preferred corridor	During the decommissioning phase, dust generated by activities on site and from construction vehicles could result in significant dust during windy conditions.	Negative	Direct	Moderately severe	Study area	Short-term	Definite	Reversible	Resource will not be lost	Achievable	MODERATE	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.20: Dust Emissions</b> of the generic EMPr must be implemented, where applicable</li> </ul>	LOW
	Cumulative	The adjacent sand mining activities may create dust pollution, which combined with the proposed construction activities, will contribute to a cumulative dust impact. However, dust generated from the decommissioning of the powerline will be a short-term impact and will be of low significance to the surrounding farm owners due to the remote nature of the site.	Negative	Direct	Slight	Localised	Short-term	Probable	Reversible	Resource will not be lost	Easily Achievable	LOW		LOW
	No-go	The No-go alternative will result in the status quo being maintained which includes existing ambient dust continuing to be generated by the mine.	Negative	Direct	Slight	Localised	Long-term	May Occur	Reversible	Resource will not be lost	Easily Achievable	LOW		<ul style="list-style-type: none"> <li>No mitigation applicable.</li> </ul>
<b>On-site fire risk</b>	Alternative 1: Preferred corridor	During the decommissioning phase, inadequate attention to fire safety awareness and fire safety equipment could result in uncontrolled fires, posing a threat to animals, vegetation and the surrounding landowners.	Negative	Direct	Severe	Study area	Long-term	May Occur	Irreversible	Resource will be lost	Easily Achievable	HIGH	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.23: Fire Prevention</b> of the generic EMPr must be implemented, where applicable</li> </ul>	LOW
	No-go	Under the no-go alternative, this impact will not be applicable.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO SIGNIFICANCE		<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>
<b>Visual</b>	Alternative 1: Preferred corridor	The project area is largely not sensitive from a landscape visual perspective, with small patches of high sensitivity due to having a slope ratio of between 1:4 and 1:10 gradient. The project area is remote, with the immediate visual receptor being that of the landowner, Tronox Mineral Sands Pty Ltd. The national screening tool confirmed that the project area is not close to any cultural heritage site, national route/freeway, main road, game farm, or mountain pass.	Negative	Direct	Slight	Study area	Short-term	Definite	Reversible	Resource could be partially lost	Achievable	LOW	<ul style="list-style-type: none"> <li>The mitigation measures contained in <b>section 5.31: Landscaping and Rehabilitating</b> of the generic EMPr must be implemented after completion of decommissioning activities within each area.</li> </ul>	LOW

### 10.3 CUMULATIVE IMPACTS

Cumulative impacts are defined as those *“that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impact identification process is conducted.”* The main aim for the cumulative impact assessment is to identify associated cumulative impacts and determine whether the proposed 15km route deviation and associated infrastructure will be acceptable within the landscape proposed for the development, and whether the loss, from an environmental, heritage and social perspective, will be acceptable without whole-scale change.

As confirmed by the National Screening Tool Report (refer to Appendix G) for the proposed 15km route deviation, there are no Wind or Solar developments, with an approved EA or applications under consideration within a 30km radius of the proposed development area. There are existing powerlines within the broader study area. The proposed 15km line deviation will connect to the authorised 400kV Juno Gromis powerline.

<b>Agriculture and Soils</b>
<ul style="list-style-type: none"> <li>- The potential cumulative agricultural impact of importance is a regional loss (including through degradation) of agricultural land, with a consequent decrease in agricultural production.</li> <li>- However, the DEFF screening report rates the sites as largely ‘Low’ sensitivity. According to DAFF Land Capability (2016), the project area has a very low to low land capability rating and a grazing capacity of 45 Ha/Large Stock Unit, which is poor. Twenty-six (26) of the 32 proposed pylon structures fall on land zoned as ‘mining’ owned by Tronox Mineral Sands Pty Ltd. The other 6 pylons fall on neighbouring farm portions 2/145 and 2/141. As the footprint of the pylon structures are small, and grazing can continue beneath powerlines on these two properties, the proposed development will have a limited impact on agricultural resources due to the low land capability and poor grazing capacity of the project area.</li> <li>- Therefore, the cumulative agricultural impact of loss of agricultural land use in the area will not be an unacceptable negative agricultural impact.</li> </ul>
<b>Terrestrial Biodiversity</b>
<ul style="list-style-type: none"> <li>- <u>Loss of Namaqualand Strandveld</u> - Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. However, the footprint of the powerline is relatively small compared to the adjacent mine. The additional loss of vegetation will therefore have a Low cumulative impact.</li> <li>- <u>Southern Namaqualand Quartzite Klipkloppe Shrubland</u> - Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site. However, the footprint of the powerline is relatively small compared to the adjacent mine and the powerline has been shifted so that the infrastructure avoids impacting this vegetation type. There will therefore be no cumulative impact on this vegetation type from this development.</li> <li>- <u>Loss of Namaqualand Riviere</u> - Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site. However, the footprint of the powerline within this vegetation type is relatively small compared to the adjacent mine. The additional loss of vegetation will have a Low cumulative impact.</li> <li>- <u>Loss of Knersvlakte Quartz Vygieland</u> - Portions of this vegetation type have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. However, the footprint of the powerline is relatively small compared to the adjacent mine. The impact will be of high significance. If the powerline is positioned to avoid impacting this vegetation type, the cumulative impact will be low.</li> </ul>



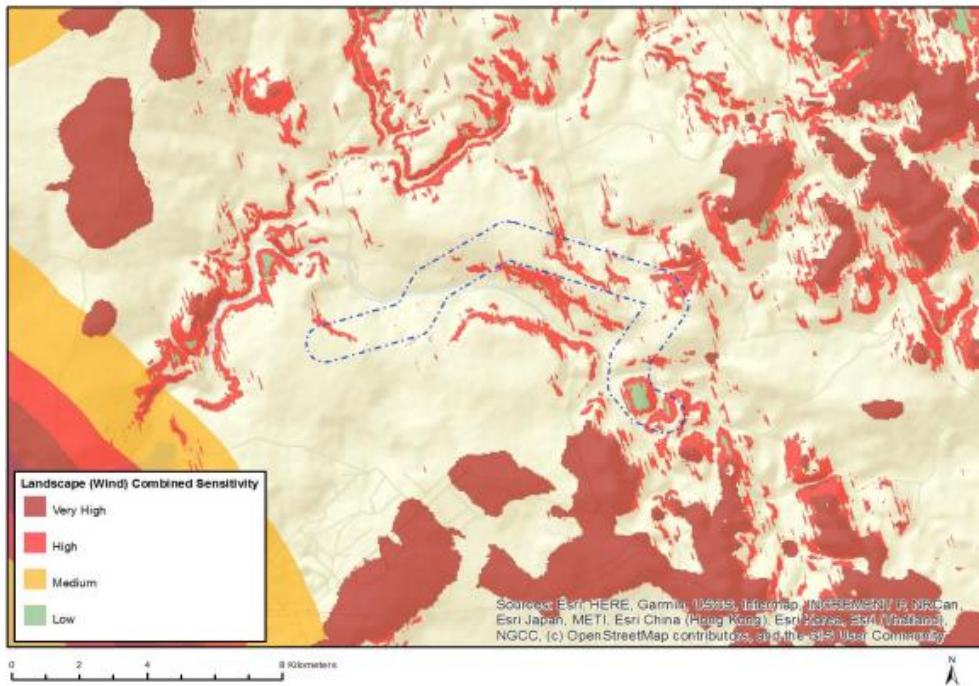
<ul style="list-style-type: none"> <li>- <u>Loss of Plant Species of Conservation Concern</u> - If populations of SCC with restricted ranges are present within the site and are impacted by the placement of infrastructure, the cumulative impact will be very high as some SCC have already been lost as a consequence of mining that is currently occurring in the region.</li> <li>- This impact can be reduced if a thorough botanical walkthrough of the site is undertaken during the optimum flowering season.</li> <li>- <u>Impact on faunal species of conservation concern</u> - If populations of SCC with restricted ranges are present within the site and are impacted by the placement of infrastructure, the cumulative impact will be very high as some SCC have already been lost as a consequence of mining that is currently occurring in the region. However, it has been recommended that the powerline is positioned to avoid direct impacts on rocky outcrops, resulting in a Low cumulative impact.</li> <li>- <u>Reduced Faunal Habitat along new access roads and at poles footprints</u> – Portions of habitat have already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. The footprint of the powerline is relatively small compared to the adjacent mine, therefore the cumulative impact from the proposed 15km deviation will have a Moderate cumulative impact.</li> <li>- <u>Disruption of Ecosystem Function and Process</u> - The powerline is located adjacent to the existing Namaqua Sands Mine which is already considered a highly fragmented environment. Since the footprint of the powerline is relatively small compared to the adjacent mine, the additional break in habitat caused by the construction of the powerline will be of moderate significance.</li> <li>- <u>Disturbance to faunal species and potential reduction in abundance and mortality of faunal species</u> <ul style="list-style-type: none"> <li>- The adjacent mine has already caused an increase in ambient noise in the area. The additional noise generated from the powerline will be a short-term impact and will have a Moderate cumulative impact during construction, and a Low cumulative impact during decommissioning.</li> </ul> </li> <li>- <u>Establishment of Alien Plant Species</u> - Since no alien invasive species were noted on the adjacent farmlands, there is currently no cumulative impact.</li> <li>- <u>Loss of Indigenous Vegetation</u> - Indigenous vegetation has already been lost due to mining activities that are currently occurring adjacent to the site as well as from grazing of livestock on neighbouring farms. However, the footprint of the powerline is relatively small compared to the adjacent mine. The additional loss of vegetation will have a Moderate cumulative impact during decommissioning.</li> </ul>
<p><b>Aquatic Biodiversity</b></p> <ul style="list-style-type: none"> <li>- The lower Groot Goerap and Klein Goerap Rivers are in a largely natural to moderately modified ecological condition mostly as a result of flow and water quality impacts in its upstream catchment. Land use activities upstream and downstream of the corridor of the proposed powerline have resulted in a direct modification to the aquatic habitat and more specifically to the riparian and estuarine habitats associated with the river. These aquatic habitats are considered to be of a moderate to high ecological importance and sensitivity and thus further degradation of this aquatic habitat should not be allowed to occur. It can be expected that the proposed powerline would, however, not result in any further impacts to the aquatic habitats provided the specialist recommended mitigated measures are implemented and, most importantly, infrastructure as well as construction and operation activities remain outside of the recommended no-go areas.</li> </ul>
<p><b>Avifauna</b></p> <ul style="list-style-type: none"> <li>- The proposed development is likely to result in a low negative cumulative impact during the operational phase as a result of additional infrastructure present within the general area.</li> </ul>
<p><b>Socio-Economic</b></p> <ul style="list-style-type: none"> <li>- The proposed development is likely to result in a positive Low cumulative impact during construction as a result of temporary job creation. As the 15km deviation is part of the 230km Juno-Gromis 400Kv line (Kudu Integration project), the proposed development is expected to enhance the supply to the Western Cape, which has been plagued by outages, and therefore is expected to have a High positive cumulative impact of the socio-economic environment regionally.</li> </ul>

**Heritage, Archaeology and Palaeontology**

- The proposed 15km line deviation and associated infrastructure will not result in a cumulative negative impact on heritage or paleontological resources, provided that the recommended mitigation measures are implemented.

**Visual**

- The proposed 15km line deviation of the authorised 400kV Juno Gromis transmission line largely falls on land zoned as ‘mining’, owned by Tronox Mineral Sands Pty Ltd. The surrounding farm portions are used for small stock livestock grazing.
- As Landscape sensitivity is only generated under the ‘Renewable Energy’ and Wind category, the image below was generated through the national screening tool to provide the landscape sensitivity of the 15km line deviation project area.
- The project area is largely not sensitive, with small patches of high sensitivity due to having a slope ratio of between 1:4 and 1:10 gradient. The project area is remote, with the immediate visual receptor being that of the landowner, Tronox Mineral Sands Pty Ltd. As shown in the image below, the national screening tool confirmed that the project area is not close to any cultural heritage site, national route/freeway, main road, game farm, or mountain pass.
- The proposed 15km line deviation will likely have a Low visual cumulative impact on the surrounding landscape.



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

**Sensitivity Features:**

Sensitivity	Feature(s)
High	Slope between 1:4 and 1:10
Low	Slope less than 1:10
Very High	Mountain tops and high ridges
Very High	Slope more than 1:4

# 11 RECOMMENDATIONS & CONCLUSION

## 11.1 RECOMMENDATIONS

It is recommended that the following general and specialist mitigation measures are included in the EMPr for each of the phases of the 15km line deviation and associated infrastructure.

### 11.1.1 Recommendations and Mitigation

#### IMPACTS RESULTING FROM THE PLANNING & DESIGN PHASE

- All relevant legislation and policy must be consulted, and the proponent must ensure that the project is compliant with such legislation and policy.
- All relevant permits, licenses and authorisations including Water Use Licenses, and plant removal permits (if necessary) must be in place prior to commencement of construction.
- The mitigation measures contained in **section 5.2: Site Establishment** of the generic EMPr must be implemented.
- The mitigation measures contained in **section 5.25: Finalising Tower Positions** of the generic EMPr must be implemented.
- All areas classified as 'Very High' Sensitivity, as per Figure 9.1 within the Basic Assessment Report must be considered no-go areas. The proposed servitude access road must be re-routed to avoid these areas, however, pylon structure GRO/JUN 452B can remain as is.
- Pylon structure GRO/JUN 452A must be relocated outside of the 100m no-go rocky outcrop buffers.

#### IMPACTS RESULTING FROM THE CONSTRUCTION PHASE

- The Applicant must employ an independent Environmental Control Officer (ECO) for the duration of the construction phase to audit the contractor's compliance with the specifications in the EA, EMPr and any other permits/authorisations.
- The ECO must undertake monthly audits during construction.
- The applicable mitigation measures contained in the generic EMPr must be implemented.
- The mitigation measures contained in **section 5.24: Stockpiling and Stockpile Areas** of the generic EMPr must be implemented.
- The mitigation measures contained in **section 5.7: Storm and Waste Water Management** of the generic EMPr must be implemented
- The mitigation measures contained in **section 5.8: Solid and Hazardous Waste Management** and **section 5.17: Hazardous Substances** of the generic EMPr must be implemented
- Construction vehicles and machinery must not encroach into identified 'no-go' areas or areas outside the project footprint.
- Activities within 500m of a wetland must obtain the necessary Water Use License prior to the commencement of such activities.
- Topsoil (20 cm, where possible) must be collected and stored in an area of low sensitivity and used to rehabilitate impacted areas that are no longer required during the operational phase (e.g. laydown areas).

- Only indigenous species must be used for rehabilitation.
- Lay down areas must not be located within any watercourses or drainage lines.
- Employees must be prohibited from making open fires during the construction phase.
- An alien invasive management plan for the site must be developed.
- An in-situ search and rescue plan must be developed and implemented for succulents and geophytes that will be impacted by the construction of the project site.
- The footprint of each pylon must be placed to avoid impacting Namaqualand Riviere vegetation.
- No laydown areas must be located within Namaqualand Riviere vegetation type.
- The Knersvlakte Quartz Vygieland vegetation type should be listed as a no-go area and the infrastructure layout designed to avoid impacting this vegetation type.
- Where this is not feasible, the design should ensure that the footprint of the infrastructure is limited.
- A botanical walkthrough of the powerline route, by an experienced botanist with knowledge of the SCC that have been identified as possibly occurring within the site, must be undertaken between July and August (when the plants are flowering). If restricted range SCC populations are found, the towers and/or access road must be shifted to avoid these populations.
- Habitat is available within the project area for Species 4 and it is therefore recommended that a 100m no-go buffer is applied to all rocky outcrops.
- Temporary new access roads used for construction must be decommissioned and rehabilitated to the original habitat type. At the very least these must be reduced in size and roads consolidated.
- Powerline to avoid intact areas and place poles in degraded areas.
- Road network to be kept to a minimum.
- Rehabilitate laydown areas.
- Vehicles and machinery must meet best practice standards.
- Staff and contractors' vehicles must comply with speed limits of 40km/hr
- Project must start and be completed within the minimum timeframe. i.e. may not be started and left incomplete.
- ECO to walk ahead of clearing construction machinery and move slow moving species e.g. tortoises out of harm's way and into suitable neighbouring habitat.
- Any faunal species that may die as a result of construction must be recorded (photographed, gps co-ord) and if somewhat intact preserved and donated to SANBI.
- Any faunal species observed onsite must be recorded (photographed, gps co-ord) and loaded onto iNaturalist.
- Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.
- The site must be checked regularly for the presence of alien invasive species.
- An alien invasive management plan must be incorporated into the EMPr.
- A pre-construction avifaunal walk through should be conducted to confirm final layout and identify any sensitivities that may arise between the conclusion of the BA process and the construction phase.
- All construction activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.
- Construction activities must, as far as possible, occur outside of the delineated aquatic features and the proposed buffer zones. The recommended buffers for the Groot Goerap River at the proposed crossing vary depending on the slope and sensitivity of the banks within the study area.
- Placement of the powerline towers and the access roads to the pylons must not, as far as possible, be placed within the river channel, riparian zone, or the recommended buffer zones. The overhead powerlines may however cross over the buffer zones and the river.
- As far as possible, existing access roads must be utilised to minimise the extent of disturbance in the area. If new roads do need to be established, the shortest route that would create the least disturbance within this area must be selected. An alternative access road route has been proposed

by the aquatic specialist that largely makes use of existing tracks and crossings through the watercourses, which must be considered.

