



SITE SENSITIVITY AND VERIFICATION REPORT

SCOPE AND PURPOSE

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided.

Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

- a) a desktop analysis, using satellite imagery;
- b) a preliminary on-site inspection; and
- c) any other available and relevant information.

This Site Sensitivity and verification Report (SSVR) is a record of the outcome of the site sensitivity verification in compliance with the requirements of the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA. The SSVR aims to:

- a) confirm or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
- b) contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
- c) be submitted together with the relevant assessment report prepared in accordance with the requirements of the NEMA Environmental Impact Assessment Regulations¹ (EIA Regulations).



Environmental Site Sensitivity Verification Report

Job #:	1658	Client Representative:	Suryna Van Huyssteen
Location:	Carletonville, Gauteng Province	EAP Representative:	Vukosi Mabunda
Client:	Golden Core Trade and Invest (Pty) Ltd -Mponeng Operations	Inspection Date:	26 June 2025

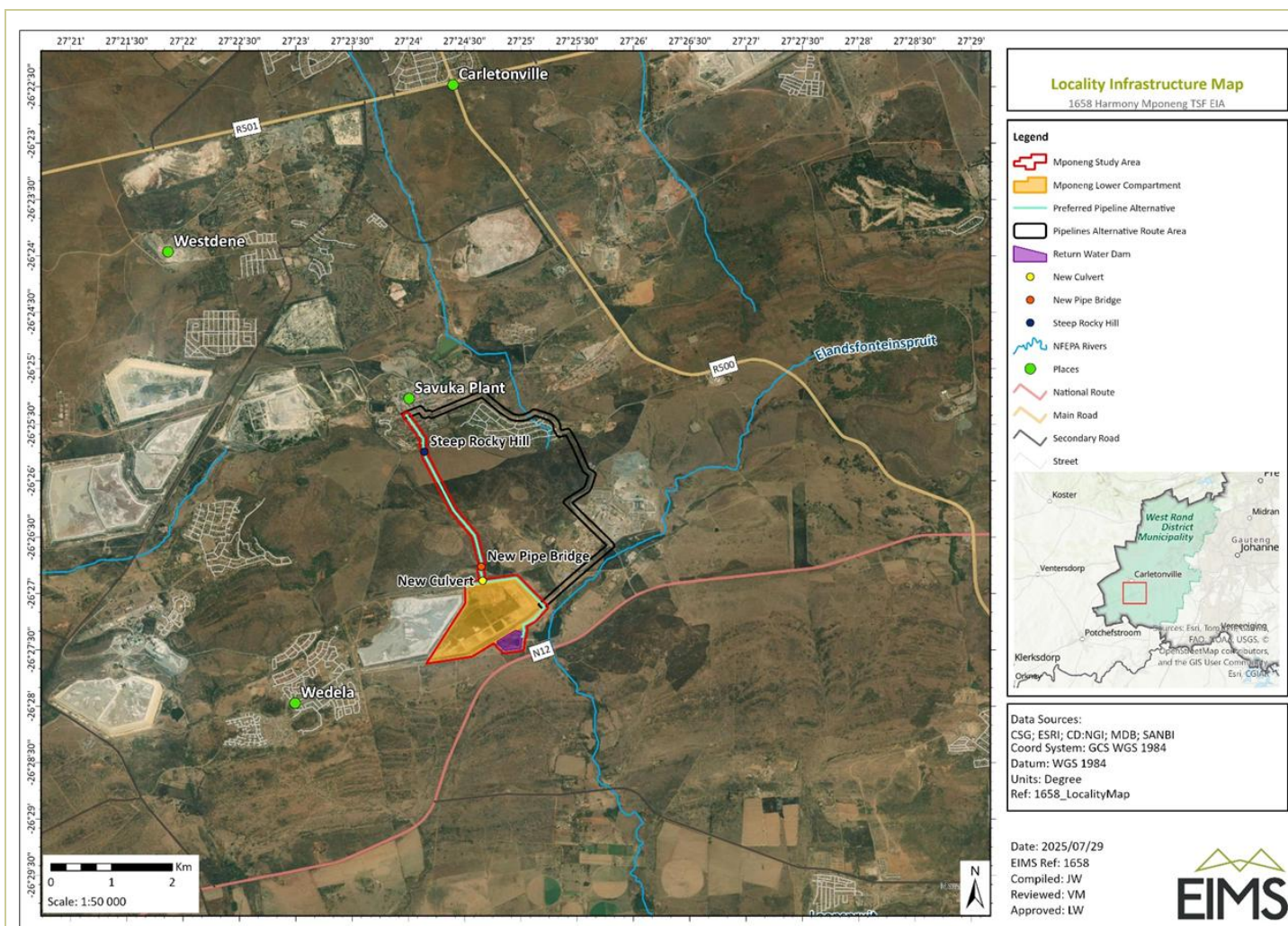
1. Background

Background of the project:	<p>Golden Core Trade and Invest (Pty) Ltd -Mponeng Operations (subsidiary of Harmony Gold Mining Company Limited) hereafter referred to as the applicant, owns and operates a number of Gold Mines and Plants in the West Wits region in the Gauteng Province. The Savuka Plant currently deposits tailings onto the Savuka 7a & 7b Tailings Storage Facilities (TSFs). However, these facilities are approaching their final and approved height, and the current planned Life of Mine (LOM) for the West Wits region exceeds the available deposition capacity of these TSFs. Accordingly, the applicant is undertaking a feasibility assessment to recommence deposition on the Mponeng Lower Compartment TSF (hereafter referred to as Mponeng Lower TSF).</p> <p>The applicant is proposing to recommence deposition on the Mponeng Lower TSF located at 26°27'11.18"S; 27°24'43.88"E. Mponeng Lower TSF is an existing TSF, however, the Mponeng Lower TSF is no longer in operation and is currently utilised as a Holding Dam, and a portion of it is used as an authorised Landfill Facility. In order for redeposit to recommence on the Mponeng Lower TSF, from the Savuka Plant, slurry pipelines will need to be constructed from the Savuka Plant to the TSF. The proposed slurry and return