

HERITAGE SCREENER

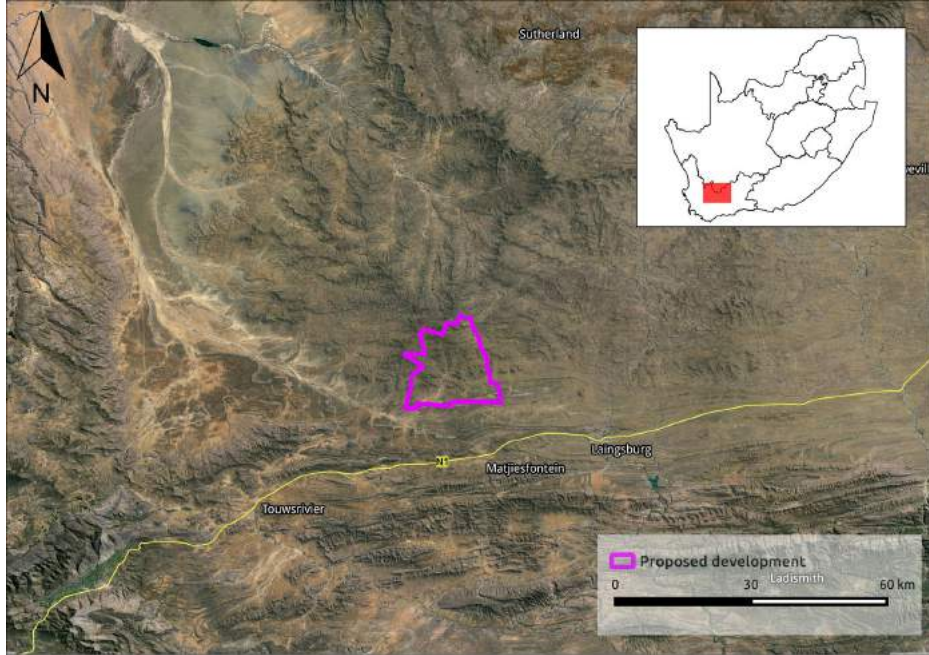
CTS Reference Number:	CTS15_015a Amended	
Client:	EOH Coastal & Environmental Services	
Date:	1 February 2016	
Title:	Rietkloof Wind Energy Facility	
Recommendation by CTS Heritage Specialists: (Type 2)	<p>(2) The heritage resources and the area proposed for development are only partially recorded - It is recommended that:</p> <ul style="list-style-type: none">- a Heritage Impact Assessment (HIA) be conducted in Area B (Figure 5) inclusive of an Archaeological Impact Assessment (AIA) by a Stone Age and Historical archaeologist familiar with the area, and a Visual Impact Assessment (VIA). The VIA should also consider Area A to assess the visual impact of the WEF in its entirety- an archaeological walk-through be conducted in Area A (Figure 5) to inspect the impact footprint of turbines and additional infrastructure once their final position has been determined- a palaeontological walk-through be conducted in Area B (Figure 5) to inspect the impact footprint of turbines and additional infrastructure once their final position has been determined on the Waterford Formation and Caenozoic alluvial sediments- a monitoring brief by a palaeontologist to be set up before construction starts. Fresh exposures of highly sensitive formations to be monitored by a palaeontologist during construction as set out in the brief.	

Figure 1a. Satellite image with proposed development area indicated in the Western Cape / Northern Cape.



1. Proposed Development Summary

EOH Coastal & Environmental Services is undertaking a Scoping & Environmental Impact Assessment for the proposed Rietkloof Wind Energy Facility in the Western Cape and bordering the Northern Cape Provinces.

2. Application References

Name of relevant heritage authority(s)	Heritage Western Cape (HWC)
Name of decision making authority(s)	Department of Environmental Affairs (DEA)

3. Property Information

Farm Name and Number	Remainder and Portion 3 of Farm Fortuin 74; Remainder and Portion 1 of Farm Barendskraal 76; Portion 1 of Farm Rietkloof Annexe 88, Farm Vogelstruisfontein 81; Remainder and Portion 1 of Farm Snyders Kloof 80; Remainder of Farm Wilgehoutfontein 87, Remainder and Portion 1 of Hartjieskraal and Remainder of Nuwerus 284.
Local Municipality	Laingsburg
District Municipality	Central Karoo
Previous Magisterial District	Laingsburg
Province	Western Cape
Current Use	Mostly livestock grazing (sheep farming)
Current Zoning	Agricultural
Total Extent	About 280km ²

4. Nature of the Proposed Development

Surface area to be affected/destroyed	NA
Depth of excavation (m)	Approximately 5m
Height of development (m)	Up to 120m
Expected years of operation before decommission	Approximately 20 years

5. Category of Development

Triggers: Section 38(8) of the National Heritage Resources Act	X
Triggers: Section 38(1) of the National Heritage Resources Act	
1. Construction of a road , wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.	X
2. Construction of a bridge or similar structure exceeding 50m in length.	
3. Any development or activity that will change the character of a site-	
a) exceeding 5 000m ² in extent	X
b) involving three or more existing erven or subdivisions thereof	X
c) involving three or more erven or divisions thereof which have been consolidated within the past five years	
4. Rezoning of a site exceeding 10 000m ²	X
5. Other (state):	

6. Additional Infrastructure Required for this Development

- Underground 33kV cabling between turbines buried along access roads, where feasible.
- Internal access roads up to 12m wide, including structures for storm-water control required to access each turbine location. Where possible, existing roads will be upgraded.
- 33kV overhead power lines linking groups of wind turbines to onsite 33/132kV substation(s).