- The road crossing structures within the watercourses should preferably comprise a simple low water crossing / concrete slab type structure that would not impede the low flow in the watercourses or become blocked with sediment and debris.
- Any invasive alien plant growth occurring within the immediate area of the construction activities must be removed and any regrowth prevented.
- To reduce the risk of erosion, all service/ access roads must be contoured along any steep slope.
- Run-off over the exposed areas and within the drainage lines must be mitigated to reduce the rate and volume of run-off and prevent erosion.
- Contaminated runoff from construction must be prevented from entering the river.
- All materials on the construction site must be properly stored and contained.
- Disposal of waste from the site must also be properly managed.
- Construction workers must be given ablution facilities at the construction site that are located outside of the recommended buffer for the river and regularly serviced.
- The mitigation measures contained in **section 5.29: Socio-Economic** of the generic EMPr must be implemented, where applicable.
- The mitigation measures contained in **section 5.22: Noise** of the generic EMPr must be implemented, where applicable
- The mitigation measures contained in **section 5.20: Dust Emissions** of the generic EMPr must be implemented, where applicable.
- The mitigation measures contained in **section 5.23: Fire Prevention** of the generic EMPr must be implemented, where applicable.
- The mitigation measures contained in **section 5.31: Landscaping and Rehabilitating** of the generic EMPr must be implemented after completion of construction activities within each area.
- The HWC Chance Fossil Finds Procedure must be implemented for the duration of construction activities.
- It is recommended that a no-go area of 20m is established around GROMIS006, 011, 012 and 013 IIC sites to ensure that no impact occurs these sites.
- Pylon GRO/JUN 452B will not require relocation, provided that GROMIS006 IIC site is not impacted by construction vehicles and activities associated with the construction of the pylon.

#### IMPACTS RESULTING FROM THE OPERATIONAL PHASE

- The proponent must ensure that operation of the facility is compliant with the relevant legislation and policy and authorisations.
- These should include (but are not restricted to) the EA, WULA, plant removal permits and any other applicable permits/authorisations.
- The mitigation measures contained in the generic EMPr must be implemented, where applicable to the operation phase.
- The mitigation measures contained in **section 5.31: Landscaping and Rehabilitation** of the generic EMPr must be implemented, where required.
- The site must be checked regularly for the presence of alien invasive species. When alien invasive species are found, immediate action must be taken to remove them.
- An alien invasive management plan must be incorporated into the EMPr.

- The ECO must create a list with accompanying photographs of possible alien invasive species that could occur on site prior to construction. This photo guide must be used to determine if any alien invasive species are present.
- All operation activities should be strictly managed according to generally accepted environmental best practice standards, so as to avoid any unnecessary impact on the receiving environment.
- The earth wires on high risk sections should be fitted with an approved anti bird collision line marking device to make cables more visible to birds in flight and reduce the likelihood of collisions.
- Maintenance of infrastructure related to the project should only take place via the designated access routes.
- Disturbed areas along the access routes should be monitored to ensure that these areas do not become subject to erosion or invasive alien plant growth.
- The Occupational Health and Safety Act (Act No 85 of 1993) must be adhered to at all times.
- Eskom to communicate all planned maintenance activities with relevant landowners.

### IMPACTS RESULTING FROM THE DECOMMISSIONING PHASE

- The proponent must ensure that decommissioning of all infrastructure is compliant with the relevant legislation, licenses and authorisations.
- These should include (but are not restricted to) the EA, WULA, plant removal permits and any other applicable permits/authorisations.
- The mitigation measures contained in **section 5.31: Landscaping and Rehabilitation** of the generic EMPr must be implemented, where required.
- The site must be checked regularly for the presence of alien invasive species.
- An alien invasive management plan must be incorporated into the EMPr.
- Vehicles and machinery must meet best practice standards.
- Staff and contractors' vehicles must comply with speed limits of 40km/hr
- Any faunal species that may die as a result of construction must be recorded (photographed, gps co-ord) and if somewhat intact preserved and donated to SANBI.
- Any faunal species observed onsite must be recorded (photographed, gps co-ord) and loaded onto iNaturalist.
- Staff and contractors are not permitted to capture, collect or eat any faunal species onsite.
- The mitigation measures contained in **section 5.22: Noise** of the generic EMPr must be implemented, where applicable
- The mitigation measures contained in **section 5.20: Dust Emissions** of the generic EMPr must be implemented, where applicable
- The mitigation measures contained in **section 5.23: Fire Prevention** of the generic EMPr must be implemented, where applicable
- The mitigation measures contained in **section 5.31: Landscaping and Rehabilitating** of the generic EMPr must be implemented after completion of decommissioning activities within each area.
- The Occupational Health and Safety Act (Act No 85 of 1993) must be adhered to at all times.
- All staff must be adequately inducted and trained regarding health and safety.
- All staff must wear Personal Protective Equipment (PPE), where necessary.

#### 11.1.2 Summary of recommended management plans and appointments

It must be noted that the following site-specific management plans and search and rescue plans have been recommended and must be compiled, implemented and/or undertaken prior to the commencement of the relevant phases of the proposed 15km line deviation and associated infrastructure:

- Plant and Faunal Search and Rescue Plan;
- Alien Invasive Management Plan;
- Rehabilitation Plan.

## 11.2 CONCLUSIONS

### 11.2.1 Summary of identified impacts

Table 11-1 below consists of a summary of the potential impacts associated with the proposed Eskom 15km line deviation and associated infrastructure.

**Table 11-1: Summary of the Potential General Impacts.**

IMPACT	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	PRIOR TO MITIGATION	POST-MITIGATION	
<b>GENERAL IMPACTS</b>			
<b>PLANNING AND DESIGN PHASE</b>			
IMPACT 1: LEGAL AND POLICY COMPLIANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 2: LAYOUT DESIGN	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
<b>CONSTRUCTION PHASE</b>			
IMPACT 3: LEGAL AND POLICY COMPLIANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 4: SITE ESTABLISHMENT, BULK SERVICES AND INFRASTRUCTURE	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 5: MATERIAL STOCKPILING MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 6: STORMWATER MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 7: WASTE MANAGEMENT	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 8: HAZARDOUS SUBSTANCES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 9: LOSS OF NAMAQUALAND STRANDVELD	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 10: LOSS OF SOUTHERN NAMAQUALAND QUARTZITE KLIPKLOPPE SHRUBLAND	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 11: LOSS OF NAMAQUALAND RIVIERE	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 12: LOSS OF KNERSVLAKTE QUARTZ VYGIELAND	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 13A: LOSS OF PLANT SPECIES OF CONSERVATION CONCERN (IF SCC PRESENT)	VERY HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 13A: LOSS OF PLANT SPECIES OF CONSERVATION CONCERN (IF SCC NOT PRESENT)	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 14: IMPACT ON FAUNAL SPECIES OF CONSERVATION CONCERN	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 15: REDUCED FAUNAL HABITAT ALONG NEW ACCESS ROADS AND AT POLES FOOTPRINTS	HIGH NEGATIVE (-)	MODERATE NEGATIVE (-)	NOT APPLICABLE
IMPACT 16: DISRUPTION OF ECOSYSTEM FUNCTION AND PROCESS	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)
IMPACT 17: DISTURBANCE TO FAUNAL SPECIES AND POTENTIAL REDUCTION IN ABUNDANCE AND MORTALITY OF FAUNAL SPECIES	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 18: ESTABLISHMENT OF ALIEN PLANT SPECIES	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 19: AVIFAUNAL HABITAT DESTRUCTION DURING CONSTRUCTION	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 20: DISTURBANCE OF BIRDS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 21: DISTURBANCE OF FRESHWATER HABITAT AND WATER QUALITY IMPACTS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 22: LOSS OF GRAZING LAND	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 23: JOB CREATION	LOW POSITIVE (+)	LOW POSITIVE (+)	NOT APPLICABLE

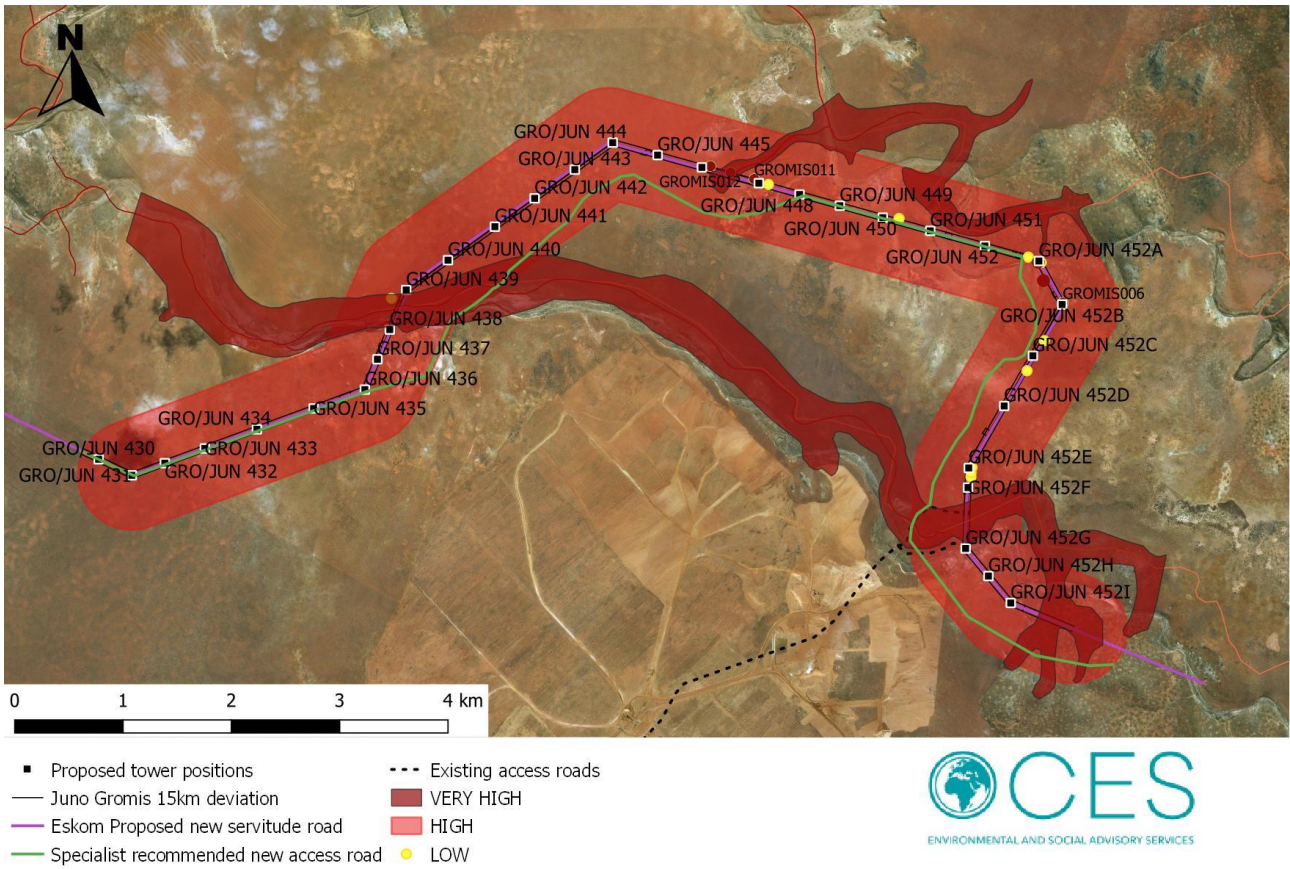
IMPACT	PREFERRED ALTERNATIVE		NO-GO ALTERNATIVE
	PRIOR TO MITIGATION	POST-MITIGATION	
<b>GENERAL IMPACTS</b>			
IMPACT 24: NOISE	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 25: AIR QUALITY AND DUST CONTROL	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 26: ON-SITE FIRE RISK	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 27: VISUAL	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 28: IMPACTS TO SIGNIFICANT CULTURAL LANDSCAPE, ARCHAEOLOGY, AND PALAEOLOGY HERITAGE RESOURCES	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
<b>OPERATIONAL PHASE</b>			
IMPACT 29: LEGAL AND POLICY COMPLIANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 30: EROSION AND STORMWATER MANAGEMENT	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 31: REHABILITATION AND MAINTENANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 32: INFESTATION OF ALIEN PLANT SPECIES	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 33: DISTURBANCE OF BIRDS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 34: ELECTROCUTION OF BIRDS ON POWER LINE	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 35: COLLISION OF BIRDS ON OVERHEAD POWER LINE	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 36: DISTURBANCE OF AQUATIC HABITAT	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 37: STIMULATION OF ECONOMIC GROWTH AND STRENGTHENING OF ELECTRICITY SUPPLY	HIGH POSITIVE (+)	HIGH POSITIVE (+)	MODERATE NEGATIVE (-)
IMPACT 38: ON-SITE FIRE RISK	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 39: HEALTH AND SAFETY	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 40: NOISE POLLUTION	LOW NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
<b>DECOMMISSIONING PHASE</b>			
IMPACT 41: LEGAL AND POLICY COMPLIANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 42: REHABILITATION AND MAINTENANCE	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 43: INFESTATION OF ALIEN PLANT SPECIES	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 44: IMPACTS OF NOISE ON SURROUNDING FAUNAL POPULATIONS	MODERATE NEGATIVE (-)	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 45: DISTURBANCE OF BIRDS	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 46: NOISE	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 47: AIR QUALITY AND DUST CONTROL	MODERATE NEGATIVE (-)	LOW NEGATIVE (-)	LOW NEGATIVE (-)
IMPACT 48: ON-SITE FIRE RISK	HIGH NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE
IMPACT 49: VISUAL	LOW NEGATIVE (-)	LOW NEGATIVE (-)	NOT APPLICABLE

### 11.2.2 Conclusion

As shown in Figure 11-1 below, the proposed layout of the proposed Eskom 15km line deviation is largely located in an area of HIGH sensitivity due to sensitive vegetation types and possible collision risks for priority bird species. The proposed infrastructure can avoid areas of very high sensitivity (no-go areas) as identified by the specialist studies, provided that the mitigation measures contained herein are implemented. The pylon structure (GRO/JUN 452A) and the proposed new servitude access road can be relocated and diverted respectively to avoid areas of very high sensitivity (no-go areas).

**It is the opinion of the EAP that no fatal flaws have been identified and there is no reason not to authorise the proposed 15km line deviation provided that the mitigation measures contained herein are implemented. This is due to the careful consideration of the identified sensitivities in determining the least impactful routing of the line, siting of the pylon structures proposed new access road within the 1km wide corridor.**





**Figure 11-1: Final Sensitivity Map and proposed layout.**

DRAFT

## REFERENCE LIST

Agricultural Research Council (ARC) - Institute for Soil, Climate and Water (ISCW). **Agricultural Geo-Referenced Information System: AGIS**. Online Source: [www.arc.agric.za](http://www.arc.agric.za).

Belcher, T., 2021. Aquatic Compliance Report: Eskom Juno Gromis 400Kv line deviation.

CTS Heritage, 2021: Heritage Impact Assessment. Proposed deviation to the approved Eskom Juno Gromis Overhead Powerline, Western Cape.

Deckers, J., *et al.* (2006) **World Reference Base (WRB) for Soil Resources: In a Nutshell**. European Soil Bureau – Research Report no. 7.

Smallie, J., 2021. Avifaunal Impact Assessment: Juno Gromis 400kV Power Line, Deviation at Tronox Mines.

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[https://www.isric.org/sites/default/files/major\\_soils\\_of\\_the\\_world/set3/ar/arenosol.pdf](https://www.isric.org/sites/default/files/major_soils_of_the_world/set3/ar/arenosol.pdf)

Meteoblue, 2020. Online Source:  
[https://www.meteoblue.com/en/blog/article/show/39779\\_2020%3A+Off+to+a+good+start](https://www.meteoblue.com/en/blog/article/show/39779_2020%3A+Off+to+a+good+start)

Mucina, L. & Rutherford, M.C. (eds) 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

Samadi, M., *et al.* (2000). **The Development of a World Soils and Terrain (SOTER) Digital Database for South Africa**. Agricultural Research Council (ARC) - Institute for Soil, Climate and Water (ISCW). South Africa.

SANBI (2019). **The Vegetation Map of South Africa, Lesotho and Swaziland** (shapefiles), Pretoria: South African National Biodiversity Institute.

### LEGISLATION, POLICIES AND GUIDELINES

- Constitution Act (Act No. 108 of 1996)
- National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment Regulations (2014 and subsequent 2017 amendments)
- National Environmental Management: Biodiversity Act (NEM:BA Act No. 10 of 2004)
- National Water Act (NWA, Act No. 36 of 1998)
- National Heritage Resources Act (NHRA, Act No. 25 of 1999)
- National Environmental Management: Waste Act (NEM:WA, Act No. 59 of 2008)
- National Forestry Act (NFA, Act No. 84 of 1998)
- Provincial Nature and Environmental Conservation Ordinance (No. 19 of 1974)
- Conservation of Agricultural Resources Act (CARA, Act No. 43 of 1983)
- Electricity Regulation Act (Act No. 4 of 2006)
- Occupational Health and Safety Act (OHSA, Act No. 85 of 1993)
- National Environmental Management: Air Quality Act (NEM:AQA, Act No. 39 of 2004)

## APPENDIX A: CURRICULUM VITAE OF THE PROJECT TEAM

- Dr Alan Carter (CES)
- Ms Caryn Clarke (CES)

DRAFT

**ALAN ROBERT CARTER**  
*Curriculum Vitae*



**CONTACT DETAILS**

<b>Name of Company</b>	<b>CES – Environmental and Social Advisory Services</b>
<b>Designation</b>	East London Branch
<b>Profession</b>	Executive
<b>Years with firm</b>	17 (Seventeen) Years
<b>E-mail</b>	a.carter@cesnet.co.za
<b>Office number</b>	+27 (0)43 7267809 / 8313
<b>Nationality</b>	South African
<b>Professional Body</b>	SACNASP: South African Council for Natural Scientific Profession EAPSA: Environmental Assessment Practitioners Southern Africa IWMSA: Institute Waste Management Southern Africa TSBPA: Texas State Board of Public Accountancy (USA)
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>➤ Marine Ecology</li><li>➤ Environmental and coastal management</li><li>➤ Waste management</li><li>➤ Financial accounting and project feasibility studies</li><li>➤ Environmental management systems, auditing and due-diligence</li></ul>

**PROFILE**

Alan has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years.