water pipes extend from the south of Savuka Plant at starting point 26°25'24.95"S; 27°23'58.94"E, extending southwards, parallel to each other until reaching the northern extent of Mponeng TSF where they split. Thereafter, the slurry pipeline extends to west before connecting to Mponeng TSF while the return water pipeline extends east then south around the TSF to the return water dam. There is an alternative slurry and return water pipeline route which extends to the east through Western Deep Levels then south along Mponeng Gold Mine before heading to the west where it connects to Mponeng TSF. The proposed activities to be undertaken as part of the Mponeng Lower TSF include the following:</p> <ul style="list-style-type: none">• Closure and relocation of authorised Landfill Facility;• Installation of a new aboveground residue deposition pipeline;• Installation of a new aboveground return water pipeline;• Construction of a pipeline culvert and a pipeline bridge for the residue and return water pipelines;• Upgrade of the Mponeng TSF Return Water Dam; and• Redeposition of slurry on the Mponeng Lower TSF.		
Project Aspects:	Details (provide specifications)	Location (DD MM SS)	
		Latitude	Longitude



1. TSF	102 ha and 60m high Mponeng Lower TSF		26°27'11.18"S	27°24'43.88"E
2. Residue pipeline	Proposed: 3.36km aboveground residue pipeline	Start	26°25'24.77"S	27°23'58.84"E
		End	26°26'57.60"S	27°24'31.59"E
	Alternative: 6.73km aboveground residue pipeline	Start	26°25'24.77"S	27°23'58.84"E
		End	26°27'6.62"S	27°25'10.61"E
3. Return water pipeline	Proposed: 4.85km aboveground return water pipeline	Start	26°25'24.77"S	27°23'58.84"E
		End	26°27'23.09"S	27°25'0.37"E
	Alternative: 7.4km aboveground return water pipeline	Start	26°25'24.77"S	27°23'58.84"E
		End	26°27'23.09"S	27°25'0.37"E
4. Pipeline Culvert	A new pipeline culvert approximately 12m long and 10m wide		26°26'53.22"S	27°24'39.53"E
5. Pipeline Bridge	A new pipe bridge approximately 100m long and 5m wide		26°26'45.86"S	27°24'38.89"E

2. Site Layout Plan



3. Site Locality

The project area falls within the West Rand District Municipality in Gauteng Province. Development area falls within Wards 11, 14 and 27 of Merafong City Local Municipality administrative area.

Mponeng Lower Compartment TSF is located at 26°27'10.53"S; 27°24'39.93"E in Wadela, immediately north of the N12. The site is approximately 7km northwest of Fochville, 10km south of Carletonville central and 20km west of Westonaria (refer to Figure 1).