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- Temporary infrastructure including a large construction camp (~10ha) and an on-site concrete batching plant (~1ha) for use during the construction phase.
- Fencing around the construction camp up to 4m; the entire facility would not necessarily need to be fenced off.
- Temporary infrastructure to obtain water from available local sources/ new or existing boreholes including a potential temporary aboveground pipeline (approximately 35cm diameter) to feed water to site / batching plant. Water will potentially be stored in temporary water storage tanks.
- 132kV overhead distribution lines to connect the WEF from the onsite 33/132kV substation to the Eskom 400kV Komsberg substation.
- Extension of the existing 400kV Komsberg substation

7. Mapping - Please see Appendices 3 and 4 for legend keys and methodology.

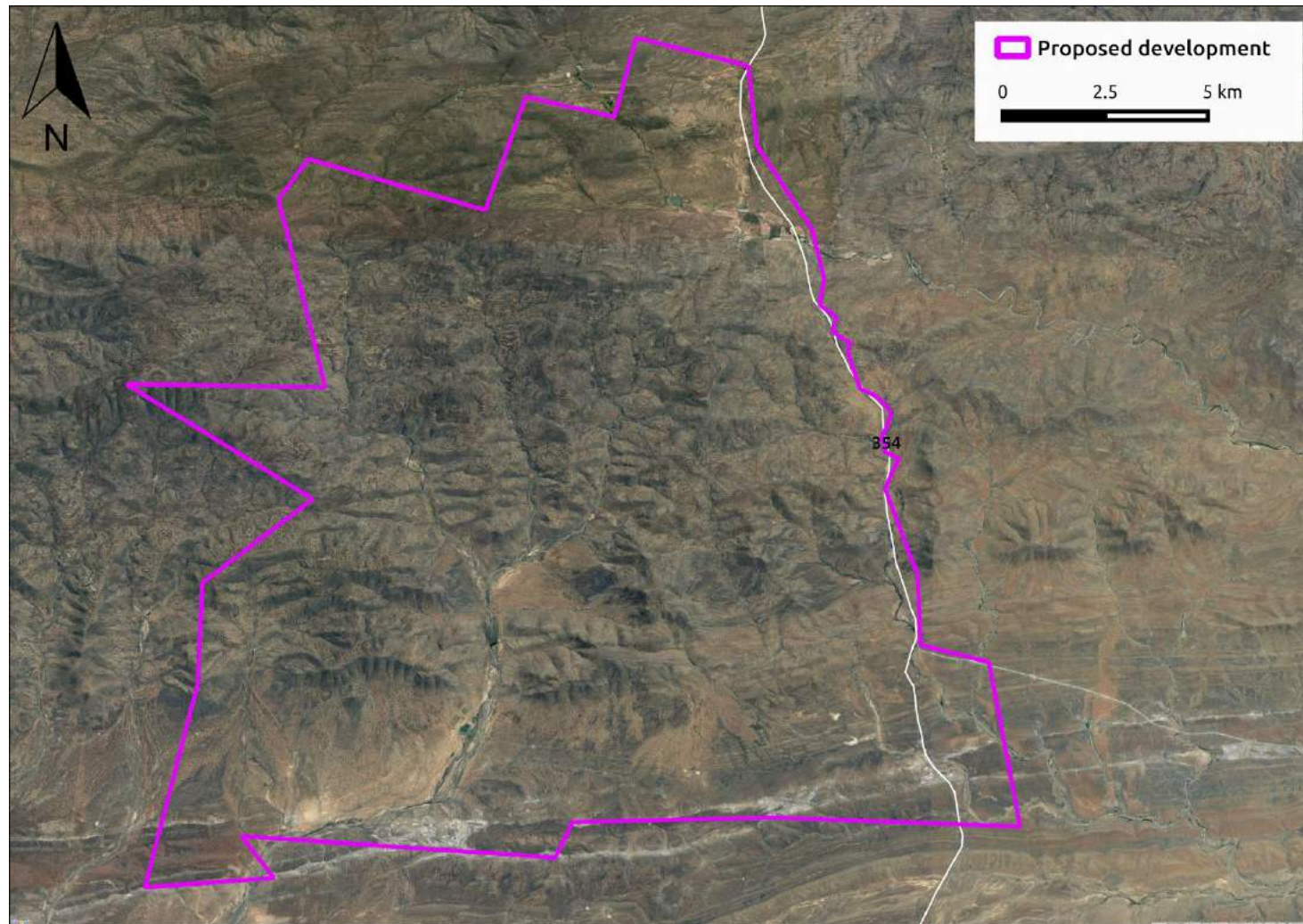
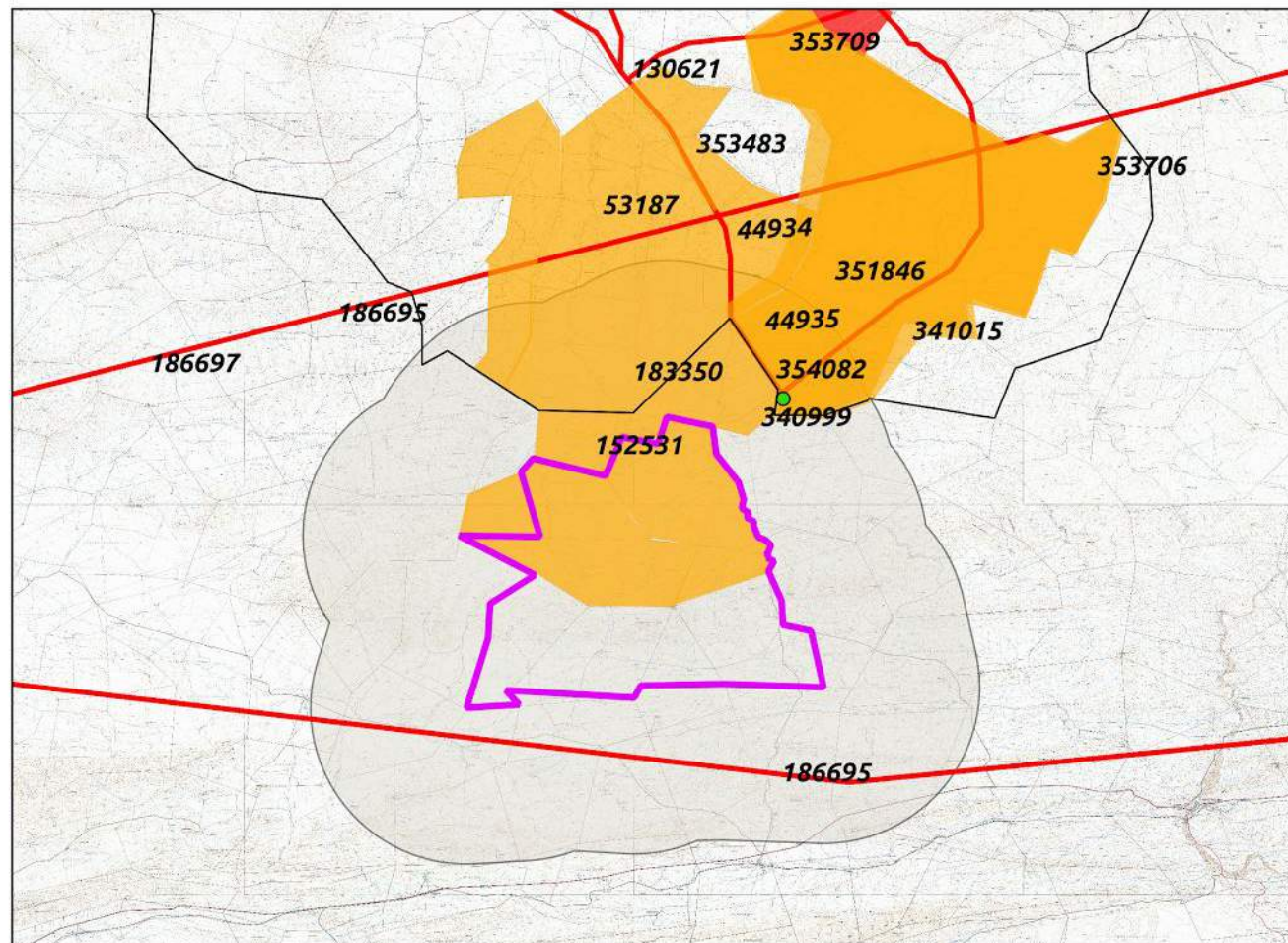