**ALAN ROBERT CARTER**  
*Curriculum Vitae*



<b>EMPLOYMENT EXPERIENCE</b>	<ul style="list-style-type: none"> <li>➤ October 2013 – Present: Executive (EOH Coastal &amp; Environmental Services, East London, South Africa)</li> <li>➤ January 2002 – September 2013: Director (Coastal &amp; Environmental Services, East London, South Africa)</li> <li>➤ January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)</li> <li>➤ December 1996 – December 1998: Senior Accountant/Auditor (Ernst &amp; Young LLP, Public Accounting Firm, Austin, Texas, USA.)</li> <li>➤ January 1994 – December 1996: Senior Accountant/Auditor (Ernst &amp; Young, Charteris &amp; Barnes, Chartered Accountants, East London, South Africa)</li> <li>➤ July 1991 – December 1994: Associate Consultant (Coastal &amp; Environmental Services, East London, South Africa)</li> <li>➤ March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)</li> </ul>
<b>ACADEMIC QUALIFICATIONS</b>	<ul style="list-style-type: none"> <li>➤ Ph.D. Plant Science (Marine) Rhodes University 1987</li> <li>➤ B. Compt. Hons. Accounting Science University of South Africa 1997</li> <li>➤ B. Com. Financial Accounting Rhodes University 1995</li> <li>➤ B.Sc. Hons. Plant Science Rhodes University 1983</li> <li>➤ B.Sc. Plant Science &amp; Zoology Rhodes University 1982</li> </ul>
<b>COURSES</b>	<ul style="list-style-type: none"> <li>➤ <i>Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000)</i></li> <li>➤ <i>ISO 14001:2015 Implementing Changes - British Standards Institute (2015)</i></li> <li>➤ <i>Numerous other workshops and training courses</i></li> </ul>
<b>CONSULTING EXPERIENCE</b>	<p><b><u>Environmental Impact Assessment, Feasibility and Pre-feasibility Assessments</u></b></p> <ul style="list-style-type: none"> <li>➤ Managed numerous projects and prepared environmental impact assessment (EIA) reports in terms of relevant EIA legislation and regulations for development proposals including: Infrastructure projects: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).</li> <li>➤ Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.</li> <li>➤ Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, infrastructure projects, etc.</li> <li>➤ Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).</li> <li>➤ Managed pre-feasibility study to establish a Mariculture Zone within the Coega Industrial Development Zone (2014).</li> <li>➤ Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).</li> </ul>

**ALAN ROBERT CARTER**  
*Curriculum Vitae*

- Acted as Environmental Control Officer (ECO) for numerous projects including solar and wind farms, roads, industrial processes, etc.
- Strategic Environmental Assessment**
- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).
- Climate change, emissions trading and renewable energy**
- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).
- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016).
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate Change Risk Strategy (2009)
- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.
- Participated in the preparation of CDM applications for two solar PV projects

**ALAN ROBERT CARTER**  
*Curriculum Vitae*

in the Eastern Cape.

**Waste Management**

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

**Environmental Due Diligence and Business Risk**

- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011)
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational

**ALAN ROBERT CARTER**  
*Curriculum Vitae*

- companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

**Policy and Guidelines**

- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters
- Discharge Permits, Dumping Of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated with the implementation of the Integrated Coastal Management Act (2007).
- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).
- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 2010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

**Environmental auditing and compliance**

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for three (3) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013)
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP



## ALAN ROBERT CARTER

### Curriculum Vitae



#### PUBLICATIONS

Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).

- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation

#### Public financial accounting

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

#### Refereed Publications

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

#### Published reports

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

**ALAN ROBERT CARTER**  
*Curriculum Vitae*

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

**Conference Proceedings**

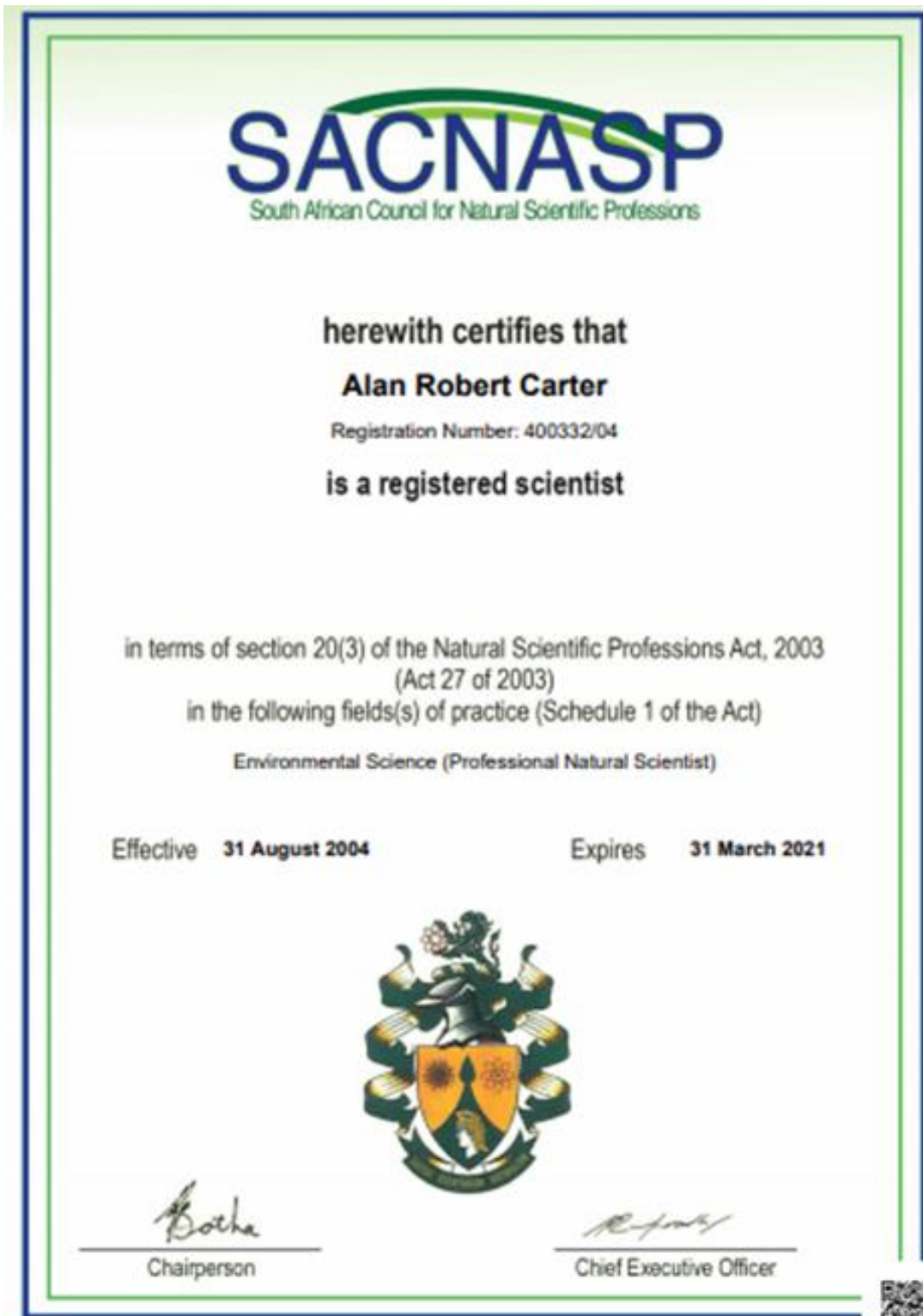
- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting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

**CERTIFICATION**

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

**ALAN ROBERT CARTER**

Date: January 2019



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*Advancing environmental assessment practice in South Africa*



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East London  
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Sent by email to: [a.carter@cesnet.co.za](mailto:a.carter@cesnet.co.za)

Dear Dr Carter

**Registered Environmental Assessment Practitioner: Number 2019/1807**  
**Alan Robert Carter : South African ID 5907075141086**

The Environmental Assessment Practitioners Association of South Africa (EAPASA) herewith certifies that Alan Robert Carter is a Registered Environmental Assessment Practitioner (EAP) in accordance with the prescribed criteria of Regulation 15.(1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Your registration is duly authorised by EAPASA as the single Registration Authority for EAPs in South Africa (appointed as per Regulation No. 104, Gazette No. 41434 of 8 February 2018, in terms of section 24H(3)(a) of the NEMA). Your status as a Registered EAP is displayed in the 'EAP Register' - please find your name and contact email address at

<https://registration.eapasa.org/registered-practitioners>

Your registration is effective for a period of five years from 30 June 2020, and expires on 30 June 2025. The renewal of your registration in 2025 will be contingent on you having met the requirements of EAPASA's Continuing Professional Development (CPD) policy during each year of registration.

As a Registered EAP you are required to uphold the EAPASA Code of Ethical Conduct and Practice in your professional endeavours, towards the goal of quality assurance in environmental assessment practice.

Please accept my congratulations on your registration.

Best regards



Dr Richard Hill  
Registrar  
Date: 30 June 2020

*Board Members: Mr Snowy Mchutu (Chairperson), Mr Khangwile Desmond Mueliso (Vice-Chairperson),  
Mr Nkomo Tshiyi, Mr Zama Dlamini, Mr Sinyongo Gqobole, Mr Joseph Hira, Mr Phumutso Nthwatsi, Mr Doria Neumann*

Registrar: Dr Richard Hill  
NPO Reg. No. 132 984

## CARYN CLARKE

### CONTACT DETAILS

<b>Name of Company</b>	<b>CES – Environmental and Social Advisory Services</b>
<b>Designation</b>	East London Branch
<b>Profession</b>	Senior Environmental Consultant
<b>Years with firm</b>	2 Years
<b>E-mail</b>	c.clarke@cesnet.co.za
<b>Office number</b>	+27 87 830 9804
<b>Nationality</b>	South African
<b>Professional Affiliations</b>	South African Council for Scientific Natural Professionals (SACNASP): Candidate Natural Scientist (500022/14) International Association of Impact Assessment (IAIAsa)
<b>Key areas of expertise</b>	<ul style="list-style-type: none"><li>• Environmental Impact Assessments</li><li>• Environmental Management Plans</li><li>• Environmental Compliance Monitoring</li><li>• Geographic Information Systems</li><li>• Licensing and Permit Applications</li></ul>

### PROFILE

#### Ms Caryn Clarke

Caryn holds a M.Sc. Environmental Science (2012), B.Sc. Hon. Environmental Science (2010), and a B.Sc. Environmental Science and Economics (2009) from Rhodes University. Her M.Sc. thesis was titled “Responses to the linked stressors of Climate Change and HIV/AIDS amongst vulnerable rural households in the Eastern Cape, South Africa”. Her B.Sc. Hon. thesis investigated climate change perceptions, drought responses and views on carbon farming amongst commercial livestock and game farmers within the Great Fish River Valley, Eastern Cape, from which a paper was published in the African Journal of Range and Forage Science 2012, 29(1):13-23. Caryn has further completed a Carbon Footprint Analysis Course (2013). Caryn’s professional interests and expertise includes project management, Environmental and Social Impact Assessment (ESIAs), Environmental Impact Assessments (EIAs) including public participation, environmental compliance monitoring, various licensing and permit applications, feasibility assessments and GIS mapping. Caryn is a registered Candidate Natural Scientist under the South African Council for Natural Scientific Professions.

**EMPLOYMENT EXPERIENCE**

**Senior Environmental Consultant - Coastal and Environmental Services (East London)**

*August 2018-Current*

- Environmental and Social Impact Assessments (World Bank/IFC standards)
- Environmental Impact Assessments
- Feasibility Assessments
- Water Use Licensing
- Environmental Compliance Monitoring
- Geographic Information Systems

**Environmental Consultant - Environmental Impact Management Services (East London)**

*March 2013 – September 2015*

- Environmental Impact Assessments
- Water Use Licensing
- Environmental Compliance Monitoring
- Geographic Information Systems

**ACADEMIC QUALIFICATIONS**

- 2012 - M.Sc. Environmental Science (distinction) (Rhodes University)
- 2010 - B.Sc. Hon. Environmental Science (distinction) (Rhodes University)
- 2009 - B.Sc. Environmental Science (distinction) (Rhodes University)

**CONTINUING PROFESSIONAL DEVELOPMENT**

- Terra Firma Academy, Johannesburg: “Carbon Footprint Analysis Course” (2013); and
- Attended a 1-day workshop titled “Water Law in South Africa”, presented by IMBEWU (2013).

**PUBLICATIONS**

- Published an article in the African Journal of Range and Forage Science 2012, 29(1): 13-23. Titled: “Climate change perceptions, drought responses and views on carbon farming amongst commercial livestock and game farmers in the semiarid Great Fish River Valley, Eastern Cape Province, South Africa.”; and
- Paper (co-authored) delivered at the Transformation Conference, Oslo University, 18-20th June 2013, Norway. Titled: “Factors influencing local level transformation in the context of multiple stressors: Understandings from research and social learning process in two rural sites in the Eastern Cape, South Africa.”

**PROFESSIONAL EXPERIENCE**

**Environmental Impact Assessments (EIAs) and Basic Assessment processes:**

- Environmental and Social Impact Assessment (ESIA) for a large-scale cocoa plantation, Tanzania (2020);
- Full Scoping and EIA process for the Wild Coast Abalone facility expansion (2020);
- Full Scoping and EIA process for the proposed Wild Coast SEZ Upper Ncise Aquaponics development, Mthatha Dam (2019);
- Basic Assessment for the Clarkebury road upgrade, Eastern Cape (2019);
- Basic Assessment for the SANRAL Heidelberg to Lizmore road upgrade, Western Cape (2019);

- Basic Assessment for the SANRAL V3 Ndabakazi and R409 Interchange upgrade, Ndabakazi, Eastern Cape (2019);
- Basic Assessment for the proposed Eskom Lesokwana substation and associated powerlines, Gauteng (2019);
- Basic Assessment for the Kei Mouth Eco Estate, Kei Mouth, Eastern Cape (2020);
- Full Scoping and EIA process for AOE Oil Production Right, Nanaga,, Eastern Cape (2015);
- Full Scoping and EIA process for BCMMS Sunny South Housing Development (2014);
- Full Scoping and EIA process for the AES Photovoltaic Solar Energy Facility near Aggeneys, Northern Cape (2014);
- Basic Assessment for the formalisation of Mdantsane informal settlements (2014);
- Basic Assessments for the Sidwadeni and Mngazi River Bridge and Access Road, Mthatha and Mngazi, Eastern Cape (2014); and
- Public Participation for the Silver Wave Energy Exploration Rights (2014).

**Integrated Water and Waste Management Plans:**

- Integrated Water and Waste Management Plan for Vlakvarkfontein Coal Mine Consolidation (2015).

**Water Use Licensing Applications:**

- Olivewood Golf and Housing Estate, Eastern Cape (2019);
- Northern Cape Economic Development, Trade and Investment Promotion Agency (NCEDA) SEZ, Upington, Northern Cape (2019);
- Wild Coast Abalone facility expansion, Haga Haga, Eastern Cape (2019);
- Kei Mouth Eco Estate, Kei Mouth, Eastern Cape (2019);
- SANRAL V3 Ndabakazi and R409 Interchange upgrade, Ndabakazi, Eastern Cape (2019);
- Formalisation of Mdantsane Informal Settlements (2014); and
- Integrated Water Use Licensing for Leiden Coal Mine (2014).

**Environmental compliance auditing:**

- Lusikisiki Waste Water Treatment Works and pipeline, Eastern Cape (2015);
- East London Industrial Development Zone (ELIDZ) 1B West Infrastructure Services (2014);
- Reconstruction of Fleet Street, East London (2015);
- Sunny South Housing Development, East London (2015);
- Eskom Albany 88kV powerline, Alicedale, Eastern Cape (2014);
- Formalisation of Mdantsane Informal Settlements (2014); and
- Noblesfontein Wind Energy Facility, Victoria West, Northern Cape (2015).

**Specialist Assessments and Input**

- Ecological Impact Assessment for the Kei Mouth Eco Estate, Kei Mouth, Eastern Cape (2020);
- Vegetation Impact Assessment for three access road upgrades, Mbashe, Eastern Cape (2019); and
- Social facilitation and field work as part of the Social Impact Assessment for a large-scale cocoa plantation, Tanzania (2020).

**Other:**

**Other:**

- Fatal Flaw Assessments for two Wind Energy Facilities (WEFs), Molteno and Noupoort, South Africa (2019-2020);
- Environmental Sensitivity Assessment for the Lesotho Electricity Company 132 kV Mahlasela - Letseng Powerline, Lesotho (2019);
- Coastal Discharge Permit for the Wild Coast Abalone Expansion, Eastern Cape (2019);
- Air Emissions License application for the Bushveld Energy Vanadium Development, ELIDZ, Eastern Cape (2019);
- Conservation Management Plan for the CDC Wild Coast Mthatha SEZ, Eastern Cape (2019);
- Feasibility Assessment for the DAFF Multispecies Hatchery Development within the Eastern Cape (2019);
- Market Analysis for the DAFF Richards Bay Marine Cage Culture Aquaculture Feasibility Assessment (2019);
- Vincent-Berea Local Spatial Development Framework (LSDF) (2014);
- Section 24G for the Tankatara Level Crossing to Coega Station service road upgrade (2014); and
- Participatory Planning for Informal Settlements: National Upgrading Support Programme (NUSP) (2014).

During the course of her professional career, Caryn has worked in Tanzania, Eswatini, Lesotho and South Africa.

**CERTIFICATION**

---

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

*C Clarke*

**Caryn Clarke**

Date: 26 January 2020



# SACNASP

South African Council for Natural Scientific Professions

**herewith certifies that**

**Caryn Lee Clarke**

Registration Number: 500022/14

**is a registered scientist**

in terms of section 20(3) of the Natural Scientific Professions Act, 2003  
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Candidate Natural Scientist)

Effective 23 July 2014

Expires 31 March 2022





Chairperson



Chief Executive Officer



To verify this certificate scan this code

**APPENDIX B: EAP DECLARATION & OATH**

**APPENDIX 10  
DECLARATION OF THE EAP**

I, ALAN CARTER declare that –

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

**Disclosure of Vested Interest (delete whichever is not applicable)**

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Alan Carter

Signature of the environmental assessment practitioner

Coastal and Environmental Services (Pty) Ltd.

