



SAHRA - South African Heritage Resources Agency

111 Harrington Street

Cape Town

8001

ATT: Natasha Higgitt

Tel: 021 462 4502

Email: nhiggitt@sahra.org.za

SAHRA CASE NUMBER: 14386, 14388 and 14389

22 November 2019

RE: MOTIVATION FOR ACCEPTANCE OF THE 2017 PALAEOLOGICAL ASSESSMENT FOR THE PROPOSED AMENDMENTS OF THE PROPOSED SAN KRAAL SPLIT 1, HARTEBEESTHOEK EAST AND PHEZUKOMOYA SPLIT 1 WIND ENERGY FACILITIES, NORTHERN AND EASTERN CAPE PROVINCES

Dear Ms Natasha Higgitt,

Interim Comment was received from the South African Heritage Resources Agency ('SAHRA') on the 28 October 2019. Responses to this Interim Comment is provided by the independent environmental assessment practitioner (EAP) Arcus Consultancy Services South Africa (Pty) Ltd ('Arcus') in this letter and will be included as part of the comments and response in the submission of the Final Amendment Report(s) to the Department of Environmental Affairs (DEA).

In the Interim Comment, in terms of Section 38(3), 38(8) of the National Heritage Resources Act (Act 25 of 1999), issued by SAHRA on the 28 October 2019, for each Case ID referenced above, the following was stated:

'Please note that this comment is issued for the Northern Cape section of the development only. Eastern Cape Provincial Heritage Resources Authority (ECPHRA) must be consulted with regards to comments for the Eastern Cape section of the propose development.'

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit requests that an assessment of the impact of the proposed amendments to palaeontological resources be conducted as part of the EA Amendment application.

SAHRA advises the applicant to extend the EA Amendment Application process in terms of section 32(1)b of the NEMA EIA regulations in order to comply with the comment.

Further comments will be issued upon receipt of the requested study.'

Response to comment:

The EAP understands that this interim comment received is issued for the Northern Cape section of the development only. The ECPHRA has been consulted via the SAHRIS website.

An assessment of the impact of the proposed amendments to palaeontological resources was not conducted as part of the EA Amendment applications as the existing study, done by Dr. John Almond, October 2017, on San Kraal and Phezukomoya is still considered to be valid.

Dr. John Almond ('Almond') has taken impact assessments in the area for the Noupoot Wind Farm to the East and bordering directly on the San Kraal parcel. He also undertook the San Kraal and Phezukomoya assessment, all of which involved broad field work components prospecting any likely areas outside and within the land parcels involved. He does this to find locales where the underlying palaeontology may be exposed and visible which is not always the case in the actual

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project areas themselves. Almonds conclusions were therefore based on a solid desktop knowledge of the local geology and palaeontology, reinforced by field observation. It would be worthwhile noting that palaeontological finds on the three large land parcels that he has surveyed are minimal due to the depleted nature of the mountain-top Katberg deposits, and that all the finds he has made have been on the sides of slopes and gullies where mud strata are exposed. It is based on the general geology of the area that Almonds recommendations and conclusions are derived. The geology throughout the original and amended project areas are similar – the same formations are involved.

As reference, an extract of the recommendations for monitoring and mitigation of the existing San Kraal and Phezukomoya assessments, October 2017, by Dr. John Almond, is included below.

San Kraal

Chapter 6. RECOMMENDATIONS FOR MONITORING AND MITIGATION (of the Palaeontological Study, October 2017, by Dr. John Almond)

Given (1) the significant potential for scientifically-valuable fossils being disturbed, damaged or destroyed during the construction phase of the WEF as well as (2) the high level of uncertainty regarding fossil distribution in the subsurface, a precautionary approach to palaeontological mitigation is considered appropriate here. Following discussions with SAHRA (Dr Ragna Redelstorff, Oct. 2017), it is therefore proposed that initially a representative sample (c. 10%) of excavations for wind turbine footings be monitored by a professional palaeontologist during the early construction phase. The monitoring protocol should be developed by the palaeontologist appointed in consultation with the developer and SAHRA so as to maximise the palaeontological outcome without interfering unduly with the construction program. On completion of this initial phase of monitoring, a Phase 2 palaeontological report, with any recommendations for further specialist monitoring or mitigation, should be submitted by the palaeontologist to SAHRA for comment. This stepwise approach is recommended because it may well prove impracticable to recognise record and sample useful fossil material from turbine excavations due to factors such as excessive fragmentation of the bedrock and fossils, obscuring of freshly-excavated bedrock by soil or dust, or safety considerations.