4. DFFE Screening Tool Assessment

Aspect	Very High	High	Medium	Low
Agriculture Theme	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Animal species Theme	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aquatic Biodiversity Theme	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Archaeological and Cultural Heritage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Civil Aviation Theme	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Defence Theme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Palaeontology Theme	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant Species Theme	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrestrial Biodiversity Theme	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Site Assessment

5.1 Gradient (indicate the general gradient characteristics of site)

Aspect								
Target Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.2 Is the site located on or in the immediate vicinity of any of the following:

	Yes	No	Comment
Erosion Channels or areas of severe erosion/ destabilized soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No severe erosion observed.
Rivers (within 100m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are several natural and artificial watercourses and drainage lines within close proximity of the TSF and pipelines including Elandsfonteinspruit to the east which feeds into the natural dam approximately 150m southeast of the Mponeng Lower TSF.
Wetlands (within 32m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are several natural and artificial wetlands within 32m of the TSF and pipelines including the holding dam on the Mponeng Lower TSF and the natural dam east of the TSF.



Unstable slopes or geological features (rocky outcrops)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are no visible unstable slopes or geological features but there are steep rocky outcrops along the pipeline routes area
Bare areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Several bare areas around the TSF were noticed along the gravel access and service roads and disturbed areas.
Other Sensitive or risk areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	It was indicated that deposition on Mponeng Lower TSF ceased due to potential stability / safety risks if deposition was to continue as a result of the natural spring identified on the northern section of the TSF which could ultimately pose a safety / stability risk especially considering the proximity of the extensive Mponeng Upper Compartment TSF which is immediately uphill to the Mponeng Lower TSF. There is a freshwater dam (Aquatic Dam) located 200m from the edge of the Mponeng Lower TSF which could be affected by leaching from the TSF into the aquatic system (to be verified by the geohydrological specialist study).
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are Eskom powerlines, main road and several unknown servitude areas affecting the pipelines.

5.3 Vegetation

Which of the listed descriptions best describes the general groundcover on and around the site?

Natural veld - good condition <input type="checkbox"/>	Natural veld with scattered aliens <input checked="" type="checkbox"/>	Natural veld with heavy alien infestation <input checked="" type="checkbox"/>	Veld dominated by alien species <input type="checkbox"/>	Gardens <input type="checkbox"/>
Sport field <input type="checkbox"/>	Cultivated land <input type="checkbox"/>	Paved surface <input type="checkbox"/>	Building structure <input checked="" type="checkbox"/> or other	Bare soil <input checked="" type="checkbox"/>

Comments on vegetation composition:	Site can be distinguished into two sections: the southern (TSF) section and the northern (pipelines) section. The TSF section is a disturbed area consisting of mining residue, holding dam, landfill, two return water dams (north dam and south dam) and gravel access and maintenance roads. This area consists of an area previously disturbed and vegetation re-establishing itself with significant alien infestation present. The pipeline section is largely an undisturbed area consisting of a rocky ridge, uniform vegetation, tributaries and Eskom powerlines. The vegetation in this section is largely intact and uniform with the exception of the first part of the pipeline routes where there were demolitions of buildings / infrastructure resulting in disturbance of the vegetation. There was evidence of some alien species along the section.
Comments on weed species/type	It appears that there are alien and invasive plant species present within the study area. The exact type and species will be confirmed during the EIA Phase by the relevant specialist study.

5.4 Land cover/ use description: Describe the land uses on the site







The study area can be subdivided into two sections namely, southern (TSF) section and the northern (pipelines) section (refer to **Figure 1** for the site locality). The TSF section is a disturbed area consisting of mining residue, holding dam, landfill, two return water dams (north dam and south dam) and gravel access and maintenance roads. This area consists of an area previously disturbed and vegetation re-establishing itself with significant alien infestation present. The pipeline section is largely an undisturbed area consisting of a rocky ridge, uniform vegetation, tributaries and Eskom powerlines. The vegetation in this section is largely intact and uniform with the exception of the first part of the pipeline routes where the pipes extend from the Savuka Plant on an area where there were demolitions of buildings / infrastructure including the Western Deep Levels Hospital resulting in disturbance of the vegetation. There was evidence of some alien species along the section.



5.5 Site Photos

		
Description	Mponeng Upper Compartment TSF immediately west of Mponeng Lower Compartment TSF.	View of the Mponeng Lower TSF from the Mponeng Upper Compartment TSF.
		
Description	View of the holding dam on the Mponeng Lower TSF.	View of the existing landfill site on the Mponeng Lower TSF.






		
Description	Steep embankment of the Mponeng Lower TSF with alien vegetation and maintained gravel access road.	Current conditions of Mponeng Lower TSF Return Water Dam.
		
Description	Clean water (aquatic dam) approximately 150m southeast of the Mponeng Lower TSF.	Google Earth view showing the close proximity of the (aquatic) dam southeast of the Mponeng Lower TSF. The dam is fed by the Elandsfonteinspruit.



