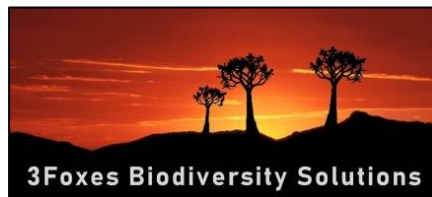


KLIPKRAAL 4 WEF

SITE SENSITIVITY VERIFICATION STUDY



PRODUCED FOR SIVEST ON BEHALF OF THE AURA DEVELOPMENT COMPANY



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1. INTRODUCTION

The Applicant, Aura Development Company (Pty) Ltd is proposing to develop the Klipkraal 4 Wind Energy Facility on a ca. 1330 ha site situated about 30km southeast of Fraserburg, within the Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape. The development would have a maximum output of 240MW and a maximum of 30 turbines. SiVest are conducting the required EIA process and 3Foxes Biodiversity Solutions has been appointed to provide Terrestrial Biodiversity inputs for the proposed Klipkraal 4 WEF as part of the EIA application. The current study represents the Site Sensitivity Verification Study for the Klipkraal 4 WEF and associated infrastructure.

In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations [4 December 2014, Government Notice (GN) R982, R983, R984 and R985, as amended], various aspects of the proposed development may have an impact on the environment and are considered to be listed activities. These activities require environmental authorisation (EA) from the National Competent Authority (CA), namely the Department of Forestry, Fisheries and the Environment (DFFE), prior to the commencement thereof. One (1) application for EA for the proposed development will be submitted to the DFFE, in the form of a Scoping & EIA process in terms of the NEMA EIA Regulations of 2014 (as amended).

In accordance with GN 320 and GN 1150 (20 March 2020)¹ of the NEMA EIA Regulations of 2014 (as amended), prior to commencing with a specialist assessment, a site sensitivity verification must be undertaken to confirm the current land use and environmental sensitivity of the proposed project area as identified by the National Web-Based Environmental Screening Tool (i.e., Screening Tool). 3Foxes Biodiversity Solutions has been commissioned to verify the terrestrial ecological sensitivity of the Klipkraal 4 WEF site under these specialist protocols.

¹ GN 320 (20 March 2020): 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 National Environmental Management Act, 1998, when applying for Environmental Authorisation