No palaeontological No-Go areas or fossil sites requiring mitigation have been identified within the main WEF development footprint on the Katberg sandstone plateau. In the grid connection study area several vertebrate burrows exposed in a stream bed on Farm Winterhoek 118 close to 132 kV power line route Alternative 1 (Fig. 36) should be protected by a 50m-radius buffer zone. Should the Alternative 1 route rather than the currently preferred route be finally chosen, it is recommended that that sector passing close to the fossil sites be moved south-eastwards to run at least 25 m from the stream bed.

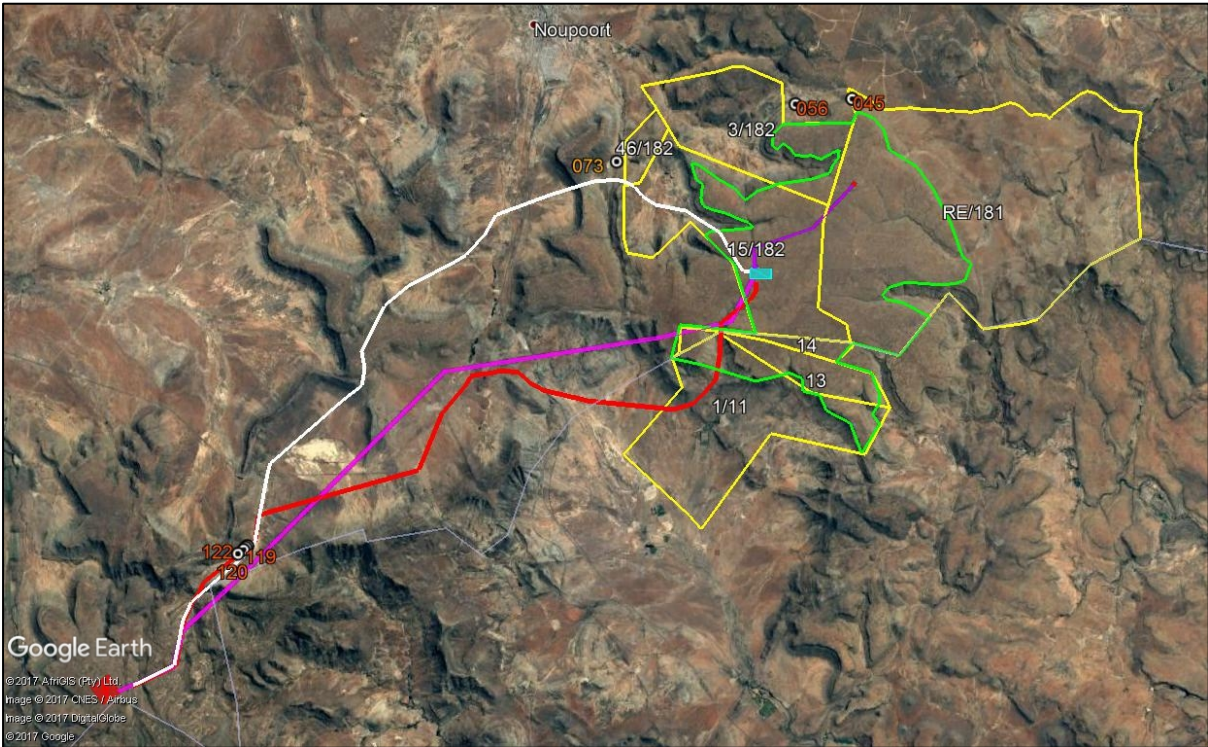


Fig. 35. Google Earth satellite image showing the preferred 132 kV power line connection between the San Kraal WEF and the Umsobomvu substation (purple line) as well as two other route options: Alternative 1 (red line) and Alternative 2 (white line).