Figure 1b. Overview Map. Satellite image with proposed development indicated. The R354 is indicated in white on the map.



Legend

 Proposed development

 Inclusion zone - 10km

Line surveys

— Low coverage

Area surveys

 Medium coverage

 Low coverage

Points_only_PIAs

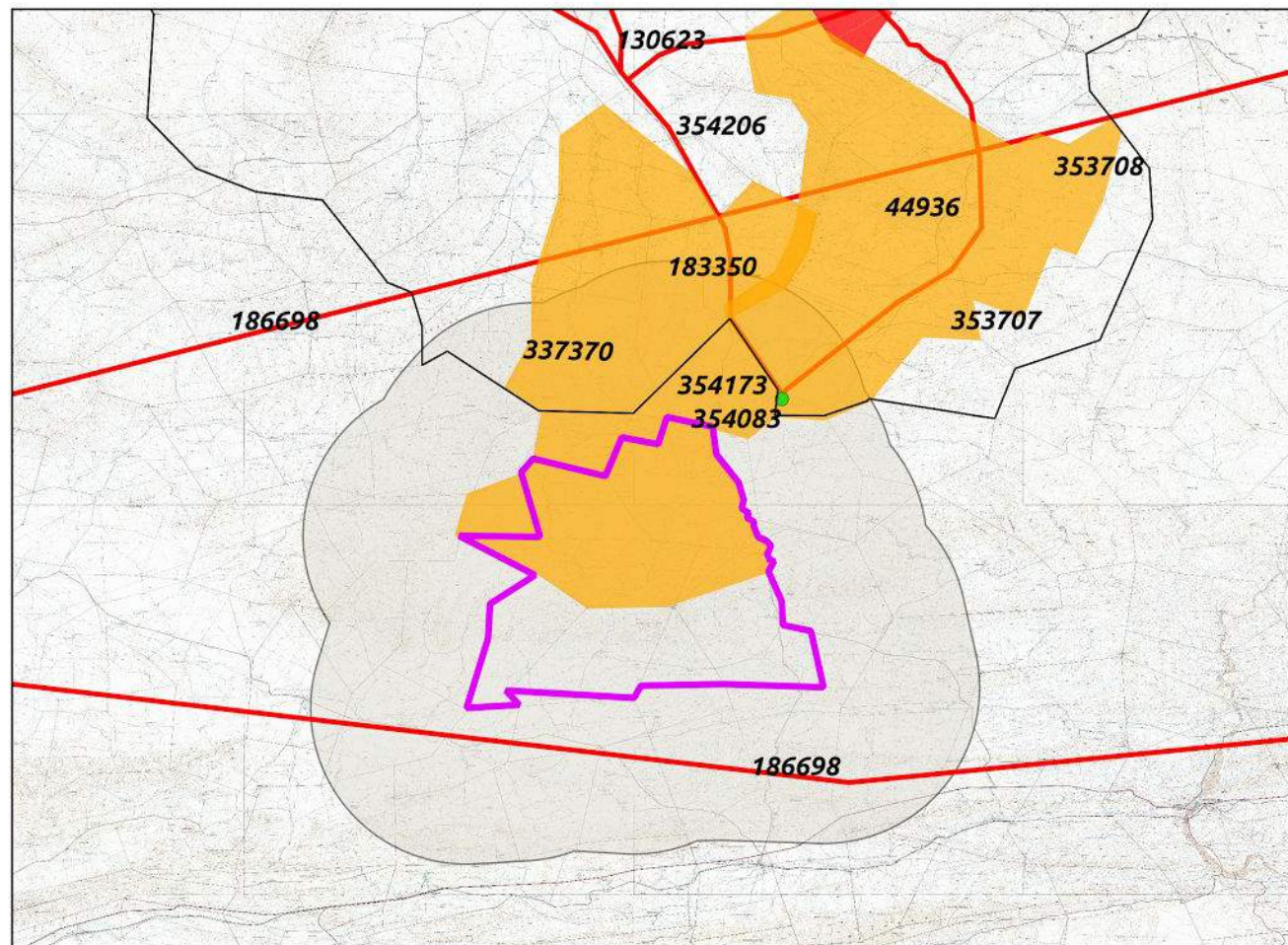
● High coverage



0 10 20 km



Figure 2a. HIAs Map. Previous Heritage Impact Assessments done in and near the proposed development area with SAHRIS NID labels indicated (PIAs excluded).