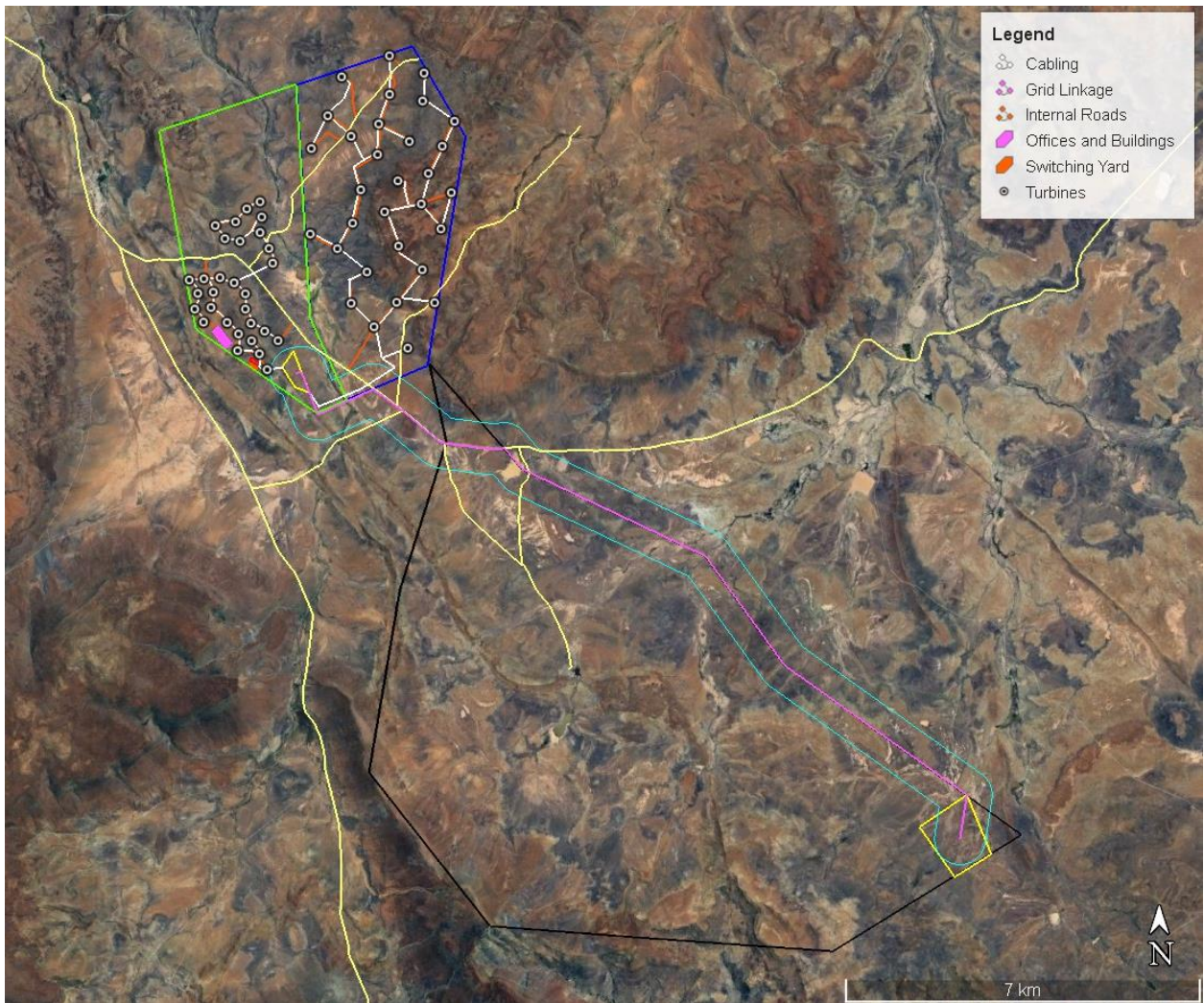


Figure 1. Satellite image showing the location of the proposed Klipkraal 4 Wind Farm, southeast of Fraserburg, as well as the adjacent Klipkraal 5 Wind Farm, east of the Klipkraal 4.

2. TECHNICAL DETAILS FOR THE PROPOSED DEVELOPMENT

The Klipkraal 4 Wind Energy Facility is part of the Klipkraal Cluster and is located approximately 30 km southeast of Fraserburg in the Northern Cape. The layout and location of the Klipkraal Wind Energy Facility 3 is illustrated above in Figure 1 and includes up to 30 potential turbine locations with a maximum output of 240 MW. The estimated total permanent footprint of the Klipkraal 4 Wind Energy Facility is estimated at 120ha. The electricity generated by the proposed WEF development will be fed into the national grid via a 132kV/400kV overhead power line. A Battery Energy Storage System (BESS) will be located next to the onsite 33/132kV substation.

3. SITE SENSITIVITY VERIFICATION METHODOLOGY

Site Visit

The Klipkraal 4/5 cluster site was visited on two occasions for the current study, 05 September 2021 and 30-31 June 2022. During the site visits, the wind farm site was extensively investigated in the field. Potentially sensitive features within the site were investigated, validated and characterised in

the field including any pans, rocky outcrops and major drainage features that were observed in the field or from satellite imagery of the site. Particular attention was paid to the integrity of habitats present as well as the broader ecological context in terms of connectivity and broad-scale ecological processes likely to be operating at the site.

In terms of the actual sampling approaches that were used, the vegetation of the site was characterised through walk-through surveys distributed across the site, in which plant species lists for the different habitats observed were compiled. Specific attention was paid to the possible presence of species of conservation concern (SCC) as well as other species which are considered to be of ecological significance. Sensitive plant habitats such as wetlands, rock pavements and rocky slopes were specifically investigated and checked for the presence of plant SCC.

In terms of fauna sampling, camera trapping was used extensively across the Klipkraal Cluster site to determine the presence and distribution of Riverine Rabbit as well as other fauna. This is further detailed in the Riverine Rabbit species assessment. The presence of the Karoo Padloper is less easily determined due to the narrow windows of activity associated with this species, but searches within potentially suitable habitat were conducted at numerous locations deemed to have potentially suitable habitat across the site. Since this species was not detected, but still considered likely to be present, all areas of suitable habitat across the site were mapped. This is further detailed in the Karoo Padloper Species Assessment.

Given the extent of the site and the relatively favourable conditions at the time of the site visit, there are few limitations and assumptions required with regards to the vegetation of the site. In terms of fauna, the habitats present within the site were well-investigated and it is unlikely that there are any features of concern present that have not been observed.