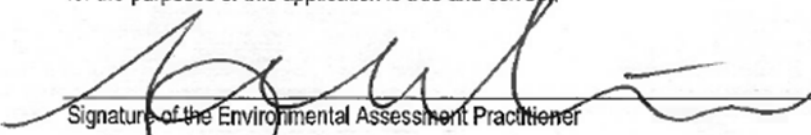
Name of company:

26<sup>TH</sup> March 2021

Date

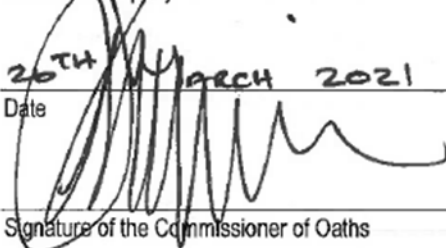
APPENDIX 12  
UNDERTAKING UNDER OATH/ AFFIRMATION

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

  
Signature of the Environmental Assessment Practitioner

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

26<sup>TH</sup> MARCH 2021  
Date

  
Signature of the Commissioner of Oaths

26. 03. 2021  
Date

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

DRAFT

**APPENDIX C: SPECIALIST REPORTS**

(SEPERATE ATTACHEMENT)

**APPENDIX C1: SPECIALIST DECLARATIONS**

(SEPERATE ATTACHEMENT)

**DRAFT**

DRAFT

**APPENDIX D: GENERIC AND SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PROGRAMME**

(SEPERATE ATTACHEMENT)

DRAFT

## APPENDIX E: PUBLIC PARTICIPATION PROOF

### APPENDIX E1: APPROVED PPP PLAN

**Caryn Clarke**

**From:** Zama Langa <ZLanga@environment.gov.za>  
**Sent:** Wednesday, February 17, 2021 3:51 PM  
**To:** Caryn Clarke  
**Cc:** Nyiko Nkosi; Ephron Maradwa  
**Subject:** RE: 2020-11-0030

Good day

The Final Public Participation Process (PPP) Plan for the abovementioned project received by this department on 17 February 2021 refers.

The Department has evaluated the Public Participation Plan which is submitted as per Minister Directive dated 05 June 2020 in response to Covid-19 pandemic and hereby approves the plan for the abovementioned project.

You may proceed with the public participation process in accordance with the tasks contemplated in the PPP plan. Should you wish to deviate from the submitted PPP Plan, the amended PPP Plan must be submitted to the Department for approval prior commencement.

Please ensure that the PPP plan forms part of the report that will be submitted to the department with a cover letter indicating that a pre application meeting was held, and minutes of pre application meeting must also form part of the submission.

Kindly ensure that all I&APs are consulted as per requirement of EIA Regulations 2014 as amended.

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

Regards,  
Zamalanga Langa  
Environmental Officer Specialised Production  
Chief Directorate: Integrated Environmental Authorisation  
Sub Directorate: National Infrastructure Projects  
Department of Environmental Affairs  
Tel: 012 399 9389  
Cell: 073 446 4200

## PROPOSED PUBLIC PARTICIPATION PROCESS (PPP) PLAN FOR THE PROPOSED ESKOM- JUNO-GROMIS 400kV TRANSMISSION LINE DEVIATION, IN THE MATZIKAMA LOCAL MUNICIPALITY IN THE WESTERN CAPE PROVINCE.

[PRE-APPLICATION REFERENCE NUMBER: 2020-11-0030]

### 1. PROJECT BACKGROUND

The power supply to the greater Cape area is mostly provided by the coal-fired power stations on the Highveld, mainly in Mpumalanga. As a result, a Transmission network from Mpumalanga to the Cape has grown over the years as demand has increased. Much of this network is now over two decades old and is approaching its peak operational capacity. In order to meet the increasing demand of electricity, Eskom proposes to import power from the 800MW Kudu Combined Cycle Power Plant (CCGT) power station at Uubvlei, 15km north of Oranjemond in Namibia. The 800MW Kudu CCGT power station will supply 200MW to Namibia and the balance will be available for integration into the South African grid.

Eskom proposes to integrate the power from the Kudu CCGT power station into the South African grid via Transmission lines from the Namibian border. A number of alternative integration options and routes have been proposed to connect to the Eskom's Western Grid and supply the increasing demand in the Cape. This specific project forms part of the Kudu Integration project and relates specifically to the proposed 230km 400kV Juno-Gromis Transmission line which aims to enhance the supply to the Western Cape, which has been plagued by outages.

An Environmental Impact Assessment (EIA) was commissioned for the proposed construction of the Eskom 400kV transmission power line and substations (Kudu integration project) in terms of the Environment Conservation Act 1989 (Act No. 73 of 1989). The Environmental Authorisation (EA) was issued on 6 November 2007 (Ref: 12/12/20/720). An extension for the EA issued was applied for and granted on 20 March 2014.

Subsequent to the EA issued in 2007, the negotiation process with the affected landowners resulted in the need for amendments to the proposed alignment. In 2017, a Basic Assessment Process was undertaken to apply for these amendments which received an EA in 2017 (Ref: 14/12/16/3/3/1/1679). The approved deviations included:

- 4.1 km deviation around the landing strip in Lutzville;
- 3km deviation within the Tronox Mine Namakwa Sands; and
- 7.2km deviation around a mine in Kamiesberg.

### 2. PROJECT DESCRIPTION:

There is now a need to apply for an additional deviation to the 400kV transmission powerline route which traverses Tronox Mine Namakwa Sands, which is located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape. After the receipt of favourable prospecting results, Eskom are required to deviate around the Tronox Mine area, which will result in a proposed 15km deviation to the east of the 2017 approved deviation. The proposed 15km deviation falls outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline.



Eskom have appointed Coastal and Environmental Services (t/a CES) as the project Environmental Assessment Practitioners (EAP).

### 3. ENVIRONMENTAL AUTHORISATION REQUIREMENTS

The Eskom Juno Gromis 400kV powerline and substations received an Environmental Authorisation (EA) on 6 November 2007 (Ref: 12/12/20/720) as per the ECA (Act No. 73 of 1989). Amendments to the 400kV route received an EA in 2017 (Ref: 14/12/16/3/3/1/1679). As the current proposed 15km deviation falls outside of the 2017 EA authorised corridor and will result in an increase in the length of the powerline, a Basic Assessment (BA) process (as it falls within a Strategic Transmission Corridor) is therefore required. A Basic Assessment Report will be undertaken in accordance with Regulation 22 to 26 of the EIA Regulations 2014 (as amended) promulgated in terms of the Section 24 (5) of NEMA. The competent authority for this application will be the National Department of the Environment, Forestry and Fisheries (DEFF).

### 4. PUBLIC PARTICIPATION PROCESS

Table 1 has been compiled in accordance with Regulations 40 to 44 of the EIA Regulations (2014, as amended) and recommendations made during the pre-application meeting (2 December 2020, ref: 2020-11-0030).

**Table 1: Public Participation Legislated Requirements.**

	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED PUBLIC PARTICIPATION
1.	(40)(1) The public participation process to which the – (a) basic assessment report and EMPr, and where applicable the closure plan, submitted in terms of regulation 19; Must give all potential or registered interested and affected parties, including the competent authority, a period of at least 30 days to submit comments on each of the basic assessment report, EMPr, scoping report and environmental impact assessment report, and where applicable the closure plan, as well as the report contemplated in regulation 32, if such reports or plans are submitted at different times.	The Draft Basic Assessment Report (BAR), EMPr and associated specialist reports will be made available for a thirty (30) day public review period.
2.	(40)(2) The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application unless access to that information is protected by law and must include consultation with – (a) The competent authority; (b) Every State department that administers a law relating to a matter affecting the environment relevant to an application for an environmental authorisation; (c) All organs of state which have jurisdiction in respect of the activity to which the application relates; and (d) All potential, or, where relevant, registered interested and affected parties.	All <u>relevant</u> registered stakeholders and Interested and/or Affected Parties (I&APs), which were identified and registered during the previous EIA processes of the project will form part of the stakeholder and I&AP database for this BA Process. Contact person’s details will be updated where relevant. Any additional stakeholders and/or I&APs, that register during this public review period, will also be added to the database.

	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED PUBLIC PARTICIPATION
3.	(40)(3) Potential or registered interested and affected parties. Including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but must be provided with an opportunity to comment on such reports once the application has been submitted to the competent authority.	
4.	(41)(2)(a) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of - (i) The site where the activity to which the application or proposed application relates is or is to be undertaken; and (ii) Any alternative site.	Two site notice boards (in English and Afrikaans) have been placed on site at the entrance to the site as well as near the boundary of the site along the access road whereby those in the vicinity travel. Coordinates of placement are as follows: 31°15'22.13"S; 18° 0'22.34"E 31°13'19.46"S; 18° 5'38.82"E
5.	(41)(2)(b) Giving written notice, in any of the manners provided for in Section 47D of the Act, to - (i) The occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken; (ii) Owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken; (iii) The municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area; (iv) The municipality which has jurisdiction in the area; (v) Any organ of state having jurisdiction in respect of any aspect of the activity; and (vi) Any other party as required by the competent authority.	All identified and registered stakeholders and I&APs will be notified of the availability of the Draft BAR Report and EMPr for public review via email, sms and post (where applicable).  The public will be notified via one newspaper advertisements, possibly: <ul style="list-style-type: none"> <li>Die Rapport – which is a national newspaper in Afrikaans.</li> </ul> The advert will be published on the onset of the public review period. The public will also be notified through CES social media platforms (Website and Facebook page).  The advertisement will outline the availability of the Draft BAR and associated reports for public review and will invite I&APs to view the documentation via the CES website.
6.	(41)(2)(c) Placing an advertisement in - (i) One local newspaper; or (ii) Any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations.	The public will be notified with advert placed in the Die Rapport. The advert will be published on the onset of the public review period. The proposed project will also be advertised through CES social media platforms (Facebook page).
7.	(41)(2)(d) Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph.	<b>Die Rapport</b> is distributed nationally and is read by the residents of Nuwerus, the nearest town to the proposed development.

	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED PUBLIC PARTICIPATION
8.	(41)(2)(e) Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to- (i) Illiteracy; (ii) Disability; or (iii) Any other disadvantage.	Due to the Covid-19 pandemic, no public meetings will be held during the release of the Draft BAR for public review. However, all comments received via telephone, email and sms will be included in the Issues and Responses Trail (IRT) to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background will be provided verbally during telephone discussions, where necessary.
9.	(42) A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such register to the competent authority, which register must contain the names, contact details and addresses of – (a) All persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP; (b) all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and (c) all organs of state which have jurisdiction in respect of the activity to which the application relates.	Please refer to Appendix 1 for a copy of the identified and registered stakeholder and I&AP database, which has been updated from the inception phase of the project, to be more specific to those affected by the deviation of the proposed powerline (organs of state, key stakeholders, district and local municipalities, ward councillors, landowners and neighbouring landowners).
10.	(43)(1) A registered interested and affected party is entitled to comment, in writing, on all reports or plans submitted to such party during the public participation process contemplated in these Regulations and to bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.	The Draft BAR will be published on the CES website during the public review period ( <a href="http://www.cesnet.co.za/public-documents">http://www.cesnet.co.za/public-documents</a> ). The notifications (email, SMS, advertisements and CES social media posts -Facebook page) will include the link to the location of the Eskom Juno-Gromis Draft BAR and appendices on the CES website.  All comments received and responses to the comments, will be recorded in the issues and responses trail (IRT) which will be included in the final report.
11.	(43)(2) In order to give effect to section 24O of the Act, any State department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days.	All registered stakeholders and I&APs, including the State departments which administer laws relating to matters affecting the environment (organs of state, key stakeholders, district and local municipalities, ward councillors) will be notified of the availability of the Draft BAR and associated reports for public review via email notification and/or sms. The availability of the reports will also be published in newspaper advertisements (as detailed above) and advertised through CES social media platforms (Facebook page). The Draft BAR will be available for a thirty (30) day public review period.
12.	44(1) The applicant must ensure that the comments of interested and affected parties are recorded in	An IRT will be compiled and updated during the public review period to include all comments

	PUBLIC PARTICIPATION REQUIREMENTS	PROPOSED PUBLIC PARTICIPATION
	reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.	received and responses to comments. After the public review period, the final IRT and proof of correspondence will be included in the Final Amendment Report for submission to the Competent Authority.
13.	<p>44(2) Where a person desires but is unable to access written comments as contemplated in subregulation (1) due to –</p> <ul style="list-style-type: none"> <li>(a) A lack of skills to read or write;</li> <li>(b) Disability; or</li> <li>(c) Any other disadvantage;</li> </ul> <p>Reasonable alternative methods of recording comments must be provided for.</p>	<p>Due to the Covid-19 pandemic, no public meetings will be held during the release of the Draft BAR for public review. However, all comments received via telephone will be included in the IRT to accommodate those that do not have access to the internet, those that are illiterate and those with disabilities. In addition, a brief project background can be provided verbally during telephone discussions, where necessary.</p>

DRAFT

**APPENDIX E2: LANDOWNER CONSENT**

Farm number & name	Contact person	Postal/email address	Telephone
143/2 (RE) HOUTKRAAL 143/0 (RE) HOUTKRAAL 143/5 HOUTKRAAL 151/0 RIETFontein EXTEN 5	<b>TRONOX MINERAL SANDS PTY LTD</b>	nico.kruger@tronox.co m	+27 83 277 4259
2/145 ADOONS VLEI 3/146 GOLIATHSGRAAF 6/144 RIETFontein 3/144 RIETFontein	<b>ALBERTUS JOHANNES POOL</b>	kameel@kingsleyemail. co.za	+27 60 362 9196
1/141 KOMKANS 2/141 KOMKANS	<b>VISAGIE JACOBUS</b>	PO BOX 519 LUTZVILLE 8165	+27 76 017 1522 / +27 76 426 4651

DRAFT

**TRONOX MINERAL SANDS PTY LTD:**



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**ATTENTION: Junior Koegelenberg**  
**DELIVERED VIA: Email to junior.koegelenberg@tronox.com**

11 February 2021


**PROPOSED ESKOM JUNO GROMIS 400KV 15KM LINE DEVIATION, MATZIKAMA LOCAL MUNICIPALITY,  
 WESTERN CAPE**  
**BASIC ASSESSMENT PROCESS**  
*Letter of consent for the undertaking of an Application for Environmental Authorisation for the proposed Eskom Juno Gromis 400kV 15km line deviation*

Dear Landowner,

Eskom Holdings SOC Limited (the Applicant) hereby requests your consent for CES (acting on behalf of the Applicant) to undertake an application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998, as amended), as well as for the required water use license applications in terms of Section 21 of the National Water Act (Act 36 of 1998), for the proposed Eskom Juno Gromis 400kV 15km line deviation corridor situated on your land (as detailed in the table below and attached map).

Farm number & name	Landowner
143/2 (RE) HOUTKRAAL 143/0 (RE) HOUTKRAAL 143/5 HOUTKRAAL 151/0 RIETFONTEIN EXTEN 5	TRONOX MINERAL SANDS PTY LTD

Would you please sign the following section if you consent to the above undertaking.


12/02/2021  
 Signature Date

Full Name(s): Johannes Josias Albertus Koegelenberg

Authorised to Sign on Behalf of Tronox Mineral Sands Proprietary Limited.

Sincerely,

Caryn Clarke

Senior Environmental Consultant  
 c.clarke@cesnet.co.za

Coastal and Environmental Services (Pty) Ltd  
 T +27 46 622 2364 | F +27 86 410 7593  
 67 African Street, Grahamstown, 6139 | PO Box 934, Grahamstown, 6140

**ALBERTUS JOHANNES POOL:**



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**ATTENTION:**  
**DELIVERED VIA: Email:**

**PROPOSED ESKOM JUNO GROMIS 400KV 15KM LINE DEVIATION, MATZIKAMA LOCAL MUNICIPALITY,  
WESTERN CAPE**


**BASIC ASSESSMENT PROCESS**

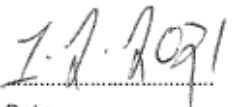
*Letter of consent for the undertaking of an Application for Environmental Authorisation for the proposed Eskom Juno Gromis 400kV 15km line deviation*

Dear Landowner,

Eskom Holdings SOC Limited (the Applicant) hereby requests your consent for CES (acting on behalf of the Applicant) to undertake an application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998, as amended), as well as for the required water use license applications in terms of Section 21 of the National Water Act (Act 36 of 1998), for the proposed Eskom Juno Gromis 400kV 15km line deviation corridor situated on your land. Would you please sign the following section if you consent to the above undertaking.

Farm Number: 145 Portion Number: 2 Farm Name: Adoonsvlei

  
.....  
Signature

  
.....  
Date

Full Nam Albertus Johannes Pool

Sincerely,

Caryn Clarke  
Senior Environmental Consultant  
c.clarke@cesnet.co.za

**VISAGIE JACOBUS:**



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES


**ATTENTION:  
DELIVERED VIA:**

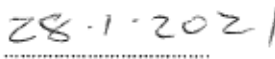
**PROPOSED ESKOM JUNO GROMIS 400KV 15KM LINE DEVIATION, MATZIKAMA LOCAL MUNICIPALITY,  
WESTERN CAPE**  
**BASIC ASSESSMENT PROCESS**  
*Letter of consent for the undertaking of an Application for Environmental Authorisation for the proposed  
Eskom Juno Gromis 400kV 15km line deviation*

Dear Landowner,

Eskom Holdings SOC Limited (the Applicant) hereby requests your consent for CES (acting on behalf of the Applicant) to undertake an application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998, as amended), as well as for the required water use license applications in terms of Section 21 of the National Water Act (Act 36 of 1998), for the proposed Eskom Juno Gromis 400kV 15km line deviation corridor situated on your land. Would you please sign the following section if you consent to the above undertaking.

Farm Number: 141 Portion Number: 2 Farm Name: Komkans

  
.....  
Signature

  
.....  
Date

Full Nam Jacobus Visagie


Sincerely,

Caryn Clarke  
Senior Environmental Consultant  
c.clarke@cesnet.co.za



APPENDIX E3: PROOF OF ADVERT

**Date of placement: 12 March 2021**



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**PROPOSED ESKOM- JUNO-GROMIS 400KV TRANSMISSION LINE DEVIATION, IN THE MATZIKAMA LOCAL MUNICIPALITY IN THE WESTERN CAPE PROVINCE.**

Notice is hereby given, in accordance with GN 982 Environmental Impact Assessment (EIA) Regulations (2014, as amended in 2017) Section 41(2) published in in terms of Chapter 6 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments), of the submission of an application to the national Department of Environment, Forestry and Fisheries (DEFF) for Environmental Authorisation (EA). In addition, water use license applications (WULA) will be submitted to the Department of Water Affairs in terms of Section 21 of the National Water Act (Act No. 36 of 1998; NWA).