		
Description	Northern boundary of the Mponeng Lower TSF showing the steep embankment and vegetation including alien invasive trees and a wetland and drainage of a tributary of the Elandsfonteinspruit.	
		
Description	Some of the demolition activities including a lime silo (left) and Western Deep Levels Hospital (right) at the Savuka Plant where the pipes start. The area consists of thick vegetation with evidence of rocky outcrops.	



		
Description	<p>View of the rocky ridge from the main road along the alternative pipeline section. The area consists of medium high grass and thick vegetation comprising of trees and shrubs. One of the Eskom Powerlines within this section can be seen on the image. There are also several Harmony Gold pipelines running along the road and across this section.</p>	
		
Description	<p>Some grazing activities noted within and around the Mponeng Lower TSF.</p>	<p>One of the noticeable activities other than mining noted in the area is a wastewater treatment facility located approximately 500m east of Mponeng Lower TSF.</p>



Description

Several existing slurry and return water pipelines were noted in and around the Mponeng TSF.



6. Verification findings and motivation:

Assessment for specialist studies and motivation:				
Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation
Agriculture Impact Assessment	High	Medium	Compliance Statement	The only agricultural activity noted within the area was the small-scale unauthorised grazing. Considering the nature of the proposed activity (redeposition and pipelines), there will be minimal impact on agricultural activities. Based on the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Agricultural Resources (GN 320, 2020, as amended), an Agricultural Compliance Statement must be undertaken for the application.
Archaeological and Cultural Heritage Impact Assessment	Low	Medium	Full Study	Based on the DFFE Screening Tool, there are no known heritage features within the assessment area. No heritage features were noted during the site verification assessment on areas traversed by the EAP. However, a section of the ridge where the pipelines traverses appeared to be stone walling. Provided the rich heritage background of the area (baMare-a-Phogole), it is likely that these could be heritage features. In addition, the proposed activity triggers Section 38 of the National Heritage Resources Act, therefore, a Heritage Impact Assessment is required in terms of the Minimum Standards for Heritage Specialist Studies in terms of Section 38 of the National Heritage Resources Act (No. 25 of 1999).
Palaeontology Impact Assessment	High	Medium	Full Study	Although no fossiliferous outcrops were noted within the assessment area, due to the extent of the development footprint and the high palaeo-sensitivity rating by the DFFE Screening Tool Report, it is consequently the EAPs recommendation that a Palaeontological Assessment be undertaken for the project. In addition, according to the DFFE Guidance on the Preparation of a Palaeontological Impact Assessment, Palaeontology resources are widely dispersed and can occur on any development site in South Africa. Therefore, Palaeontological Impact Assessments (PIAs) must be undertaken for all developments as per the PalaeoSensitivity Map provided on SAHRIS ¹ , irrespective of the sensitivity shown



				on the palaeontology theme layer. Based on the SAHRA PalaeoSensitivity Map, the study area is located within insignificant/zero sensitivity (no palaeontological studies are required), moderate sensitivity (desktop study is required) and high sensitivity (desktop study is required and based on the outcome of the desktop study, a field assessment is likely). Therefore, the EAP recommends a full PIA for the project.
Terrestrial Biodiversity Impact Assessment	Very High	Very High	Full Study	The National Web-Based Screening Tool Report found that the Relative Terrestrial Biodiversity Impact Assessment Theme Sensitivity is Very High-Sensitive. Based on desktop datasets and site sensitivity verification, the pipeline section consists of largely intact pristine vegetation. The area is considered to fall within Critical Biodiversity Areas (CBA), Ecological Support Area (ESA) and National Protected Area Expansion Strategy (NPAES). Therefore, a Terrestrial Biodiversity Impact Assessment must be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN 320, 2020 as amended) to confirm presence of Flora or Fauna, Avifauna, SCC, or protected species within the development site, verify site terrestrial biodiversity sensitivity and provide necessary mitigation measures.
Aquatic Biodiversity Impact Assessment	Very High	Very High	Full Study	Based on the DFFE Screening Tool Report, there are very-high sensitive Channelled valley-bottom wetlands within the study area. Based on the site sensitivity verification, there are several natural and artificial watercourses, wetlands and drainage lines within close proximity of the TSF and pipelines including Elandsfonteinspruit to the east which feeds into the natural dam approximately 150m southeast of the Mponeng Lower TSF. Subsequently, an Aquatic Biodiversity Assessment be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity (GN 320, 2020 as amended) to amongst others, provide a description of the aquatic biodiversity and ecosystems on the site, the threat status of the ecosystem and species as identified by the screening tool, an indication of the national and provincial priority status of the aquatic ecosystem, a description of the ecological importance and sensitivity of the aquatic ecosystem and a detailed assessment of the potential impacts