4. OUTCOME OF SITE SENSITIVITY VERIFICATION

The outputs of the Screening Tool are illustrated and briefly discussed below for each theme as relevant to the current study and related to the results of the field assessment and associated site verification.

Animal Species Theme

The animal species theme sensitivity map is illustrated below in Figure 2 and shows that the site is classified as Medium sensitivity for avifauna, and Medium sensitivity for terrestrial fauna. Table 1 indicates that this is due to the potential presence of the Riverine Rabbit and the Karoo Dwarf Tortoise in the area. As there are confirmed observations from the broader area of Riverine Rabbit as well as from within the Klipkraal 4 site, (Figure 5), the site verification finds that the site can be classified as high sensitivity for the Riverine Rabbit. The Karoo Dwarf Tortoise *Chersobius boulengeri* occurs in association with dolerite ridges and rocky outcrops of the southern Succulent and Nama Karoo biomes, and peripherally in the Albany Thicket biome in the southeast, at altitudes of approximately 800 to 1,500 m. The vegetation usually consists of dwarf shrubland that often contains succulent and grassy elements. These tortoises usually take shelter under rocks in vegetated areas or in rock

crevices. However, these are quite specific in terms of their requirements with the result that suitable retreats for the species are not common. Due to their strong habitat association, populations are isolated on rocky outcrops with specialized vegetation (Hofmeyr et al. 2018). The typical dolerite outcrops associated with this species are present within the site (**Figure 3, Figure 4**). As such, it is concluded that the Klipkraal 4 can be confirmed to be High sensitivity for this species and that a full assessment for the Karoo Dwarf Tortoise would be required as a result. Based on the site verification, the sensitivity of the site for other terrestrial fauna is considered to be low (**Table 2**).

Table 1. Animal Species Theme features for the Klipkraal 4 project area.

| Sensitivity | Feature(s) |
|-------------|---|
| Medium | Aves- <i>Neotis ludwigii</i> |
| Medium | Reptilia- <i>Chersobius boulengeri</i> |
| Medium | Mammalia- <i>Bunolagus monticularis</i> |