Legend

Proposed development

Inclusion zone - 10km

Line surveys

Low coverage

Area surveys

Medium coverage

Low coverage

Points_only_PIAs

● High coverage

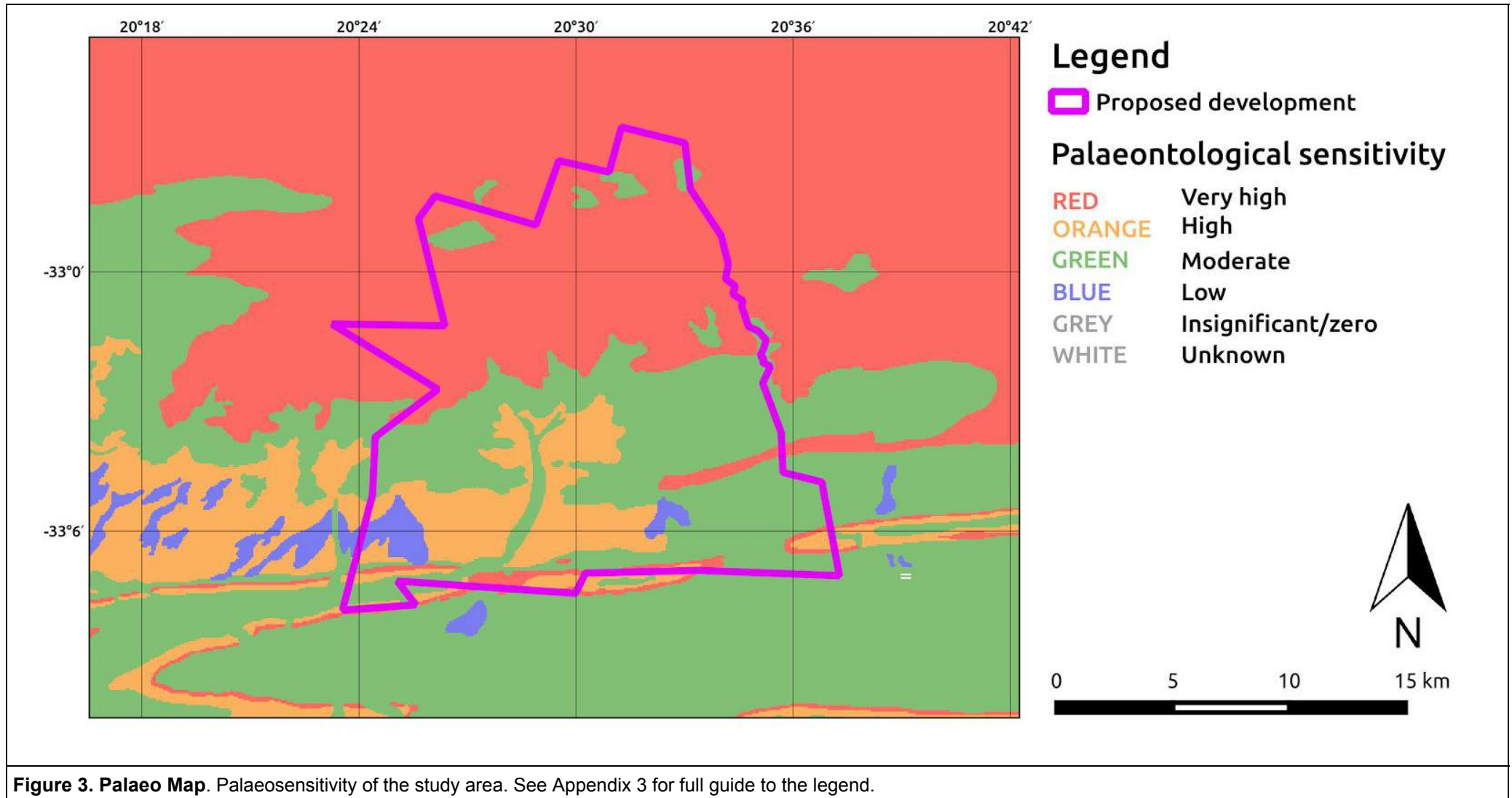
● Low coverage



Figure 2b. PIAs Map. Previous Palaeontological Impact Assessments done in and near the proposed development (with SAHRIS NID labels indicated).

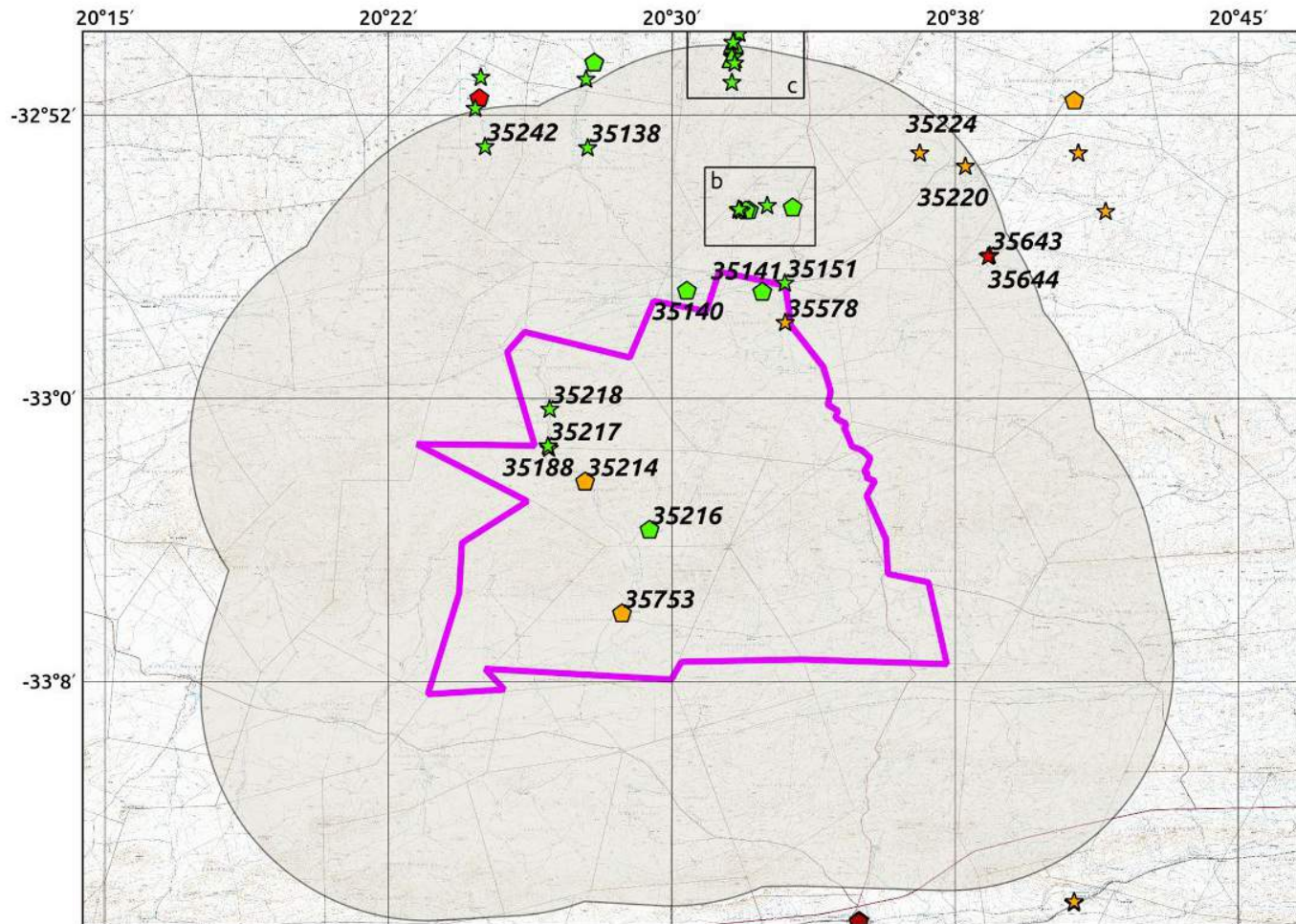


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Legend

Proposed development area

Inclusion zone - 10km

Heritage resources

Type

- Arch, Bat, Geo, Met, Pal, Und
- Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural, Place
- Conservation Area, Cultural Landscape

Grading

- | | |
|-----------------|----------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| CLEAR | Ungraded |



0 5 10 15 km

Figure 4a. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS Site IDs indicated (see Figures 4b-c for insets).