				of the proposed development and buffer requirements.
Civil Aviation Theme	Medium	Low	None	Based on the DFFE Screening Tool Report, the study area is located between 8 and 15 km of other civil aviation aerodrome, a medium sensitive area for Civil Aviation Theme. Based on the site sensitivity verification, there were no civil aviation infrastructure or facilities within or near the study area. Based on the project description of redeposition and pipelines, the project will not transect nor reflect light which may have an impact on civil aviation. The proposed activities do not interfere with surface and air transmission and therefore, no anticipated impacts on civil aviation emanating from the project. The proposed development does not entail the establishment of high-rise structures, use of aboveground high frequency electromagnetic radiation nor reflecting infrastructure. In addition, the area has low air traffic. Therefore, the proposed activities are assessed to have a low impact on Civil Aviation and no study is required. In addition, the DFFE Screening Tool Report does not indicate Civil Aviation Assessment as part of the identified specialists' assessments.
Defence Theme	Low	Low	None	There are no known military bases / facilities present within the vicinity of the project site. The nearest military facilities to the site are located in Thaba Tshwane (formerly Voortrekkerhoogte) and Doornkop. Thaba Tshwane, now a military city, houses various units and is known for its historical significance. Doornkop has a military base located 62km east of the study area. There are no anticipated impacts on defence theme emanating from the proposed activities, subsequently, there is no requirement or justification to undertake a Defence Assessment for the project. In addition, the DFFE Screening Tool Report does not indicate Defence Assessment as part of the identified specialists' assessments.
Plant Species Assessment	Medium	Very High	Full Study	Based on the DFFE Screening Tool Report, there are sensitive plant species in the area including <i>Khadia beswickii</i> (L.Bolus) N.E.Br. listed on the Red List of South African Plants and Sensitive species 1248 (name withheld to protect the species from illegal harvesting and must be protected). Sensitive species, in an ecological context, refers to species that



				are vulnerable to environmental changes or human impacts and are therefore given special protection or management considerations. Considering that the rocky ridge where the pipelines and associated infrastructure (pipeline bridge) are proposed, is an area of largely intact pristine vegetation, there is a likelihood of these species and other sensitive plants being present. Plant species assessment is therefore required as per the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Plant Species (GN 1150, 2020). This assessment will be covered by the Terrestrial Biodiversity Impact Assessment.
Animal Assessment	Species	Medium	High	Full Study
				Based on the DFFE Screening Tool Report, several medium sensitive animal species are likely to occur with the study area including species listed on the Red List of South African Species and/or IUCN Red List of Threatened Species such as <i>Aves-Tyto capensis</i> (African grass owl), <i>Aves-Hydroprogne caspia</i> (Caspian tern), <i>Aves-Eupodotis senegalensis</i> (White-bellied bustard), <i>Insecta-Lepidochrysops praeterita</i> (Highveld blue butterfly (endangered)), <i>Insecta-Lepidochrysops procera</i> (Potchefstroom blue), <i>Mammalia-Crocidura maquassiensis</i> (Makwassie musk shrew), <i>Mammalia-Hydrictis maculicollis</i> (Spotted-necked otter (near threatened)), and <i>Invertebrate-Clonia uvarovi</i> (Clonia uvarovi (endangered)). Considering that the rocky ridge where the pipelines and associated infrastructure (pipeline bridge) are proposed, is an area of largely intact pristine vegetation, there is a likelihood of these species and other sensitive plants being present as there is a habitat likely suitable to support these animal species. Animal species assessment is therefore required as per the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal Species (GN 1150, 2020). This assessment will be covered by the Terrestrial Biodiversity Impact Assessment.

Guidance notes:

- An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of “very high” or “high” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Specialist Assessment Report.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “medium sensitivity” for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or



a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.

- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “low” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Compliance Statement.*
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” or “high”, for terrestrial animal species sensitivity and it is found to be of a “low” sensitivity, then a Terrestrial Animal Species Compliance Statement must be submitted.*
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “low” terrestrial animal species sensitivity and it is found to be of a “very high” or “high” terrestrial animal species sensitivity, a Terrestrial Animal Species Specialist Assessment must be conducted.*
- If any part of the development falls within an area of confirmed “very high” or “high” sensitivity, the assessment and reporting requirements prescribed for the “very high” or “high” sensitivity, apply to the entire development footprint. Development footprint in the context of this protocol means, the area on which the proposed development will take place and includes the area that will be disturbed or impacted.*