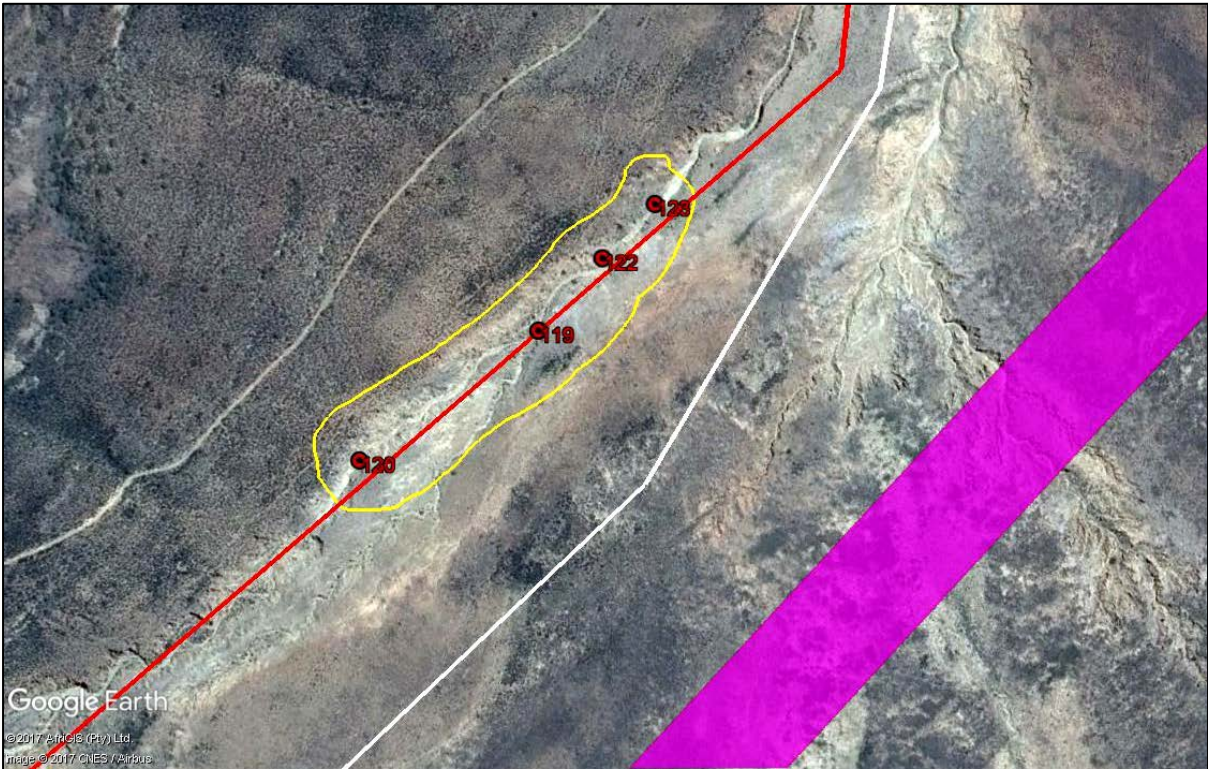


Fig. 36. Detail of the south-western sectors of the 132 kV powerline routes shown in the previous figure. Alternative 1 (red line) passes through the proposed 50 m-radius protective buffer (yellow shape) surrounding several important fossil vertebrate

burrow sites in the Katberg Formation that are exposed in a deeply-incised stream bed (Locs. 119-123). Alternative 2 route option – white. Preferred route option – purple.

In addition to the specialist palaeontological monitoring outlined above, the ECO responsible for the construction phase of the project should be aware of the potential for important fossil finds and the necessity to conserve them for possible professional mitigation (See, for example, Macrae 1999 for a well-illustrated popular account of Karoo fossils). The ECO should monitor all substantial excavations into sedimentary rocks for fossil remains on an on-going basis during the construction phase.

Recommended mitigation of chance fossil finds during the construction phase of the WEF and associated grid connection involves safeguarding of the fossils (preferably *in situ*) by the responsible ECO and reporting of finds to SAHRA for the Northern Cape (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Phone: +27 (0)21 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za) and to ECPHRA for the Eastern Cape (ECPHRA contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; Email: smokhanya@ecphra.org.za). Where appropriate, judicious sampling and recording of fossil material and associated geological data by a qualified palaeontologist may be required by the relevant heritage regulatory authorities. Any fossil material collected should be curated within an approved repository (museum / university fossil collection) by a qualified palaeontologist. These recommendations should be included within the Environmental Management Programme for the proposed alternative energy project.

Given the internationally recognised value of Karoo fossil heritage (*e.g.* Macrae 1999, McCarthy & Rubidge 2005, Choiniere & Rubidge 2016), the known occurrence of scientifically-valuable fossil material in the Noupoort region, as well as the legal protection of all fossil remains under the National Heritage Resources Act (1999), these mitigation measures are considered to be essential.

Phezukomoya

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No palaeontological No-Go areas or fossil sites requiring mitigation have been identified within the main WEF development footprint on the Katberg sandstone plateau. In the grid connection study

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area. Several vertebrate burrows exposed in a stream bed on Farm Winterhoek 118 close to 132 kV power line route Alternative 1 (Fig. 39) should be protected by a 50m-radius buffer zone. Should the Alternative 1 route rather than the currently preferred route be finally chosen, it is recommended that that sector passing close to the fossil sites be moved south-eastwards to run at least 25 m from the stream bed where the fossil burrows are exposed.