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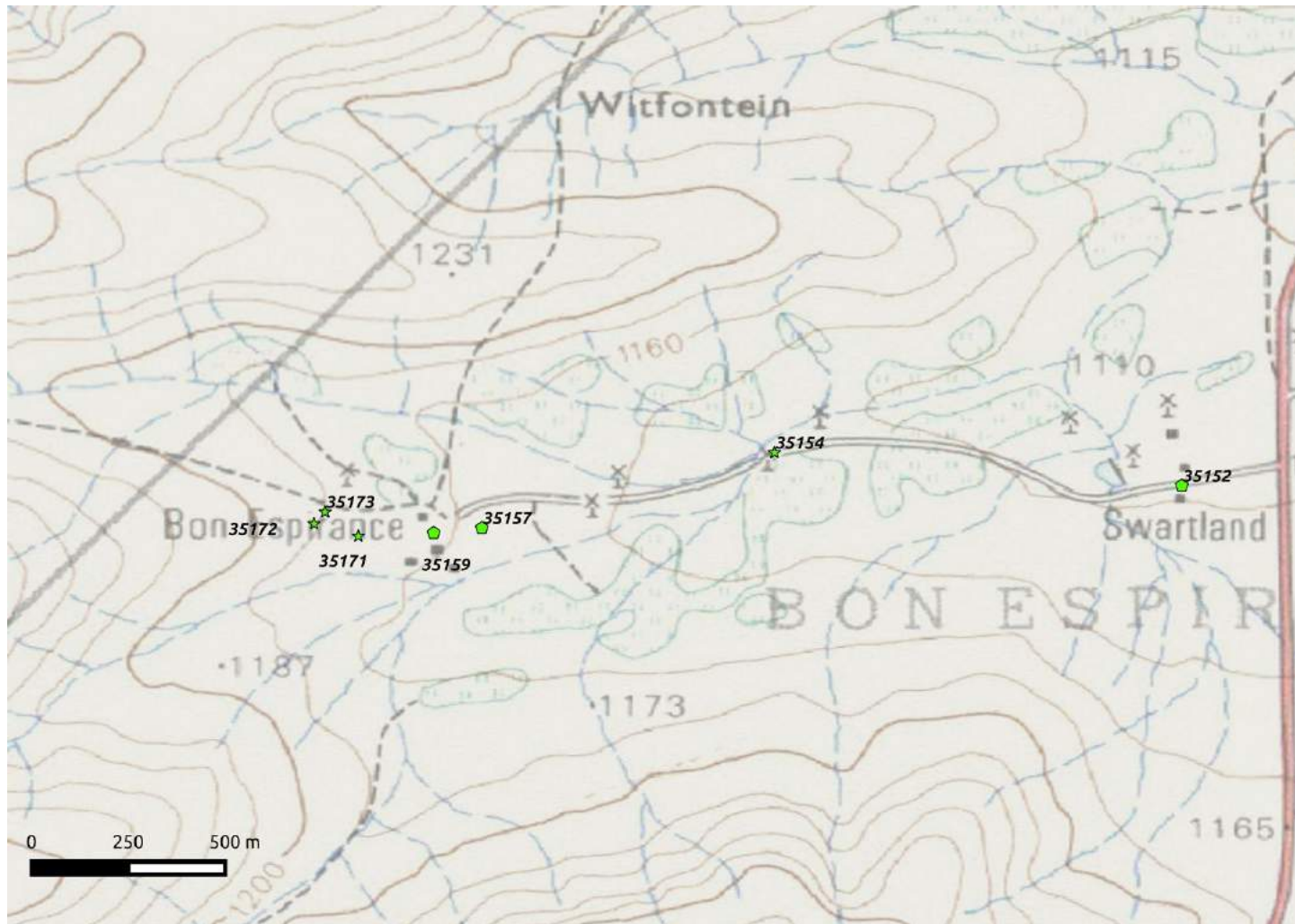


Figure 4b. Inset Map.