**Proponent, Activities and Location:**  
Eskom Holdings SOC Ltd are required to apply for a 15km deviation to the authorized 400kv transmission powerline route which traverses Tronox Mine Namakwa Sands, located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape. Affected properties include: Rietfontein Extension 5 RE/151; Adoons Vlei 2/145; Houtkraal RE/143, RE/2/143 and 5/143; Goliathsgraaf 3/146; Rietfontein 3/144, 6/144 and Komkans 1/141 and 2/141. The proposed deviation falls within a Strategic Transmission Corridor as per GN 113 of 16 February 2018 (repealed by GN 787 of 17 July 2020).

**NEMA Listed Activities:**  
A Basic Assessment (BA) process is triggered by the following listed activities:

**Listing Notice 1:**

- Activity 12: The development of (ii) infrastructure or structures (a) within a watercourse and within 32m of a watercourse.
- Activity 19: The infilling or depositing of any material of more than 10m<sup>3</sup> into, or the dredging of, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10m<sup>3</sup> from a watercourse
- Activity 28: Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998.

**Listing Notice 2:**

- Activity 9: The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more outside urban areas or industrial complexes.

**Listing Notice 3:**

- Activity 4: The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape ii. outside urban areas, in (aa) areas containing indigenous vegetation.
- Activity 14: The development of (ii) infrastructure or structures with a physical footprint of 10m<sup>2</sup> or more; where such development occurs (a) within a watercourse and (c) within 32 metres of a watercourse, within i. Western Cape, i. Outside urban areas, and within ff) Critical Biodiversity Areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or bioregional plans.

**Competent Authority:**  
The competent authority for this application is the National Department of the Environment, Forestry and Fisheries (DEFF).

CES has been commissioned by Eskom Holdings SOC Ltd to undertake BA process in terms of NEMA 2014 EIA Regulations (as amended), as well as the WULA in terms of the NWA (Act No. 36 of 1998). You are hereby invited to register as an Interested & Affected Party (I&AP). Please submit your name, contact information and any comments to the contact person below.

For more information, registration as an I&AP or submission of written comments contact by post, phone, fax or e-mail: Caryn Clarke, PO Box 8145, Nahoon, 5210, Tel: 087 830 9806; Fax: 086 410 7822; Email: [c.clarke@cesnet.co.za](mailto:c.clarke@cesnet.co.za)



APPENDIX E4: SITE NOTICES

ENGLISH VERSION

**NOTICE OF ENVIRONMENTAL IMPACT  
ASSESSMENT:  
BASIC ASSESSMENT PROCESS**



**PROPOSED ESKOM JUNO-GROMIS 400kV TRANSMISSION LINE DEVIATION IN THE MATZIKAMA LOCAL MUNICIPALITY IN THE WESTERN CAPE PROVINCE, AND ROAD EXTENSION AT THE GROMIS SUBSTATION IN THE NAMA KHOI LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE.**

Notice is hereby given, in accordance with GN 982 Environmental Impact Assessment (EIA) Regulations (2014, as amended in 2017) Section 41(2) published in in terms of Chapter 6 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments), of the submission of an application to the national Department of Environment, Forestry and Fisheries (DEFF) for Environmental Authorisation (EA). In addition, water use license applications (WULA) will be submitted to the Department of Water Affairs in terms of Section 21 of the National Water Act (Act No. 36 of 1998; NWA).

**Proponent and Activities**

Eskom Holdings SOC Ltd received an EA in 2007 for the 400kV transmission line and substations (known as the Kudu integration project), in terms of the Environment Conservation Act 1989 (Act No. 73 of 1989). Subsequent to the EA issued in 2007, the negotiation process with the affected landowners resulted in the need for amendments to the proposed alignment. In 2017, a Basic Assessment Process was undertaken to apply for these amendments which received an EA in 2017 (Ref: 14/12/16/3/3/1/1679). The approved deviations included: 4.1 km deviation around the landing strip in Lutzville; 3km deviation within the Tronox Mine Namakwa Sands; and a 7.2km deviation around a mine in Kamiesberg.

There is now a need to apply for an additional deviation to the 400kV transmission powerline route which traverses Tronox Mine Namakwa Sands, located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape. After the receipt of favourable prospecting results, Eskom are required to deviate around the Tronox Mine area, which outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline. Affected properties include: Rietfontein Extension 5 RE/151; Adoons Vlei 2/145; Houtkraal RE/143, RE/2/143 and 5/143; Goliathspraaf 3/146; Rietfontein 3/144, 6/144 and Komkans 1/141 and 2/141.

In addition, a road extension is proposed to take place at the Gromis substation located in the Nama Khoi Local Municipality, Northern Cape Province. The road extension does not trigger any listed activities, however, an EMPr amendment may be required, dependent on the outcome of specialist studies (where required). The property to be affected is Dikgat RE/195.

**NEMA EIA Process:**

An EA & EMPr amendment process or Basic Assessment process is triggered by the proposed development. This will be clarified with DEFF prior to the submission of the application.

**Competent Authority:**

The competent authority for this application is the National Department of the Environment, Forestry and Fisheries (DEFF).

CES has been commissioned by Eskom Holdings SOC Ltd to undertake the amendment process/BA process in terms of NEMA 2014 EIA Regulations (as amended), as well as the WULA in terms of the NWA (Act No. 36 of 1998). You are hereby invited to register as an Interested & Affected Party (I&AP). Please submit your name, contact information and any comments to the contact person below.

For more information, registration as an I&AP or submission of written comments contact by post, phone, fax or e-mail: Caryn Clarke, PO Box 8145, Nahoon, 5210, Tel: 087 830 9806; Fax: 086 410 7822; Email: c.clarke@cesnet.co.za

**AFRIKAANS VERSION:**

# KENNISGEWING VAN OMGEWINGSBEVAL- BEOORDELING: BASIESE ASSESSERINGSPROSES



## VOORGESTELDE ESKOM JUNO-GROMIS 400 KV OVERDRAGLYNAVWYKING IN DIE MATZIKAMA PLAASLIKE MUNISIPALITEIT IN DIE WES-KAAP PROVINSIE, EN WEG-UITBREIDING OP DIE GROMIS SUBSTASIE IN DIE NAMA KHOI PLAASLIKE GEMEENTE, NOORD-KAAP PROVINSIE.

Kennis geskied hiermee, in ooreenstemming met GN 982 Regulasies vir Omgewingsimpakstudies (OIB) (2014, soos gewysig in 2017), artikel 41 (2) wat gepubliseer is in terme van hoofstuk 6 van die Wet op die Nasionale Omgewingsbestuur (NEMA, Wet No. 107) van 1998 en daaropvolgende wysigings, van die indiening van 'n aansoek by die nasionale Departement van Omgewing, Bosbou en Visserye (DEFF) vir omgewingsmagtiging (EA). Daarbenewens sal aansoeke om watergebruiklisensies (WULA) ingedien word by die Departement van Waterwese ingevolge Artikel 21 van die Nasionale Waterwet (Wet No. 36 van 1998; NWA).

### Voorstander en aktiwiteite

Eskom Holdings SOC Bpk het in 2007 'n EA ontvang vir die 400kV-transmissielyn en substasies (bekend as die Kudu-integrasieprojek), ingevolge die Wet op Omgewingsbewaring 1989 (Wet No. 73 van 1989). Na die EA wat in 2007 uitgereik is, het die onderhandelingsproses met die betrokke grondeienaars gelei tot die behoefte aan wysigings aan die voorgestelde belyning. In 2017 is 'n basiese assesseringsproses onderneem om aansoek te doen vir hierdie wysigings wat 'n EA in 2017 ontvang het (Verw: 14/12/16/3/3/1/1679). Die goedgekeurde afwykings het ingesluit: 4.1 km afwyking rondom die landingstrook in Lutzville; Afwyking van 3 km binne die Tronox-myn Namakwa Sands; en 'n afwyking van 7,2 km rondom 'n myn in Kamiesberg.

Daar moet nou aansoek gedoen word vir 'n bykomende afwyking van die 400kV-transmissiekraglyn wat deur die Tronox-myn Namakwa Sands loop, naby Nuwerus binne die Matzikama Plaaslike Munisipaliteit, die Weskus-distrik in die Wes-Kaap. Na die ontvangs van gunstige prospekterresultate, moet Eskom afwyk in die Tronox-myngebied, wat buite die EA 2017-gang goedgekeur het, wat lei tot 'n toename in die lengte van die kraglyn. Die betrokke eiendomme sluit in: Rietfontein Uitbreiding 5 RE / 151; Adoons Vlei 2/145; Houtkraal RE / 143, RE / 2/143 en 5/143; Goliathsgraaf 3/146; Rietfontein 3/144, 6/144 en Komkans 1/141 en 2/141.

Verder word voorgestel dat 'n padverlenging by die Gromis-substasie in die Nama Khoi Plaaslike Munisipaliteit, Noord-Kaap, plaasvind. Die verlenging van die pad veroorsaak geen gelyste aktiwiteite nie, maar 'n EMPr-wysiging mag nodig wees, afhangend van die uitslag van spesialisstudies (waar nodig). Die eiendom wat geraak moet word, is Dikgat RE / 195.

### NEMA OIB-proses:

'n EA- en EMPr-wysigingsproses of basiese assesseringsproses word veroorsaak deur die voorgestelde ontwikkeling. Dit sal met DEFF opgeklaar word voordat die aansoek ingedien word.

### Bevoegde owerheid:

Die bevoegde owerheid vir hierdie aansoek is die Nasionale Departement van Omgewing, Bosbou en Visserye (DEFF).

CES het die opdrag van Eskom Holdings SOC Bpk om die wysigingsproses / BA-proses te onderneem ingevolge NEMA 2014 OIB-regulasies (soos gewysig), asook die WULA ingevolge die NWA (Wet No. 36 van 1998). U word hiermee uitgenooi om te registreer as 'n belanghebbende en geaffekteerde party (I&AP). Stuur u naam, kontakinligting en enige kommentaar by die kontakpersoon hieronder.

Vir meer inligting, registrasie as I&AP of indien van skriftelike kommentaar, kontak per pos, telefoon, faks of e-pos: Caryn Clarke, Posbus 8145, Nahoon, 5210, Tel: 087 830 9806;  
Faks: 086 410 7822; E-pos: c.clarke@cesnet.co.za



ESKOM JUNO GROMIS 400kV LINE DEVIATION

**Site Notice 1 (Double-sided):** 31°15'22.13"S; 18° 0'22.34"E

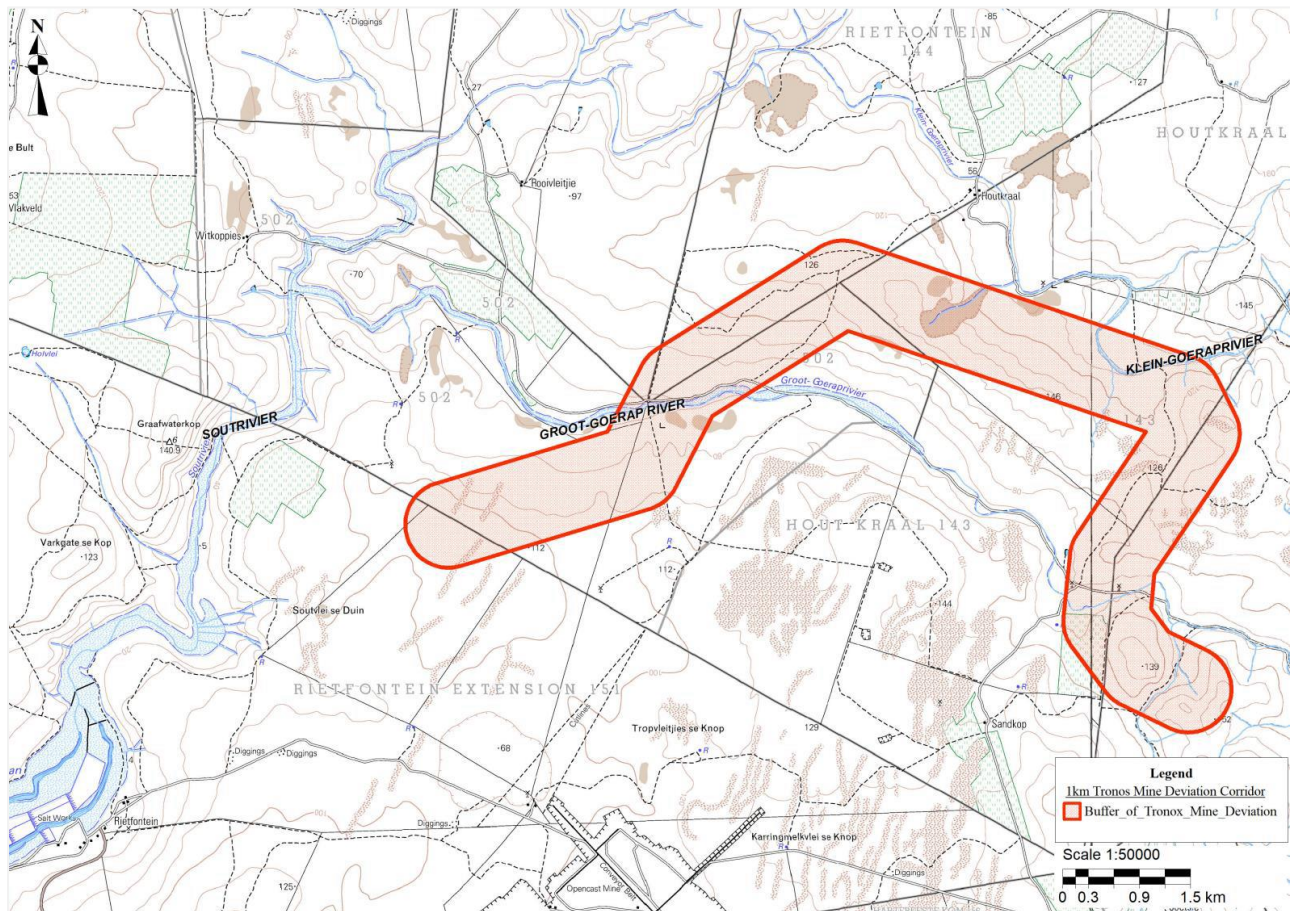


**Site Notice 2:** 31°13'19.46"S; 18° 5'38.82"E

DRAFT

**BASIC ASSESSMENT PROCESS: PROPOSED ESKOM- JUNO-GROMIS 400KV TRANSMISSION LINE  
DEVIATION, IN THE MATZIKAMA LOCAL MUNICIPALITY IN THE WESTERN CAPE PROVINCE.**

**BACKGROUND INFORMATION DOCUMENT (BID) & INVITATION TO COMMENT**



*Return address for comments:*

**CES**

**Attention: Caryn Clarke**  
**P.O Box 8145,**  
**Nahoon, East London, 5241**  
**Tel: (043) 726 7809**  
**Fax: (086) 410 7822**  
**Email: [c.clarke@cesnet.co.za](mailto:c.clarke@cesnet.co.za)**



## AIM OF THIS DOCUMENT

The purpose of this document is to ensure that **people who are interested in or affected by the proposed project** are **provided with information about the proposal, the process being followed and provided with an opportunity to be involved** in the Basic Assessment (BA) process for proposed Eskom- Juno-Gromis 400kV transmission line deviation.

Registering as an **Interested and/or Affected Party (I&AP)** allows individuals or groups the opportunity to **contribute ideas, issues, and concerns relating to the project**. I&APs also have an opportunity to **review all of the reports and submit their comments** on those reports. All of the comments that are received will be included in the reports that are submitted to the Competent Authority (CA).

## THE PROPONENT

Eskom Holdings SOC Ltd are required to apply for a 15km deviation to the authorized 400kV transmission powerline route which traverses Tronox Mine Namakwa Sands. Eskom Holdings SOC Ltd have appointed Coastal and Environmental Services (t/a CES) as the project Environmental Assessment Practitioners (EAP).

## LOCATION

The proposed 15km route deviation is located within located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape. The table below lists the properties affected by the proposed development:

NO	FARM NAME	FARM	PORTION	SG 21 CODE
1	HOUTKRAAL	143	0	C0780000000014300000
2	HOUTKRAAL	143	2	C0780000000014300002
3	HOUTKRAAL	143	5	C0780000000014300005
4	RIET FONTEIN EXTENSION 5	151	0	C0780000000015100000
5	ADOONS VLEI	145	2	C0780000000014500002
6	GOLIATHSGRAAF	146	3	C0780000000014600003
7	REIT FONTEIN	144	6	C0780000000014400006
8	RIET FONTEIN	144	3	C0780000000014400003
9	KOMKANS	141	1	C0780000000014100001
10	KOMKANS	141	2	C0780000000014100002

Refer to Figure 1: Locality Map below.

## PROJECT DESCRIPTION

The power supply to the greater Cape area is mostly provided by the coal-fired power stations on the Highveld, mainly in Mpumalanga. As a result, a Transmission network from Mpumalanga to the Cape has grown over the years as demand has increased. Much of this network is now over two decades old and is approaching its peak operational capacity. In order to meet the increasing demand of electricity, Eskom proposes to import power from the 800MW Kudu Combined Cycle Power Plant (CCGT) power station at Uubvlei, 15km north of Oranjemond in Namibia. The 800MW Kudu CCGT power station will supply 200MW to Namibia and the balance will be available for integration into the South African grid.

Eskom proposes to integrate the power from the Kudu CCGT power station into the South African grid via Transmission lines from the Namibian border. A number of alternative integration options and routes have been proposed to connect to the Eskom's Western Grid and supply the increasing demand in the Cape. This specific project forms part of the Kudu Integration project and relates specifically to the proposed 230km 400kV Juno-Gromis Transmission line which aims to enhance the supply to the Western Cape, which has been plagued by outages.