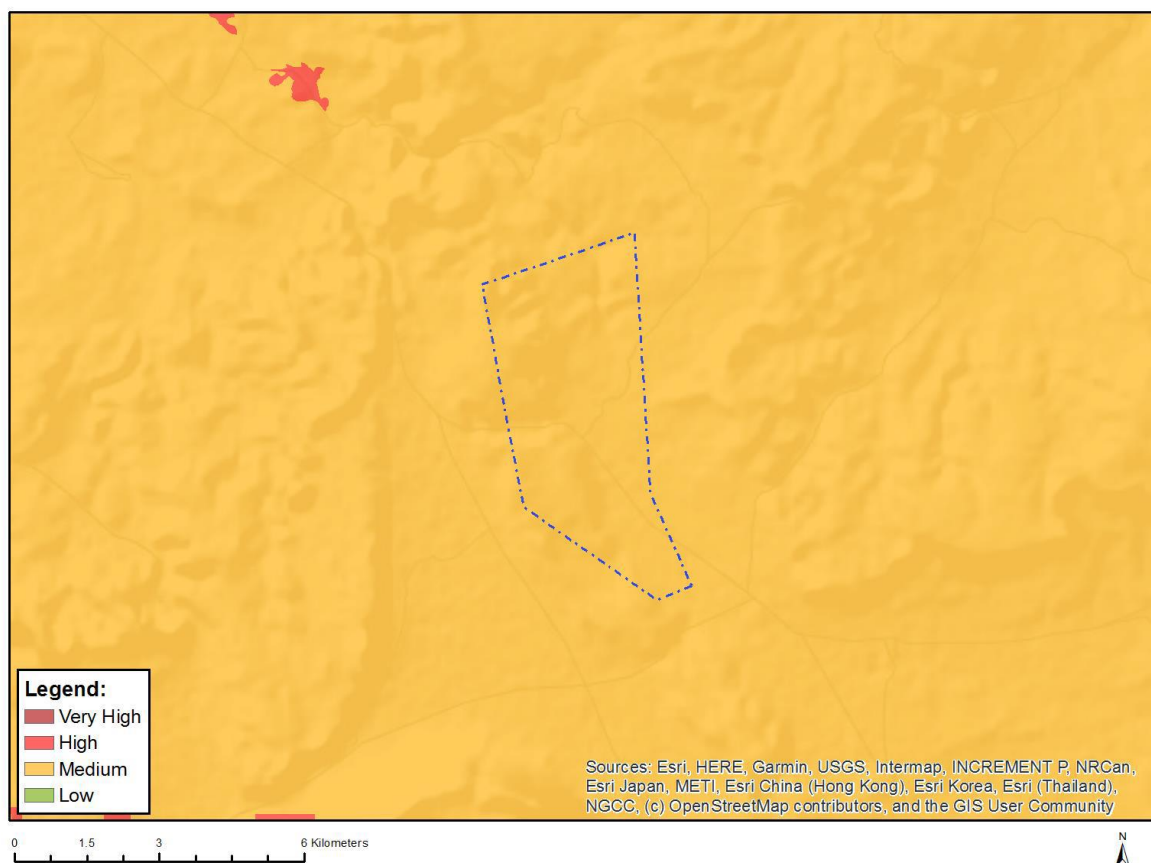


Figure 2. Animal Species Theme sensitivity map for the Klipkraal 4 project area.

Table 2. Faunal species conservation concern known from the broad area around the Klipkraal 4, and their likely presence within the site.

| Species | Wider area | Klipkraal 4 WEF |
|------------------|--|---|
| Grey Rhebok (NT) | Present on higher ground, especially the Nuweveld mountains. | Not observed within the Klipkraal 4 WEF site, but confirmed present within the wider site. The Klipkraal 4 WEF site is considered low sensitivity for this species. |

| Species | Wider area | Klipkraal 4 WEF |
|---------------------------|--|---|
| Black-footed Cat (VU) | Previously recorded from within the Karoo National Park, but no recent records. | No recent records from the area and the regular presence of this species within the site is considered unlikely. The site is considered low sensitivity for this species. |
| Leopard (VU) | This species is generally confined to protected areas or mountainous terrain and may be present in the wider area. | The terrain within and near the site is highly unlikely to be attractive for this species which prefers rugged terrain with more cover than the site offers. |
| Riverine Rabbit (CR) | There are recent records from the area. | Confirmed present through camera trapping within the Klipkraal 4 WEF study area. |
| Karoo Dwarf Tortoise (NT) | Occasional records from the broad area. Associated with dolerite outcrops. | Potentially present as there is suitable habitat within the site and there are some records from similar habitat nearby. |



Figure 3. Typical open plains habitat that occurs within the Klipkraal 4 site, dominated by low succulent shrubs with occasional larger *Lycium* bushes.



Figure 4. Rocky hills habitat that occurs within the Klipkraal 4 WEF site and which is considered to represent potentially suitable habitat for the Karoo Dwarf Tortoise.



Figure 5. Riparian vegetation along the Sout River considered to represent the Southern Karoo Riviere vegetation type and considered to represent potentially suitable habitat for the Riverine Rabbit which has been confirmed present at the site through camera trapping.

Plant Species Theme

The plant species theme sensitivity map is illustrated below in Figure 6 and shows that the majority of the site is classified as Medium sensitivity, due to the potential presence of Sensitive Species 484 (Table 3). This small cryptic succulent occurs from the Roggeveld Escarpment to the Nuweveld Mountains. This species is a localised habitat specialist that occurs on seasonally wet clay flats which were not observed within the Klipkraal 5 site and as it was not observed, it is assumed absent from the site. As such, the site is confirmed as low sensitivity for the Plant Species Theme. As conditions at the time of the field assessment were favourable and the site is relatively homogenous in terms of vegetation (Figure 7), it is unlikely that any such species were missed. The site verification therefore confirms the low sensitivity of the whole of the site and the lack of any plant SCC on-site.