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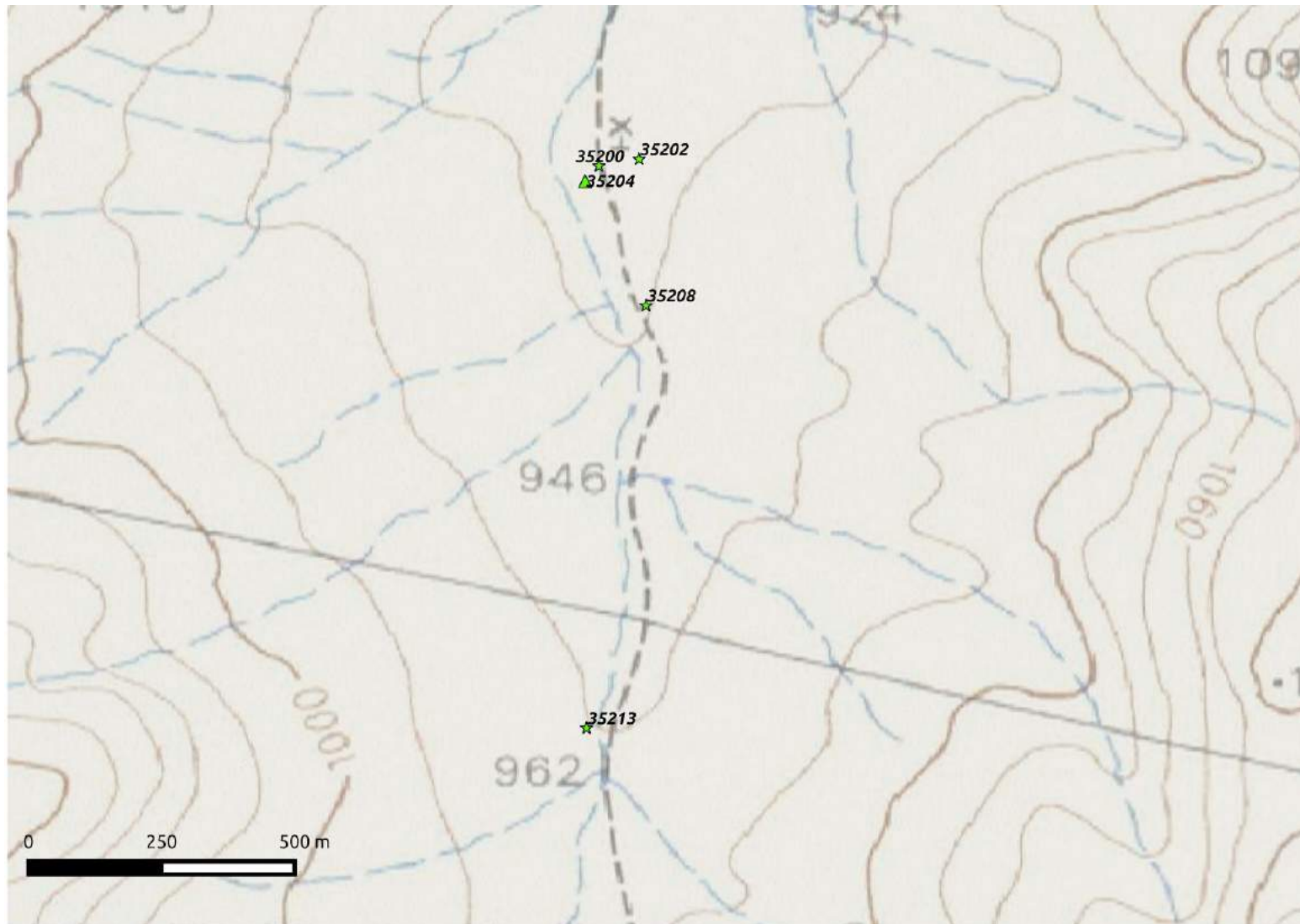


Figure 4c. Inset Map.