An Environmental Impact Assessment (EIA) was commissioned for the proposed construction of the Eskom 400kV transmission power line, Kudu integration project in terms of the Environment Conservation Act 1989 (Act No. 73 of 1989). The study presented various alternatives and included a number of specialist studies, as a result a Record of Decision (RoD) currently known as Environmental Authorisation (EA) was issued on 6 November 2007 (Ref: 12/12/20/720). An extension for the EA issued was applied for and granted on 20 March 2014.

Subsequent to the EA issued in 2007, the negotiation process with the affected landowners resulted in the need for amendments to the proposed alignment. In 2017, a Basic Assessment Process was undertaken to apply for these amendments which received an EA in 2017 (Ref: 14/12/16/3/3/1/1679). The approved deviations included:

- 4.1 km deviation around the landing strip in Lutzville;

- 3km deviation within the Tronox Mine Namakwa Sands; and
- 7.2km deviation around a mine in Kamiesberg.

There is now a need to apply for an additional deviation to the 400kV transmission powerline route which traverses Tronox Mine Namakwa Sands, which is located near Nuwerus within the Matzikama Local Municipality, West Coast District in the Western Cape.

After the receipt of favourable prospecting results, it is more feasible for Eskom to deviate around Tronox's mining area, which will result in a proposed 15km deviation to the east of the 2017 approved deviation. The proposed 15km deviation falls outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline. A Basic Assessment (BA) process (as it falls within a Strategic Transmission Corridor) is therefore required.

### THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

**CES** was established in 1990 as a specialist environmental consulting company and has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Programme (EMPr), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes. EOH CES has been active in all of the above fields, and in so doing have made a positive contribution towards environmental management and sustainable development in the Eastern Cape, South Africa and many other African countries. We believe that a balance between development and environmental protection can be achieved by skilful, considerate and careful planning.

### THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

According to the EIA regulations (2014, as amended) promulgated under the National **Environmental** Management Act (NEMA) (Act No.107 of 1998; NEMA) the potential impacts on the environment will have to be assessed in terms of the listed activities. The proposed 15km route deviation triggers Listing Notices 1, 2 and 3, however a **Basic Assessment (BA) process** is required due to the proposed deviation being located within a Strategic Transmission Corridor as identified in Government Notice No. 113 of February 2018 (repealed by GN 787 of 17 July 2020). The competent authority for this application will be the national Department of the Environment, Forestry and Fisheries (DEFF).

**Table 11-2: The potential triggered listed activities in terms of the NEMA EIA regulations (2014, as amended).**

Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 1</b> of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R. 327 Activity 12 (a) (c)	The development of- (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs- (a) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.	The study area contains a number of watercourses that may be affected during the construction of the proposed development. Some of the towers/pylon structures will be located within 32 meters of a watercourse. The total footprint of the proposed pylons is expected to be more than 100m <sup>2</sup> .
GN R. 327 Activity 19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging of, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving – (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan	Access roads required for the construction and maintenance of the 15km line deviation will require the infilling and/or excavation of material of more than 10m <sup>3</sup> into/from a watercourse.
GN R. 327 Activity 28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:	The proposed pylon structures and access roads (considered industrial development) will take place on land which is zoned for agriculture. The total footprint of the development will be larger than 1ha outside of an urban area.

	(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	
Activity No(s):	Provide the relevant <b>Scoping &amp; EIR Activity(ies)</b> as set out in <b>Listing Notice 2</b> of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R.325 Activity 9	The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more outside urban areas or industrial complexes.	While the proposed 400 kV powerline deviation exceeds the 275 kV threshold stipulated in this activity. However, it is understood that this infrastructure falls within the approved Strategic Transmission Corridors and as such would only be subject to a <b>Basic Assessment Process, as per GN 113 of 16 February 2018 (repealed by GN 787 of 17 July 2020).</b>
Activity No(s):	Provide the relevant <b>Basic Assessment Activity(ies)</b> as set out in <b>Listing Notice 3</b> of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R. 324 Activity 4 (i)(ii) (aa)	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape ii. Outside urban areas: (aa) Areas containing indigenous vegetation;	The proposed development would require the construction of access roads that would be used during both construction and operation phases, which will be wider than 4 meters, outside an urban area in the Western Cape, in areas containing indigenous vegetation.
GN R. 324 Activity 14 (ii) (a) (c) i. i. (ff)	The development of (ii) infrastructure or structures with a physical footprint of 10square metres or more; where such development occurs: (a) within a watercourse; (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; i. Western Cape i. Outside urban areas: ff) Critical Biodiversity Areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or bioregional plans.	The proposed access roads and pylon structures will traverse watercourses and be located within 32m of a watercourse within identified CBA areas, both terrestrial and aquatic in the Western Cape.

## APPROACH TO THE EIA PROCESSES

The EIA process required for the 15km route deviation is a **Basic Assessment (BA)** process. The illustration below indicates where we are currently in the BA process:

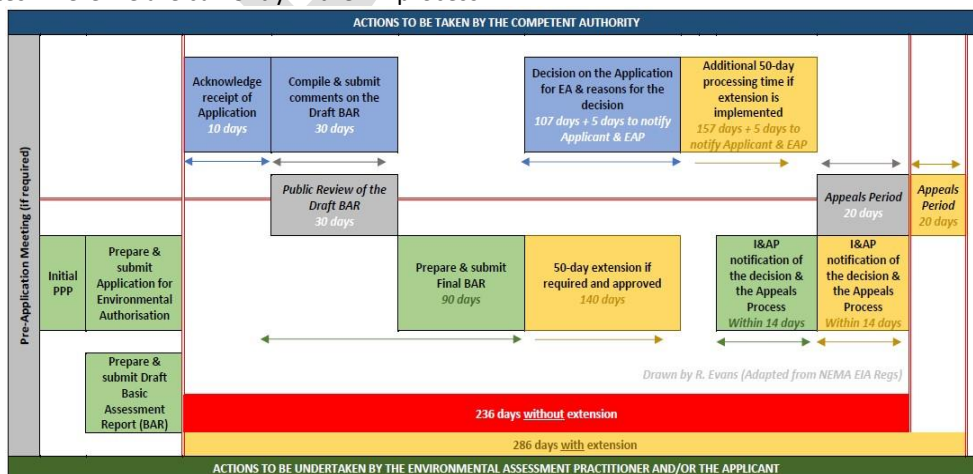


Figure 1. Basic Assessment (BA) process

## POTENTIAL IMPACTS AND BENEFITS

CES will assess the impacts of the proposed activity on the environment. Impacts will be assessed for various alternatives, including the preferred alternative and the “No-Go” alternative. Impacts will be assessed for the planning and design phase, construction phase, operational phase and decommissioning phase of the proposed development.

## HOW CAN YOU BE INVOLVED?

A Public Participation Process (PPP) is being conducted as part of the BA process for the proposed 15km route deviation. The aim of the PPP is to allow everyone who is interested in, or likely to be affected by the proposed development to provide input into the process.

The Public Participation Process includes:

- Advertisement in a local newspaper;
- On-site signage;
- Written notifications and circulation of the BID (*this document*) to all identified I&APs and stakeholders;
- 30-day review of the reports by all registered I&APs and stakeholders.

If you consider yourself an interested and/or affected person/party, it is important that you become, and remain, involved in the PPP. In order to do so, please follow the steps below to ensure that you are continually informed of the project developments and will ensure your opportunity to raise issues and concerns pertaining to the project.

**STEP 1:** Please register by responding to our notification and invitation, with your name and contact details (details provided on cover page and below). As a registered I&AP, you will be informed of all meetings, report reviews and project developments throughout the BA process.

**STEP 2:** Review and comment on reports that are made available. Your valuable inputs are needed to ensure that accurate information is captured and that all potential issues are addressed.

CES is required to engage with all private and public parties that may be interested and/or affected by the proposed interchange construction, in order to distribute information for review and comment in a transparent manner.

In the same light, it is important for I&APs to note the following:

1. In order for CES to continue engaging with you, please **ENSURE** that you register on our database by contacting the person below.
2. As the BA process is regulated by specific review and comment timeframes, it is your responsibility to submit your comments within these timeframes.

Please send your enquiries and/or comments to:

**Attention: Tarryn Martin**  
**Tel: +27 (21) 045 0900**  
**Fax: +27 (46) 622 6564**  
**Email: t.martin@cesnet.co.za**

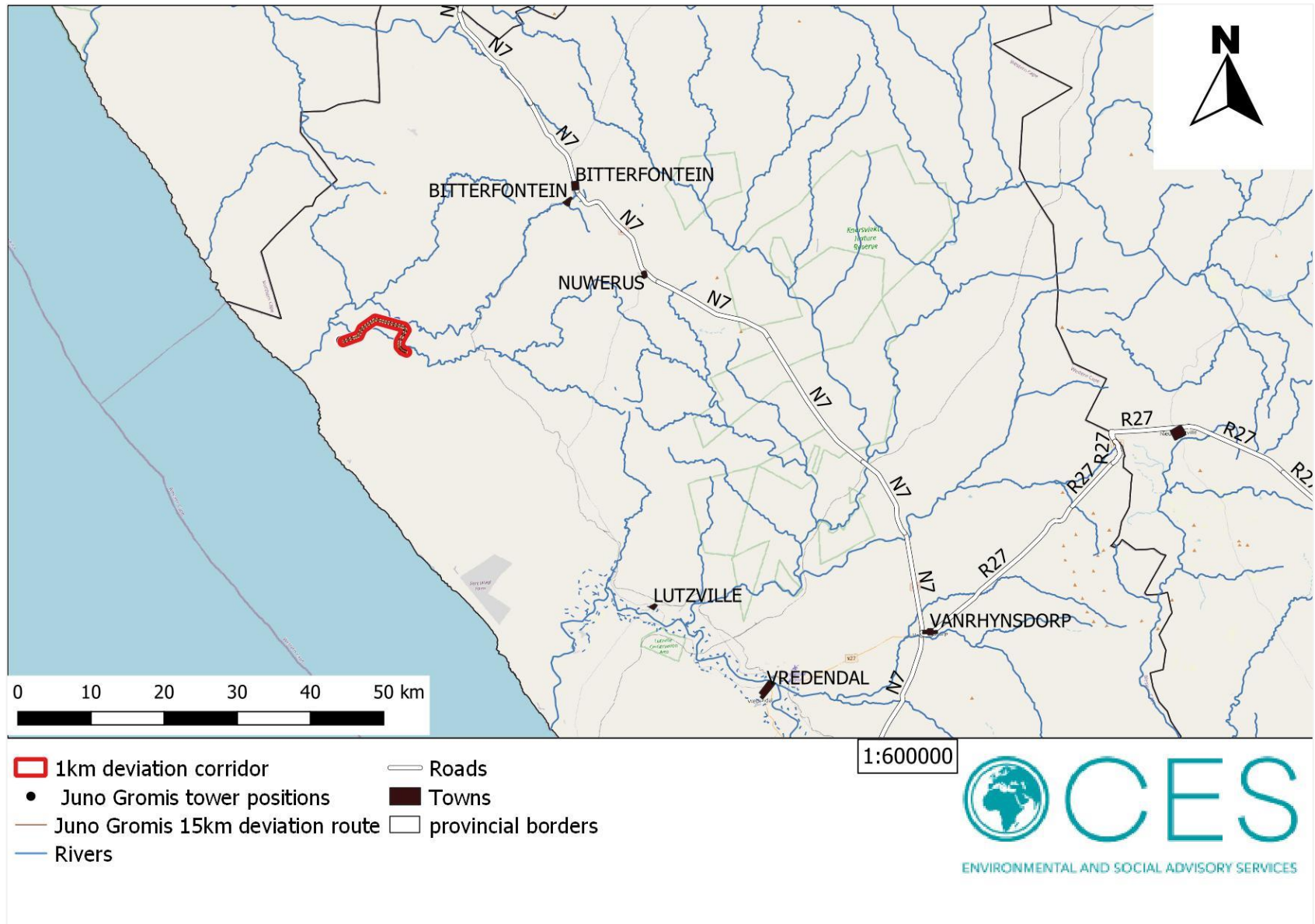


Figure 1: Locality Map.

**ESKOM JUNO GROMIS 400kV LINE DEVIATION**

**I hereby wish to register as an Interested and Affected Party (I&AP) for the proposed Eskom- Juno-Gromis 400kV transmission line deviation located in the Matzikama Local Municipality, Western Cape Province.**

Name & Surname:

---

Organisation:

---

Postal Address:

---

---

Email:

---

Phone #:

---

Fax #:

---

My initial comments, issues or concerns are:

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---

---

Other individuals, stakeholders, organisations or entities that should be registered are:

Name & Surname:

---

Organisation:

---

Postal address:

---

Contact details:

---

Please return details to: **Tarryn Martin, Tel: +27 (21) 045 0900, Fax: +27 (46) 622 6564**  
**Email: t.martin@cesnet.co.za**

## APPENDIX E6: INITIAL NOTIFICATIONS

EMAIL (16 April 2021):



16 April 2021

Dear Interested and Affected party,

**NOTIFICATION: BASIC ASSESSMENT PROCESS FOR THE PROPOSED ESKOM JUNO-GROMI 15KM POWERLINE ROUTE DEVIATION LOCATED NEAR NUWERU & WITHIN THE MATZIKAMA LOCAL MUNICIPALITY, WEST COAST DISTRICT IN THE WESTERN CAPE.**

Eskom Holdings 30C Ltd received authorization for the 400kV transmission powerline route in 2017 to traverse Tronox Mine Namakwa Sands. Tronox subsequently received favourable prospecting results and this has led Eskom to deviate the line and avoid the mining activities. The proposed deviation falls outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline. A Basic Assessment (BA) process (within a Strategic Transmission Corridor) is therefore required.

The powerline deviation corridor falls on the following properties:

FARM NAME	FARM	PORTION	SG 21 CODE
HOUTENAAI	143	0	C0780 000000 03430000
HOUTENAAI	143	2	C0780 000000 03430002
HOUTENAAI	143	5	C0780 000000 03430005
REITFONTEIN EXTENSION 5	153	0	C0780 000000 03510000
ADDONS VLDI	145	2	C0780 000000 03450002
GELATHISGRAAF	146	3	C0780 000000 03460003
REITFONTEIN	144	6	C0780 000000 03440006
REITFONTEIN	144	3	C0780 000000 03440003
KOMKANS	143	1	C0780 000000 03410001
KOMKANS	143	2	C0780 000000 03410002

Eskom Holdings 30C Ltd have appointed Coastal and Environmental Services (t/a CES) as the project Environmental Assessment Practitioners (EAP).

You are here-by notified of the initiation of a Basic Environmental Assessment being carried out by CES for the above-mentioned proposed project.

For a detailed project description please see the Background Information Document on the CES public documents website <http://www.cesnet.co.za/eskom-juno-gromi-15km-powerline-route-deviation>

CES would appreciate it, if you could confirm your receipt of this notification via email, phone or post.

For more information, please feel free to **contact:** Mr. Skye Clark-Moleod/ Tel: (021) 045 0800 /3 Caledonian Road, Mowbray, 7700/ E-mail: [skye.clark-moleod@cesnet.co.za](mailto:skye.clark-moleod@cesnet.co.za)

Yours sincerely,  
Skye Clark-Moleod  
Environmental Consultant

# PROOF OF EMAIL CAMPAIGN

## Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

### 116 Recipients

Audience: Coastal and Environmental Services (Tags: Customer)

Delivered: Fri, Apr 16, 2021 7:25 am

Subject: Eskom-Juno Gromis Project Inception

[View email](#) · [Download](#) · [Print](#) · [Share](#)

## Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

### Campaign sent

Export As CSV

[?](#) What's exported?