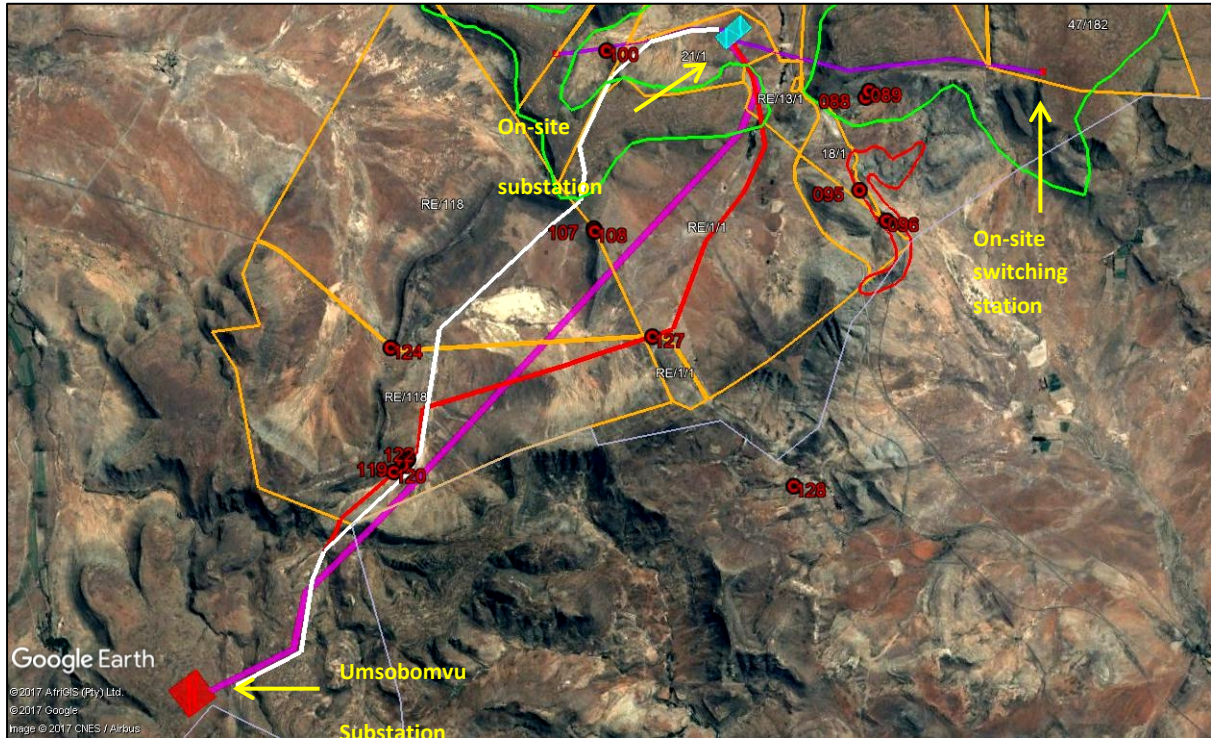


Fig. 38. Google Earth satellite image showing the preferred 132 kV power line connection between the Phezukomoya WEF and the Umsobomvu substation (purple line) as well as two other route options: Alternative 1 (red line) and Alternative 2 (white line).