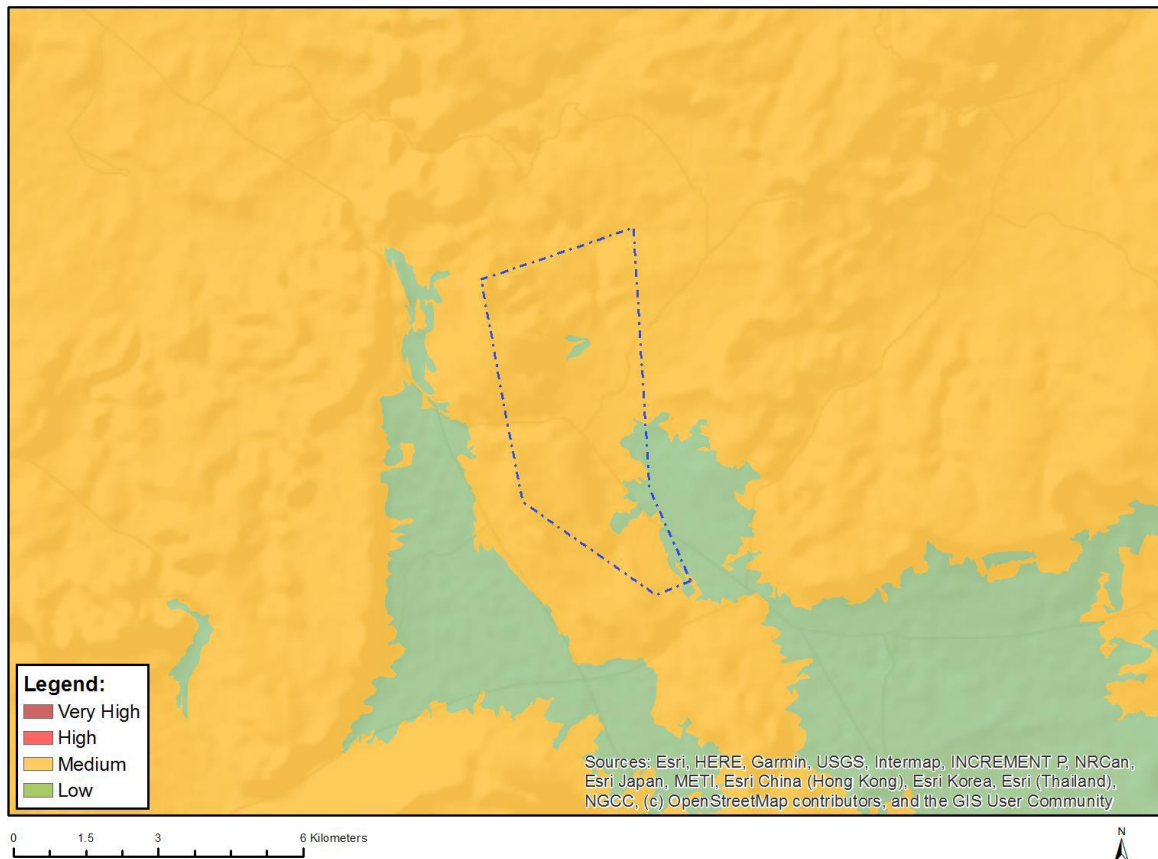


Figure 6. Plant Species Theme sensitivity map for the Klipkraal 4 project area.

Table 3. Plant Species Theme features for the Klipkraal 4 project area.

| Sensitivity | Feature(s) |
|--------------------|-----------------------|
| Medium | Sensitive species 484 |



Figure 7. The majority of the Klipkraal 4 site consists of open plains considered to be low sensitivity with no observed plant species of conservation concern.

Terrestrial Biodiversity Theme

The terrestrial biodiversity theme is illustrated below in **Figure 8** and illustrates that the Klipkraal 4 WEF project area is mapped as Very High sensitivity due to the presence of areas of CBA 1, CBA 2, ESA 2 and FEPA Subcatchments. The site verification confirms the presence of some noteworthy biodiversity features within the wider site. As a result of the Very High sensitivity ranking for the Terrestrial Biodiversity Theme, a full terrestrial biodiversity assessment for the development would be required.

Table 4. Terrestrial Biodiversity Theme features for the Klipkraal 4 project area.

| Sensitivity | Feature(s) |
|-------------|------------------------------|
| Very High | Critical biodiversity area 1 |
| Very High | Critical biodiversity area 2 |
| Very High | Ecological support area |
| Very High | FEPA Subcatchments |