1 - 10 of 116 >

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
<a href="#">KhanR@dwa.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">ieptieshaam.bekko@westerncape.g...</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">shawls@telkom.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">makwabasan@dwa.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">dreyerw@dws.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">Adri.Lameyer@westerncape.gov.za</a> >						★★★★★	11/19/20 10:48AM
<a href="#">aduffell-canham@capenature.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">DGoffice@dirdlr.gov.za</a> >						★★★☆☆	4/16/21 7:28AM
<a href="#">shehaam.brinkhuis@westerncape.g...</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">dale.wright@birdlife.org.za</a> >						★★★☆☆	4/16/21 7:28AM

View  ▾

1 - 10 of 116 >



# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

Overview [Activity](#) ▾ Click Performance Social E-commerce Inbox Analytics360

## Campaign sent

Export As CSV

[What's exported?](#)

11 - 20 of 116

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
Taryn.dreyer@westerncape.gov.za						★★★★☆	4/16/21 5:59AM
AnnetteS@daff.gov.za						★★★★☆	4/16/21 5:59AM
hwc.hwc@westerncape.gov.za						★★★★☆	4/16/21 5:59AM
jvtonder@altair.co.za						★★★★☆	4/16/21 5:59AM
harrieta@ewt.org.za						★★★★☆	4/16/21 5:59AM
kleynhansw@caa.co.za						★★★★☆	4/16/21 7:28AM
klasio@intekom.co.za						★★★★☆	4/16/21 7:28AM
lubabalo.mbekeni@drdlr.gov.za						★★★★☆	4/16/21 5:59AM
MashuduMa@daff.gov.za						★★★★☆	4/16/21 5:59AM
bbarnes@capenature.co.za						★★★★☆	4/16/21 5:59AM

View

11 - 20 of 116

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

Overview [Activity](#) ▾ Click Performance Social E-commerce Inbox Analytics360

## Campaign sent

Export As CSV

[What's exported?](#)

21 - 30 of 116

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
Beverline.thomas@westerncape.gov...						★★★★☆	4/16/21 7:28AM
hannesenviro@gmail.com						★★★★☆	4/16/21 5:59AM
francois.strydom@dod.mil.za						★★★★☆	4/16/21 5:59AM
johanm@elsenburg.com						★★★★☆	4/16/21 5:59AM
lourensl@ewt.org.za						★★★★☆	4/16/21 5:59AM
ecloete@capenature.co.za						★★★★☆	4/16/21 5:59AM
darryl@hms.co.za						★★★★☆	4/16/21 6:14AM
solly.fourie@westerncape.gov.za						★★★★☆	11/19/20 10:48AM
andrea@daff.gov.za						★★★★☆	4/16/21 5:59AM
AEssop@environment.gov.za						★★★★☆	4/16/21 5:59AM

View

21 - 30 of 116

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#)

[What's exported?](#)

31 - 40 of 116



Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
Kadri.Nassiep@capetown.gov.za						★★★★☆	4/16/21 5:59AM
kebasenosi@yahoo.com						★★★★☆	4/16/21 5:59AM
MKabasa@environment.gov.za						★★★★☆	4/16/21 5:59AM
Duduzile.Kunene@dmr.gov.za						★★★★☆	4/16/21 7:28AM
CouchRA@telkom.co.za						★★★★☆	4/16/21 5:59AM
mgalimberti@sahra.org.za						★★★★☆	4/16/21 7:28AM
ndobenin2@dwa.gov.za						★★★★☆	4/16/21 5:59AM
Lauwrens@invermark.co.za						★★★★☆	4/16/21 6:14AM
andre.lombard@westerncape.gov.za						★★★★☆	4/16/21 5:59AM
advocacy@birdlife.org.za						★★★★☆	4/16/21 5:59AM

View

10 ▾

31 - 40 of 116



# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#)

[What's exported?](#)

41 - 50 of 116



Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
jdmooetzee@gmail.com						★★★★☆	4/16/21 5:59AM
EXPOL@TELKOMSA.NET						★★★★☆	4/16/21 7:28AM
lionelp@matzikamamun.co.za						★★★★☆	4/16/21 5:59AM
pro@matzikama.gov.za						★★★★☆	4/16/21 5:59AM
alvan.gabriel@westerncape.gov.za						★★★★☆	4/16/21 7:28AM
CorvdW@elsenburg.com						★★★★☆	4/16/21 5:59AM
kate@iws-sa.co.za						★★★★☆	4/16/21 5:59AM
pjh@fossilpark.org.za						★★★★☆	4/16/21 5:59AM
StuurmKV@eskom.co.za						★★★★☆	4/16/21 5:59AM
JMpelane@environment.gov.za						★★★★☆	4/16/21 5:59AM

View

10 ▾

41 - 50 of 116



# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#)

[What's exported?](#)

51 - 60 of 116

< >

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
kameel@kingsleymail.co.za >						★★★★☆	4/16/21 5:59AM
patrick@wessa.co.za >						★★★★☆	4/16/21 7:28AM
atiplady@ska.ac.za >						★★★★☆	4/16/21 5:59AM
davids@cefgroup.co.za >						★★★★☆	4/16/21 7:28AM
pierren@sanparks.org >						★★★★☆	4/16/21 5:59AM
ajay.trikam@westerncape.gov.za >						★★★★☆	4/16/21 5:59AM
ricardok@matzikama.gov.za >						★★★★☆	4/16/21 5:59AM
cjmalherbe@wcdm.co.za >						★★★★☆	4/16/21 5:59AM
marek.kedzieja@westerncape.gov.za >						★★★★☆	4/16/21 5:59AM
lionelp@matzikama.gov.za >						★★★★☆	4/16/21 5:59AM

View

51 - 60 of 116

< >

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#)

[What's exported?](#)

61 - 70 of 116

< >

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
stephanie.barnardt@westerncape.g... >						★★★★☆	4/16/21 5:59AM
zukile.mali@yahoo.com >						★★★★☆	4/16/21 5:59AM
rynop@capebiosphere.co.za >						★★★★☆	4/16/21 5:59AM
dkotze@wcdm.co.za >						★★★★☆	4/16/21 5:59AM
JohannaM@atns.co.za >						★★★★☆	4/16/21 5:59AM
nico.kruger@tronox.com >						★★★★☆	4/16/21 5:59AM
john.geeringh@eskom.co.za >						★★★★☆	11/19/20 10:48AM
mokgadi.mathekgana@energy.gov.za >						★★★★☆	4/16/21 5:59AM
futhi.mathebula@transnet.net >						★★★★☆	4/16/21 5:59AM
pmakitla@environment.gov.za >						★★★★☆	4/16/21 5:59AM

View

61 - 70 of 116

< >

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

Export As CSV

[?](#) What's exported?

71 - 80 of 116



Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
<a href="#">gustav@bester.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">Mwheeler@capenature.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">ceoheritage@westerncape.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">andrew.september@westerncape.g...</a> >						★★★☆☆	4/16/21 7:28AM
<a href="#">info@capebiosphere.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">simphiwem@atns.co.za</a> >						★★★★☆	4/16/21 7:36AM
<a href="#">erna.vanzyl@drdlr.gov.za</a> >						★★★★☆	4/16/21 7:28AM
<a href="#">zethembe.khuluse@westerncape.g...</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">tamai.hore@nersa.org.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">westooastdm@wodm.co.za</a> >						★★★★☆	4/16/21 6:46AM

View

10 ▾

71 - 80 of 116



# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

Export As CSV

[?](#) What's exported?

81 - 90 of 116



Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
<a href="#">smambane@environment.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">keithbharrison@lando.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">hfprins@wodm.co.za</a> >						★★★★☆	4/16/21 7:28AM
<a href="#">info@masifundise.org.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">Pheladi.Masipa@energy.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">Keagan-leigh.Adriaanse@westernca...</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">WayleaCR@telkom.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">thokob@daff.gov.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">philippa@wessa.co.za</a> >						★★★★☆	4/21/21 2:50AM
<a href="#">melanese.schippers@westerncape....</a> >						★★★★☆	4/16/21 5:59AM

View

10 ▾

81 - 90 of 116



**ESKOM JUNO GROMIS 400kV LINE DEVIATION**

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#) ⓘ What's exported? 91 - 100 of 116 < >

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
<a href="#">StrohL@caa.co.za</a> >						★★★☆☆	11/19/20 10:...
<a href="#">conservationoffice@capebiosphere....</a> >						★★★☆☆	4/16/21 5:56
<a href="#">wacouncil@gmail.com</a> >						★★★★☆	4/16/21 5:56
<a href="#">Keagan.Carr@westerncape.gov.za</a> >						★★★☆☆	4/16/21 5:56
<a href="#">rakshas@telkomsa.net</a> >						★★★☆☆	4/16/21 5:56
<a href="#">Sharonette.webb@westerncape.gov...</a> >						★★★☆☆	4/16/21 5:56
<a href="#">energy@birdlife.org.za</a> >						★★★☆☆	4/16/21 5:56
<a href="#">Patrick.Maqabangqa@drrlr.gov.za</a> >						★★★☆☆	4/16/21 5:56
<a href="#">Slabigh@gmail.com</a> >						★★★★☆	4/16/21 5:56
<a href="#">cesct@cesnet.co.za</a> >	Skye	Clarke-Moleod	Coastal and Environmental Services 16 Gordon Rd			★★★☆☆	11/19/20 10:...

View  91 - 100 of 116 < >

# Eskom-Juno Gromis Project Inception

[Switch report](#) ▾

[Overview](#) [Activity](#) ▾ [Click Performance](#) [Social](#) [E-commerce](#) [Inbox](#) [Analytics360](#)

## Campaign sent

[Export As CSV](#) ⓘ What's exported? 101 - 110 of 116 < >

Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
<a href="#">mm@wcdm.co.za</a> >						★★★☆☆	4/16/21 6:46AM
<a href="#">Abrahamsn@nra.co.za</a> >						★★★☆☆	4/16/21 5:59AM
<a href="#">mnyakaa@dws.gov.za</a> >						★★★☆☆	4/16/21 5:59AM
<a href="#">StanleyT@environment.gov.za</a> >						★★★★☆	3/8/21 8:10AM
<a href="#">ian@green-cape.co.za</a> >						★★★★☆	4/16/21 5:59AM
<a href="#">t.martin@cesnet.co.za</a> >						★★★★☆	11/19/20 10:48AM
<a href="#">catherine.bill@westerncape.gov.za</a> >						★★★☆☆	4/16/21 5:59AM
<a href="#">piet@joetsie.co.za</a> >						★★★☆☆	4/16/21 5:59AM
<a href="#">CMusemburi@environment.gov.za</a> >						★★★☆☆	4/16/21 5:59AM
<a href="#">marko@matzikama.gov.za</a> >						★★★☆☆	4/16/21 5:59AM

View  101 - 110 of 116 < >

# Eskom-Juno Gromis Project Inception

Switch report ▾

Overview **Activity ▾** Click Performance Social E-commerce Inbox Analytics360

## Campaign sent

Export As CSV

📘 What's exported?

111 - 116 of 116



Email Address	First Name	Last Name	Address	Phone Number	Birthday	Member Rating	Last Changed
darlingwines@telkomsa.net >						★★★★☆	4/16/21 5:59AM
atmoreroedgers90@gmail.com >						★★★★☆	4/16/21 5:59AM
smunzhedzi@environment.gov.za >						★★★★☆	11/19/20 10:48AM
a.carter@cesnet.co.za >						★★★★☆	4/16/21 6:14AM
thesme@matzikama.gov.za >						★★★★☆	4/16/21 5:59AM
tyroneking@webmail.co.za >						★★★★☆	4/16/21 5:59AM

View

10 ▾

111 - 116 of 116



DRAFT

**NOTIFICATION LETTER WITH BID ENCLOSED SENT VIA REGISTERED MAIL**



16 April 2021

Dear Interested and Affected party,

**NOTIFICATION: BASIC ASSESSMENT PROCESS FOR THE PROPOSED ESKOM JUNO-GROMIS 15KM POWERLINE ROUTE DEVIATION LOCATED NEAR NUWERUS WITHIN THE MATZIKAMA LOCAL MUNICIPALITY, WEST COAST DISTRICT IN THE WESTERN CAPE.**

Eskom Holdings SOC Ltd received authorization for the 400kV transmission powerline route in 2017 to traverse Tronox Mine Namakwa Sands. Tronox subsequently received favourable prospecting results and this has led Eskom to deviate the line and avoid the mining activities. The proposed deviation falls outside of the 2017 EA authorised corridor, resulting in an increase in the length of the powerline. A Basic Assessment (BA) process (within a Strategic Transmission Corridor) is therefore required.

The powerline deviation corridor falls on the following properties:

NO	FARM NAME	FARM	PORTION	SG 21 CODE
1	HOUTKRAAL	143	0	C0780 0000000014300000
2	HOUTKRAAL	143	2	C0780 0000000014300002
3	HOUTKRAAL	143	5	C0780 0000000014300005
4	RIETFONTEIN EXTENSION 5	151	0	C0780 0000000015100000
5	ADOONS VLEI	145	2	C0780 0000000014500002
6	GOLIATHSGRAAF	146	3	C0780 0000000014600003
7	REITFONTEIN	144	6	C0780 0000000014400006
8	RIETFONTEIN	144	3	C0780 0000000014400003
9	KOMKANS	141	1	C0780 0000000014100001
10	KOMKANS	141	2	C0780 0000000014100002

Eskom Holdings SOC Ltd have appointed Coastal and Environmental Services (t/a CES) as the project Environmental Assessment Practitioners (EAP).

You are here-by notified of the initiation of a Basic Environmental Assessment being carried out by CES for the above-mentioned proposed project.

For a detailed project description please see the Background Information Document enclosed.

CES would appreciate it, if you could confirm your receipt of this notification via email, phone or post.

For more information, please feel free to contact: Ms Skye Clark-Mcleod/ Tel: (021) 045 0900 /3 Caledonian Road, Mowbray, 7700/ E-mail: [skye.clark-mcleod@cesnet.co.za](mailto:skye.clark-mcleod@cesnet.co.za)

Yours sincerely,  
Skye Clarke-Mcleod

Coastal and Environmental Services (Pty) Ltd  
T +27 21 045 0900  
Cape Town, Western Cape  
Reg no: 2012/151672/07  
[www.cesnet.co.za](http://www.cesnet.co.za)

Directors: AM Avis, Q Botha, MA Streak

16 April 2021

Geagte belangstellende en geaffekteerde party,

**KENNISGEWING: BASIESE ASSESSERINGSPROSES VIR DIE VOORGESTELDE ESKOM JUNO-GROMIS 15KM POWERLINE ROETE AFWYKING NABY NUWERUS BINNE DIE MATZIKAMA PLAASLIKE MUNISIPALITEIT, WESKUS DISTRIK IN DIE WES-KAAP.**

Eskom Holdings SOC Bpk het in 2017 magtiging ontvang vir die 400kV-transmissiekraglynroete om die Tronox-myn Namakwa Sands deur te steek. Tronox het daarna gunstige prospekteringsresultate gekry, wat daartoe gelei het dat Eskom die lyn afgewyk het en die mynaktiwiteite vermy het. Die voorgestelde afwyking val buite die 2017 EA-gemagtigde gang, wat lei tot 'n toename in die lengte van die kraglyn. 'N Basiese assesseringsproses (binne 'n strategiese transmissiekorridor) is dus nodig.

Die kraglynafwykingskorridor val op die volgende eienskappe:

NO	FARM NAME	FARM	PORTION	SG 21 CODE
1	HOUTKRAAL	143	0	C07800000000014300000
2	HOUTKRAAL	143	2	C07800000000014300002
3	HOUTKRAAL	143	5	C07800000000014300005
4	RIETFONTEIN EXTENSION 5	151	0	C07800000000015100000
5	ADOONS VLEI	145	2	C07800000000014500002
6	GOLIATHSGRAAF	146	3	C07800000000014600003
7	REITFONTEIN	144	6	C07800000000014400006
8	RIETFONTEIN	144	3	C07800000000014400003
9	KOMKANS	141	1	C07800000000014100001
10	KOMKANS	141	2	C07800000000014100002

Eskom Holdings SOC Ltd het Coastal and Environmental Services (t / a CES) aangestel as die projek Environmental Assessment Practitioners (EAP).

Hiermee word u in kennis gestel van die aanvang van 'n basiese omgewingsbeoordeling wat deur CES vir die bogenoemde voorgestelde projek gedoen word.

Vir 'n gedetailleerde projekbeskrywing, sien die agtergrondinligtingstuk hierby.

CES sal dit waardeur as u die ontvangs van hierdie kennisgewing per e-pos, telefoon of pos kan bevestig.

Vir meer inligting, kontak gerus me. Skye Clark-Mcleod / Tel: (021) 045 0900/ Pos: 3 Caledonian Road, Mowbray, 7700 / E-pos: [skye.clark-mcleod@cesnet.co.za](mailto:skye.clark-mcleod@cesnet.co.za)

Die uwe,  
Skye Clarke-Mcleod

Coastal and Environmental Services (Pty) Ltd  
T +27 21 045 0900  
Cape Town, Western Cape  
Reg no: 2012/151672/07  
[www.cesnet.co.za](http://www.cesnet.co.za)

Directors: AM Avis, Q Botha, MA Streak



APPENDIX E7: PROOF OF POST AND/OR SMS NOTIFICATIONS

APR 19 2021

APR 19 2021

CES  
67 African Street  
Grahamstown

Gerald Panther Inv. Box 103  
Pella 8891  
Johannes Cornelius Pool  
Driesfontein Sitterfontein 8200  
Visagie Jacobs Box  
519 Lutzville 8165  
Joos Pool Park Weg 23  
Lutzville 8165

Affix Track and Trace A book copy
Plak Völg-en-Spoor- A-book-afskrif
<b>REGISTERED LETTER</b> <small>(with a domestic insurance option)</small>
RC460414218ZA <b>A BOOK COPY</b>
<b>REGISTERED LETTER</b> <small>(with a domestic insurance option)</small>
RC460414204ZA <b>A BOOK COPY</b>
<b>REGISTERED LETTER</b> <small>(with a domestic insurance option)</small>
RC460414221ZA <b>A BOOK COPY</b>
<b>REGISTERED LETTER</b> <small>(with a domestic insurance option)</small>
RC460414181ZA <b>A BOOK COPY</b>

4.  