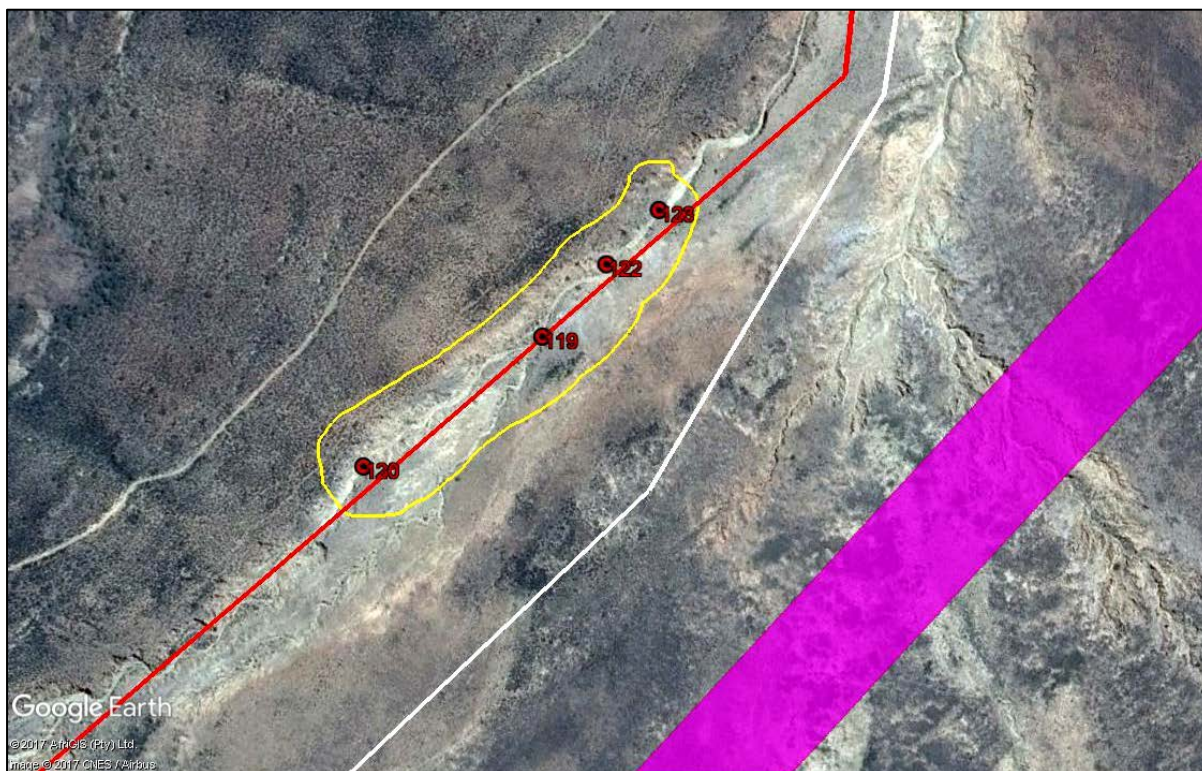


Fig. 39. Detail of the south-western sectors of the 132 kV powerline routes shown in the previous figure. Alternative 1 (red line) passes through the proposed 50 m-radius protective buffer (yellow shape) surrounding several important fossil vertebrate burrow sites in the Katberg Formation that are exposed in a deeply-incised stream bed (Locs. 119-123). Alternative 2 route option – white. Preferred route option – purple.

In addition to the specialist palaeontological monitoring outlined above, the ECO responsible for the construction phase of the project should be aware of the potential for important fossil finds and the necessity to conserve them for possible professional mitigation (See, for example, Macrae 1999 for a well-illustrated popular account of Karoo fossils). The ECO should monitor all substantial excavations into sedimentary rocks for fossil remains on an on-going basis during the construction phase.

Excellent exposures of mudrocks of the Palingkloof Member (upper Balfour Formation) that are of geoheritage as well as palaeontological significance because of their proximity to the Permo-Triassic boundary are noted here (red shapes in Figs. 36 & 37). One, lying along the railway line at Carlton Heights (Farms RE/1/1 and 18/1), has featured in several scientific publications while the other, close to Hartebeesthoek homestead on Farm RE/182, is currently unstudied. It is anticipated that neither of these two geosites will be directly impacted by the proposed WEF development.

Recommended mitigation of chance fossil finds during the construction phase of the WEF and associated grid connection involves safeguarding of the fossils (preferably *in situ*) by the responsible ECO and reporting of finds to SAHRA for the Northern Cape (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Phone: +27 (0)21 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za) and to ECPHRA for the Eastern Cape (ECPHRA contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; Email: smokhanya@ecphra.org.za). Where appropriate, judicious sampling and recording of fossil material and associated geological data by a qualified palaeontologist may be

required by the relevant heritage regulatory authorities. Any fossil material collected should be curated within an approved repository (museum / university fossil collection) by a qualified palaeontologist. These recommendations should be included within the Environmental Management Programme for the proposed alternative energy project. Given the internationally recognised value of Karoo fossil heritage (*e.g.* Macrae 1999, McCarthy & Rubidge 2005, Choiniere & Rubidge 2016), the known occurrence of scientifically-valuable fossil material in the Noupoort region, as well as the legal protection of all fossil remains under the National Heritage Resources Act (1999), these mitigation measures are considered to be essential.

It is our assertion that all the land parcels have been well-covered and considered in the original project areas and therefore the original conclusions and recommendations for San Kraal and Phezukomoya should continue to stand and be adhered to for the amendment process.

The relevant studies have been uploaded to the SAHRIS website, under the respective case numbers.

It would be duly appreciated if the above can be considered and allowed for by the SAHRA. If there is any further information requested please do not hesitate to contact.

Yours Sincerely,



Ashlin Bodasing
Environmental Assessment Practitioner