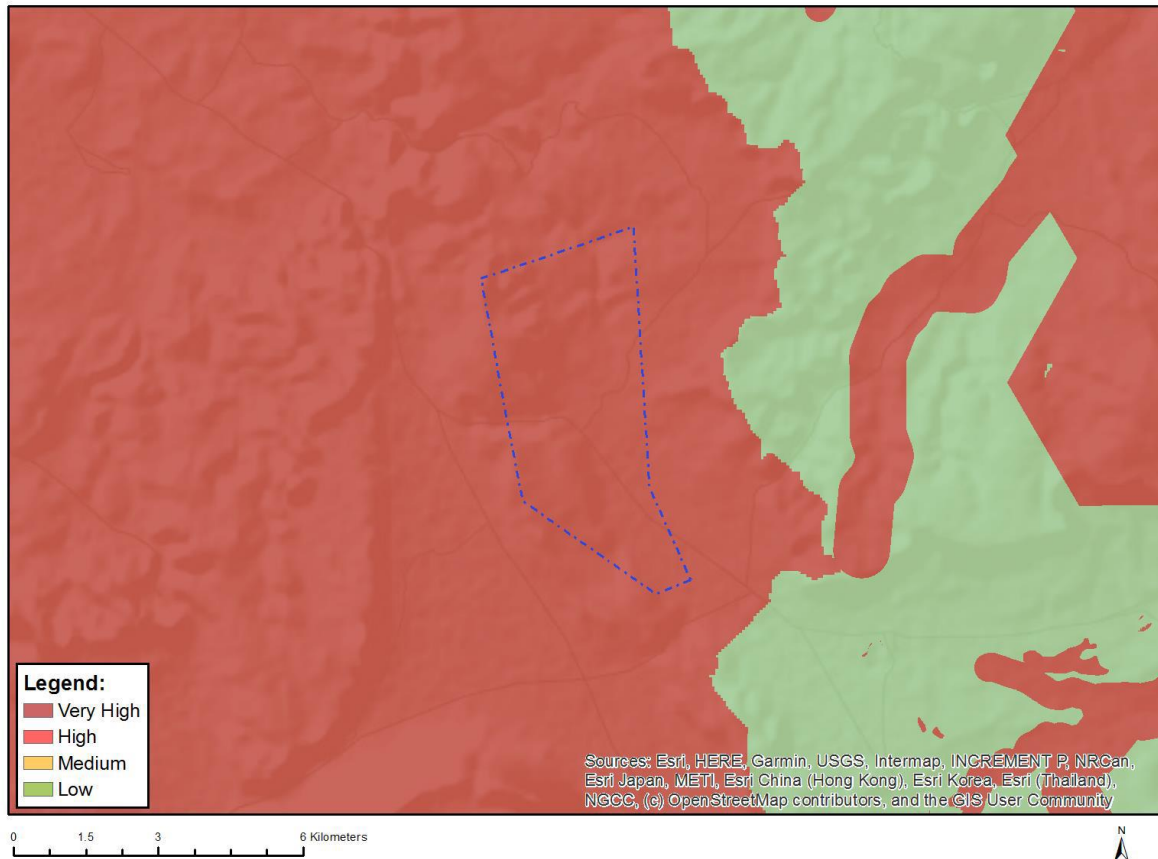


Figure 8. Terrestrial Biodiversity Theme sensitivity map for the Klipkraal 4 project area.

5. CONCLUSION

The Klipkraal 4 WEF project area is mapped as falling within the Western Upper Karoo and Upper Karoo Hardeveld vegetation types. The site verification indicates that the site includes areas of Western Upper Karoo, Eastern Upper Karoo, Upper Karoo Hardeveld and Southern Karoo Riviere vegetation types. Although the Screening Tool identified the site as having a Medium Sensitivity for the Riverine Rabbit and Karoo Dwarf Tortoise, the site verification indicates that there are areas of suitable habitat for both the Riverine Rabbit and Karoo Dwarf Tortoise present within the site. No other terrestrial fauna of concern are likely to occur at the site. Consequently, the site is assessed as having areas of High sensitivity for the Riverine Rabbit and Karoo Dwarf Tortoise. In terms of the Plant Species Theme, the site is mapped as Medium sensitivity due to the potential presence of Sensitive Species 484. There is no suitable habitat for this species on the site and it is not considered to be present. As a result, the site can be considered low sensitivity for these species and the Plant Species Theme in general.

The Screening Tool indicates that the site includes areas classified as Very High sensitivity for the Terrestrial Biodiversity Theme. This is due to the presence of the CBAs, ESAs and FEPA Subcatchments. As the site verification confirms the presence of some notable biodiversity features from the wider site, the Very High Sensitivity of the Klipkraal 4 footprint for the Terrestrial Biodiversity Theme is confirmed.

Based on the results of the site verification, the following studies are considered appropriate for the EIA phase for the Klipkraal 4 project:

- Karoo Dwarf Tortoise Species Assessment.
 - Riverine Rabbit Species Assessment.
 - Plant Species Compliance Statement
 - Terrestrial Biodiversity Assessment.
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