**APPENDIX E8: 15KM LINE DEVIATION STAKEHOLDER & I&AP DATABASE**

<b>15KM 400KV POWERLINE DEVIATION: Landowners (Western Cape)</b>					
<b>Land Owners WC</b>	<b>Farm Name</b>	<b>Property</b>	<b>Landowner</b>	<b>email</b>	<b>Phone</b>
C07800000000014500002	ADOONS VLEI	2/145	ALBERTUS JOHANNES POOL	kameel@kingsleymail.co.za	0276325075
C07800000000014600003	GOLIATHSGRAAF	3/146	ALBERTUS JOHANNES POOL		0276325075
C07800000000014400006	RIET FONTEIN	6/144	ALBERTUS JOHANNES POOL		0276325076
C07800000000014400003	RIET FONTEIN	3/144	ALBERTUS JOHANNES POOL		0276325077
C07800000000014100001	KOMKANS	1/141	VISAGIE JACOBUS	PO BOX 519 LUTZVILLE 8165	0272171778
C07800000000014100002	KOMKANS	2/141			
C07800000000014300005	HOUT KRAAL	5/143	TRONOX MINERAL SANDS PTY LTD	nico.kruger@tronox.com	+27 22 701 3007
C07800000000015100000	RIET FONTEIN EXTEN 5	RE/151	TRONOX MINERAL SANDS PTY LTD		+27 22 701 3007
C07800000000014300002	HOUT KRAAL	RE/2/143	TRONOX MINERAL SANDS PTY LTD		+27 22 701 3007
C07800000000014300000	HOUT KRAAL	RE/143	TRONOX MINERAL SANDS PTY LTD		+27 22 701 3007

<b>15KM 400KV POWERLINE DEVIATION: Neighboring Landowners (Western Cape)</b>					
<b>Neighbors WC Farm Number</b>	<b>Farm Name</b>	<b>Property</b>	<b>Land owner</b>	<b>email</b>	<b>Phone number</b>
C07800000000014300001	HOUT KRAAL	1/143	Joos Pool	PARKWEG 23 LUTZVILLE 8165	0272172199
C0780000000004500005	ZOUT RIVIER	5/45	LEAD MASTER FARMING C C (Morne Fouche, Managing Member)	EXPOL@TELKOMSA.NET	0119034030
C07800000000014100005	KOMKANS	5/141	VISAGIE JACOBUS	PO BOX 519 LUTZVILLE 8165	0760171522/ 0764264651
C07800000000015100001	RIET FONTEIN EXTEN 5	1/151	TRONOX MINERAL SANDS PTY LTD	nico.kruger@tronox.com	0 22 701 3007

15KM 400KV POWERLINE DEVIATION: Neighboring Landowners (Western Cape)					
Neighbors WC Farm Number	Farm Name	Property	Land owner	email	Phone number
C0780000000015100002	RIETFontein EXTEN 5	2/151	TRONOX MINERAL SANDS PTY LTD	nico.kruger@tronox.com	022 701 3007
C0780000000051300000	CAWOOD	513	CAWOOD SALT WORKS PTY LTD (director- Maxim Krok)	darryl@hms.co.za	0117865064
C0780000000015000000	KAROETJIES KOP	RE/150	EMERALD PANTHER INV 78 PTY LTD (Johannes Basson- Director)	PO BOX 103 PELLA 8891	277121060 /0277128890
C0780000000014800001	KLEIN KOGEL FONTEIN	1/148	H A ROSSOUW FAMILIETRUST An Cornelissen	ancornelis@telkomsa.net	0826581300
C0780000000014500000	ADOONSVLEI	RE/145	BUCHUBERG EXPLORATION & FARMING PTY LTD (LAUWRENS HERMIAS CORNELISSEN- DIRECTOR)	Lauwrens@invermark.co.za	0214181773/ 0214813251
C0780000000014500001	ADOONSVLEI	1/145	BUCHUBERG EXPLORATION & FARMING PTY LTD (LAUWRENS HERMIAS CORNELISSEN- DIRECTOR)	Lauwrens@invermark.co.za	0214181773/ 0214813251
C0780000000014600002	GOLIATHSGRAAF	2/146	JOHANNES CORNELIUS POOL	BIESIESFONTEIN BITTERFONTEIN 8200	0276435052
C0780000000014600001	GOLIATHSGRAAF	1/146	ALBERTUS JOHANNES POOL	kameel@kingsleymail.co.za	0276325075
C0780000000014600000	GOLIATHSGRAAF	RE/146	ALBERTUS JOHANNES POOL	kameel@kingsleymail.co.za	0276325075
C0780000000014700001	KOEGEL FONTEIN	1/147	ALBERTUS JOHANNES POOL	kameel@kingsleymail.co.za	0276325075
C0780000000014700009	KOEGEL FONTEIN	9/147	LEAD MASTER FARMING C C (Morne Fouche, Managing Member)	EXPOL@TELKOMSA.NET	0119034030
C0780000000004400002	LOUISFONTEIN	2/44	LEAD MASTER FARMING C C (Morne Fouche, Managing Member)	EXPOL@TELKOMSA.NET	0119034030
C0780000000004500005	ZOUT RIVIER	5/45	LEAD MASTER FARMING C C (Morne Fouche, Managing Member)	EXPOL@TELKOMSA.NET	0119034030

15KM 400KV POWERLINE DEVIATION: Neighboring Landowners (Western Cape)					
Neighbors WC Farm Number	Farm Name	Property	Land owner	email	Phone number
C0780000000014100004	KOMKANS	4/141	VISAGIE HERMANUS JACOBUS	PO BOX 519 LUTZVILLE	0272171778
C0780000000014100003	KOMKANS	3/141	VISAGIE HERMANUS JACOBUS	8165	0272171778
C0780000000014000017	GOERAAP	17/140	TRONOX MINERAL SANDS PTY LTD	nico.kruger@tronox.com	022 701 3007
C0780000000014000018	GOERAAP	18/140	PIET POOL	<a href="mailto:piet@joetsie.co.za">piet@joetsie.co.za</a>	0829090588
C0780000000015600002	HARTEBEESTE KOM	2/156	TRONOX MINERAL SANDS PTY LTD	nico.kruger@tronox.com	022 701 3007
<b>NEW REGISTERED I&amp;APs</b>					
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JP de Villiers				<a href="mailto:jpanni@mylan.co.za">jpanni@mylan.co.za</a>	

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<b>Organs of State: PROVINCIAL (Western Cape)</b>			
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<b>Organs of State: PROVINCIAL (Western Cape)</b>			
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Cape West Coast Biosphere Reserve	Sharon February	Chairman	info@capebiosphere.co.za	022-125-0050
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Endangered Wildlife Trust: Wildlife & Energy Programme	Mr Lourens Leeuwner		lourensl@ewt.org.za	
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South African Civil Aviation Authority	Lizell Stroh	Aviation Obstacle and GIS - Obstacle Specialist	strohl@caa.co.za	011-545-1232
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Square Kilometre Array (SKA)	Adrian Tiplady	South African SKA Site Bid Manager	atiplady@ska.ac.za	011-442-2434
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Telkom SA Ltd	Leonard Shaw	Wireless Planning Development & Support, Telkom HQ	shawls@telkom.co.za	012-311-2012
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DRAFT

## APPENDIX F: COMMENT & RESPONSE REPORT (CRT)

THIS SECTION WILL BE UPDATED ONCE THE DRAFT BAR HAS UNDERGONE PUBLIC REVIEW FOR A 30-DAY PERIOD.

### Initial Notification: Notification of EA Application process and notification of availability of the Draft BAR for public review.

Date	Consultant	Notification
<b>TO BE UPDATED AFTER THE COMPLETION OF THE 30-DAY DRAFT BAR PUBLIC REVIEW PERIOD</b>		

### I&AP comments during 30-day public review period

Date	I&AP	I&AP Comment	CES Response
<b>TO BE UPDATED AFTER THE COMPLETION OF THE 30-DAY DRAFT BAR PUBLIC REVIEW PERIOD</b>			

### AUTHORITY PRE-APPLICATION MEETINGS

Date	Authority	Meeting Minutes
13.10.2020	DEFF	Refer to the DEFF Pre-Application Meeting Minutes provided below

## DEFF PRE-APPLICATION MEETING MINUTES:

 <p><b>East London</b> East London, 5241 Tel: +27 (43) 726 7809; Fax: +27 (43) 726 8352 Email: <a href="mailto:cesel@cesnet.co.za">cesel@cesnet.co.za</a> Website: <a href="http://www.cesnet.co.za">www.cesnet.co.za</a></p>	<b>Eskom Juno Gromis 400kV Line deviation and Gromis Substation road extension</b>	
	<b>TITLE</b>	Eskom Juno Gromis 400kv Line deviation and Gromis Substation road extension Ref No.: 2020-11-0030
	<b>DATE</b>	2 December 2020
	<b>VENUE</b>	Telecoms
	<b>TIME OF MEETING</b>	13H00
	<b>MINUTES BY</b>	Caryn Clarke
	<b>CIRCULATION DATE</b>	2 December 2020

ATTENDEES	
<b>DEFF:</b>	<b>CES:</b>
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AGENDA
<ol style="list-style-type: none"><li><b>1. Introductions:</b> General introductions were made.</li><li><b>2. Project Overview: Ms Clarke (CES) presented the PowerPoint Presentation attached. The presentation can be summarized as follows:</b><ul style="list-style-type: none"><li><b>Layout:</b> background to the project's previous environmental authorisations (2007 and 2017) was provided. An overview of the current proposed Eskom Juno-Gromis 15km 400kv route deviation and the proposed Gromis substation road extension was provided.</li><li><b>Listed Activities:</b> Ms Clarke went through listed activities that may be applicable to the proposed development.</li><li><b>Site Sensitivities and Specialist Studies:</b> Ms Clarke provided an overview of the outcome of the National Screening Tool Report for the proposed study area/s, and recommended specialist studies to be included for both sites.</li><li><b>Public Participation Process (PPP):</b> Ms Clarke provided an overview of the Public Participation Process plan submitted with the pre-application meeting request.</li><li><b>Timeframes:</b> Ms Clarke provided an overview of the anticipated timeframes.</li></ul></li><li><b>3. DEFF comments and requirements:</b> DEFF provided feedback based on information presented, as summarized below.</li><li><b>4. Meeting Closure</b></li></ol>

MEETING MINUTES
<ol style="list-style-type: none"><li>DEFF confirmed that Zama Langa will be the case officer for the project.</li><li>DEFF confirmed 15km deviation must start a new application process. Part 2 amendment is not applicable as per the IQ correspondence regarding line deviations.</li><li>DEFF confirmed that the Basic Assessment process must be followed as the project falls within a Strategic Transmission Corridor. A full Scoping and EIA will not be applicable as per GNR 113 (Activity 9 of Listing Notice 2 is downgraded to a Basic Assessment Process).</li><li>Road extension at the substation will trigger a Part 2 Amendment. It is up to ESKOM to decide whether they want to do a separate Part 2 Amendment or include the road in the powerline deviation BAR. DEFF cautioned that if there is an appeal for the line deviation, then it could delay the construction of the access road. DEFF advised to look at risk associated with both options.</li><li>The route alignment of the line deviation must be pre-negotiated with landowners and proof of landowner consent must be submitted with the application as per the requirements of GN 113.</li></ol>

6. The accepted pre-application meeting minutes, and approved PPP Plan must be submitted with the application.
7. DEFF is closing on 15 December. Online applications will not be able to be submitted from the 14<sup>th</sup> December 2020 onwards.

## **APPENDIX A: POWERPOINT PRESENTATION**

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## JUNO-GROMIS 400KV POWER LINE DEVIATION

MATZIKAMA LOCAL MUNICIPALITY, WEST COAST, WESTERN CAPE PROVINCE.

1

## PROJECT BACKGROUND

AN EIA UNDERTAKEN FOR THE ESKOM JUNO GROMIS 400KV TRANSMISSION POWER LINE, KUDU INTEGRATION PROJECT IN TERMS OF THE ENVIRONMENT CONSERVATION ACT 1989 (ACT No. 73 OF 1989). ENVIRONMENTAL AUTHORISATION (EA) WAS ISSUED IN 2007 (REF: 12/12/20/720).

SUBSEQUENTLY, NEGOTIATIONS WITH THE AFFECTED LANDOWNERS RESULTED IN THE NEED FOR AMENDMENTS TO THE PROPOSED ALIGNMENT. IN 2017, A BA PROCESS WAS UNDERTAKEN TO APPLY FOR THESE AMENDMENTS WHICH RECEIVED AN EA IN 2017 (REF: 14/12/16/3/3/1/1679). THE APPROVED DEVIATIONS INCLUDED:

- 4.1 KM DEVIATION AROUND THE LANDING STRIP IN LUTZVILLE;
- 3KM DEVIATION WITHIN THE TRONOX MINE NAMAKWA SANDS; AND
- 7.2KM DEVIATION AROUND A MINE IN KAMIESBERG.

2

## PROJECT DESCRIPTION

ADDITIONAL DEVIATION REQUIRED: AFTER THE RECEIPT OF FAVOURABLE PROSPECTING RESULTS, A 15KM DEVIATION AROUND TRONOX MINE NAMAKWA SANDS IS NOW REQUIRED.

THE PROPOSED 15KM DEVIATION FALLS OUTSIDE OF THE 2017 EA AUTHORISED CORRIDOR, RESULTING IN AN INCREASE IN THE LENGTH OF THE POWERLINE. IT FALLS WITHIN A STRATEGIC TRANSMISSION CORRIDOR.

IT MUST BE CONFIRMED WHETHER THIS APPLICATION WILL FOLLOW A PART 2 EA & EMPR AMENDMENT PROCESS OR NEW BA PROCESS.

THE PROPOSED DEVIATION IS LOCATED NEAR NUWERUS WITHIN THE MATZIKAMA LOCAL MUNICIPALITY, WEST COAST DISTRICT IN THE WESTERN CAPE PROVINCE.

A ROAD EXTENSION (LESS THAN 1KM IN LENGTH) IS REQUIRED ADJACENT TO THE GROMIS SUBSTATION SITE, LOCATED NEAR SPRINGBOK IN THE NAMA KHOI LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE. THE ROAD EXTENSION ITSELF DOES NOT TRIGGER ANY LISTED ACTIVITIES. EMPR WILL BE AMENDED, WHERE NECESSARY.

## LISTING NOTICE 1: APPLICABILITY

Activity No(s):	Provide the relevant Basis Assessment Activity(ies) as set out in Listing Notice 1 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
Authorised under GN R. 953 Activity 24(a) Similar Activity – GN R. 327 Activity 24 (a)	The development of – (a) a road with a reserve wider than 13.5 metres, or where no reserves exist where the road is wider than 8 metres, but excluding – (b) roads where the entire road falls within an urban area, (c) which is 1 kilometre or shorter.	The proposed development would require the construction of access roads that would be used during both construction and operation phases of the proposed line deviation.
Authorised under GN R. 953 Activity 12 Similar Activity – GN R. 327 Activity 12	The development of – (a) infrastructure or structures with a physical footprint of 100 square metres or more, where such development occurs – (b) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.	The study area contains a number of watercourses that may be affected during the construction of the proposed development. A Water Use Licence Application (WULA) will be undertaken accordingly prior to commencement of construction activities. Given the length of the proposed power line, some of the base structures may be located within 32 metres of a watercourse. The footprint of the proposed pylons is expected to be more than 100m <sup>2</sup> .
Authorised under GN R. 953 Activity 19 Similar Activity – GN R. 327 Activity 19	The filling or depositing of any material of more than 10 cubic metres into, or the dredging of, excavation, removal or moving of soil, sand, silt, shell, gravel, pebbles or rock of more than 10 cubic metres from a watercourse, but excluding where such filling, depositing, dredging, excavation, removal or moving – (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan	The proposed development will entail construction of certain towers within or in close proximity to watercourses and infilling may be required.

## LISTING NOTICE 2: APPLICABILITY

Activity No(s):	Provide the relevant Scoping & EIR Activity(es) as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R.325 Activity 9	The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more outside urban areas or industrial complexes.	While the proposed 400 kV powerline deviation exceeds the 275 kV threshold stipulated in this activity, it is understood that this infrastructure falls within the approved Strategic Transmission Corridors and as such would only be subjected to a Basic Assessment Process.  Note that this activity was not included in the 2017 EA (Ref: 14/12/163/3/1/1679), as it was originally authorized in the 2007 EA (Ref: 12/12/20/720). Must this activity be applied for? In this case, will this require a new application submission, and not a Part 2 EA amendment?

5

## LISTING NOTICE 3: APPLICABILITY

Activity No(s):	Provide the relevant Basic Assessment Activity(es) as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
Authorized under GN R.985 Activity 14 (ai) (f) (i) (hh)  Similar Activity GN R. 324 Activity 14 (f) (a) i. i. (f)	The development of infrastructure or structures with a physical footprint of 10 square meters or more outside an urban area, in  f) Critical Biodiversity Areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or bioregional plans.	The proposed infrastructure will encroach on the identified CBA, both terrestrial and aquatic in the Western Cape
Authorized under GN R. 985 Activity 4(f)(aa)  Similar Activity GN R. 324 Activity 4(f)(aa)	The development of a road wider than 4 metres with a reserve less than 13,5 metres.  f) In Western cape: i) Areas outside the urban areas; aa) Areas containing indigenous vegetation.	The proposed development would require the construction of access roads that would be used during both construction and operation phases.

6

## SITE SENSITIVITIES & SPECIALIST STUDIES

### Environmental Sensitivity for the 15km 400kV route deviation (Western Cape):

The environmental sensitivities for the proposed development footprint as identified are summarised in the table below.

The following specialist studies have been identified in by the National Online Screening Tool:

- \*Agricultural Impact Assessment
- \*Landscape/Visual Impact Assessment
- \*Archaeological and Cultural Heritage Impact Assessment
- \*Palaeontology Impact Assessment
- \*Terrestrial Biodiversity Impact Assessment
- \*Aquatic Biodiversity Impact Assessment
- \*Avian Impact Assessment
- \*Civil Aviation Assessment
- \*RFI Assessment
- \*Geotechnical Assessment
- \*Plant Species Assessment
- \*Animal Species Assessment

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
Defence Theme				X
Palaeontology Theme			X	
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

## SPECIALIST STUDIES

### Environmental Sensitivity for the Gromis Substation road extension (Northern Cape):

The environmental sensitivities for the proposed development footprint as identified are summarised in the table below.

As the proposed road extension does not trigger any listed activities, only a botanical walk-through will be completed to update the approved EMP, where necessary.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme				X
Animal Species Theme			X	
Aquatic Biodiversity Theme				X
Civil Aviation Theme			X	
Defence Theme				X
Plant Species Theme			X	
Terrestrial Biodiversity Theme				X

## PPP PLAN

The proposed applications have all had gone through the EIA process before, and therefore, comprehensive Stakeholder and ISAP databases are already available.

The proposed PPP plan will include all Stakeholders and ISAPs who are already on these databases, for the relevant areas, as well as an updated list of relevant stakeholders (both private and public) to which the project may be relevant. The database will also include all ISAPs who register during the process.

ISAPs will be invited to register on the database through the following means:

- Site notice boards placed at each site (WC & NC);
- Newspaper advertisements (2: WC & NC) and BIDs;
- Websites for Draft BAR/Amendment Report & EMP public review;
- Social Media posts (optional).

No public meetings are recommended as part of these processes. This is due to COVID-19 risk and since comprehensive stakeholder and ISAP consultation has been conducted in the past. We are confident that our engagement within these communities will allow open channels of communication throughout this PPP.

9

## TIMELINES

ID	Task Name	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
1	Project Initiation - Project Team - Meeting - Pre-application consultation	█							
2	Project Team Site Visit								
3	Prepare and submit application forms - Update PPP	█	█						
4	Prepare Draft Amendment Report and EMPr		█						
5	Preparation of Draft Specialist Reports								
6	Public review of Draft Reports			30 days					
7	Finalize Report and EMPr for review - Submit Final Reports to CSIR								
8	Authority Review and Decision					307 days			
9	Prepare and submit applications								
10	Technical Walk through & permit applications (if needed)								█

10

# Q&A SESSION



## APPENDIX G: DEFF SCREENING TOOL REPORT

(SEPERATE ATTACHEMENT)

DRAFT