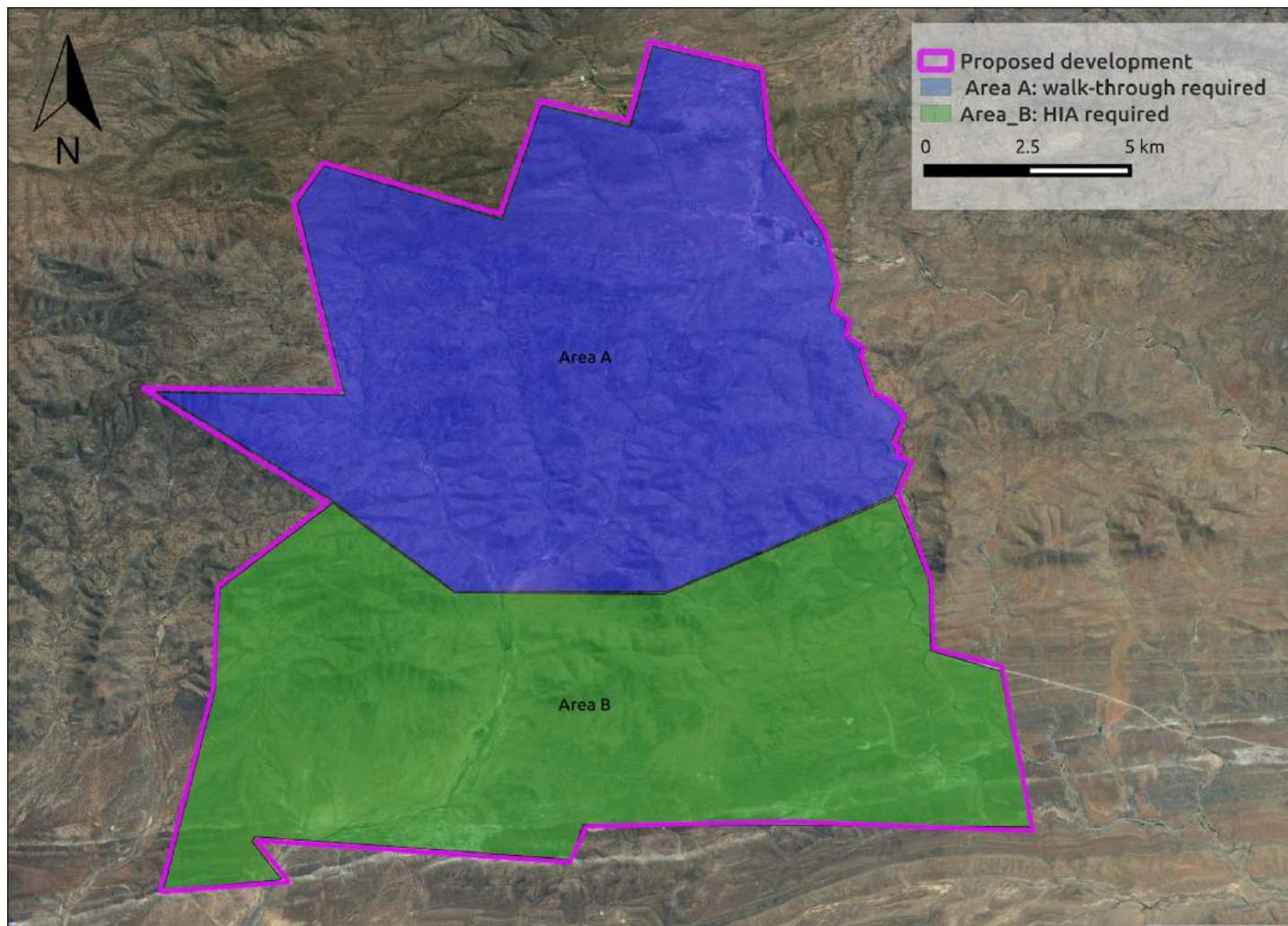


Figure 5. Survey map. Areas in blue (AREA A) require only a walk-through by an archaeologist once the position of the turbines is finalised. Areas in green (AREA B) require an AIA. Please refer to the cover page recommendations and the heritage statement for more detailed information.



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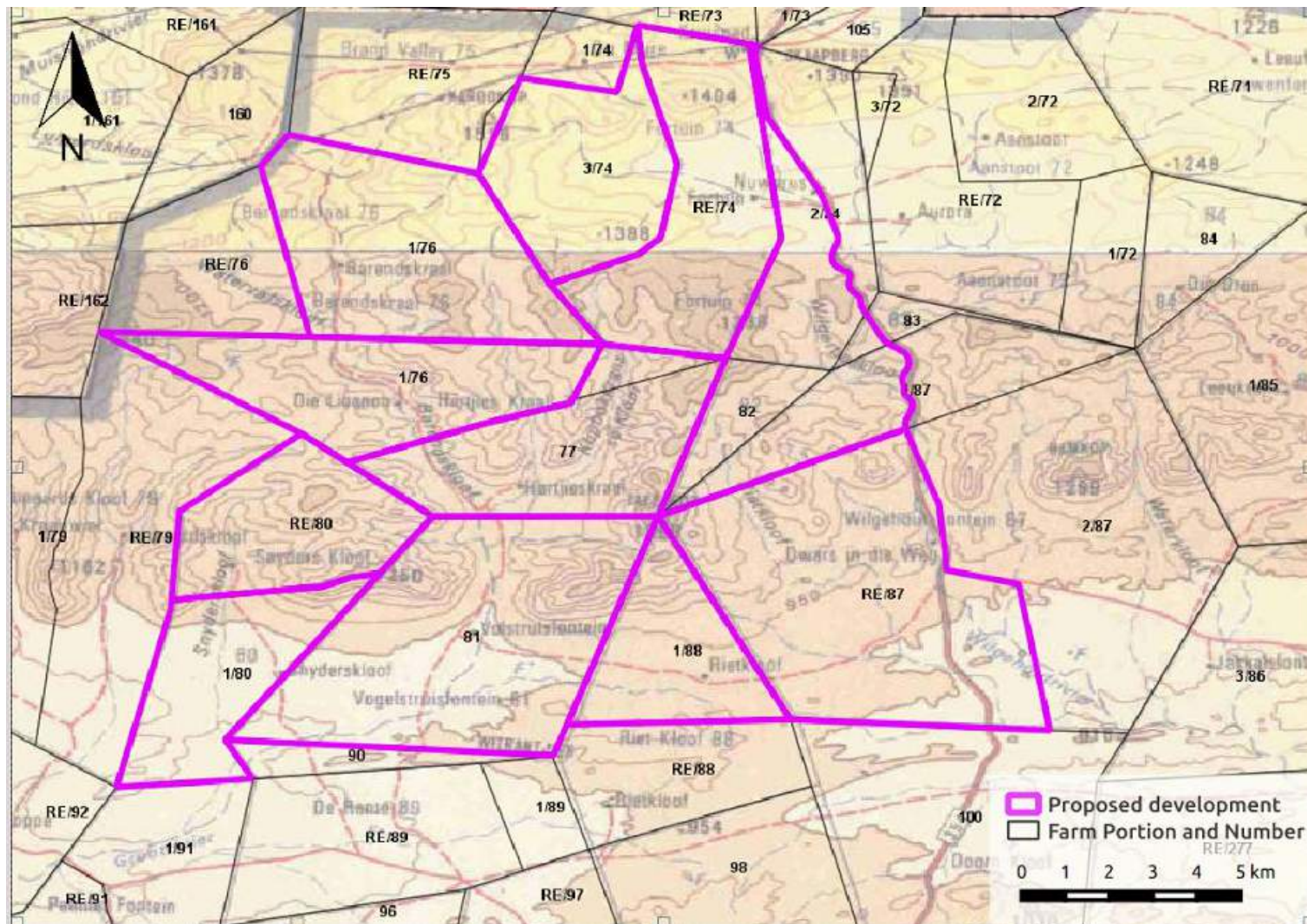
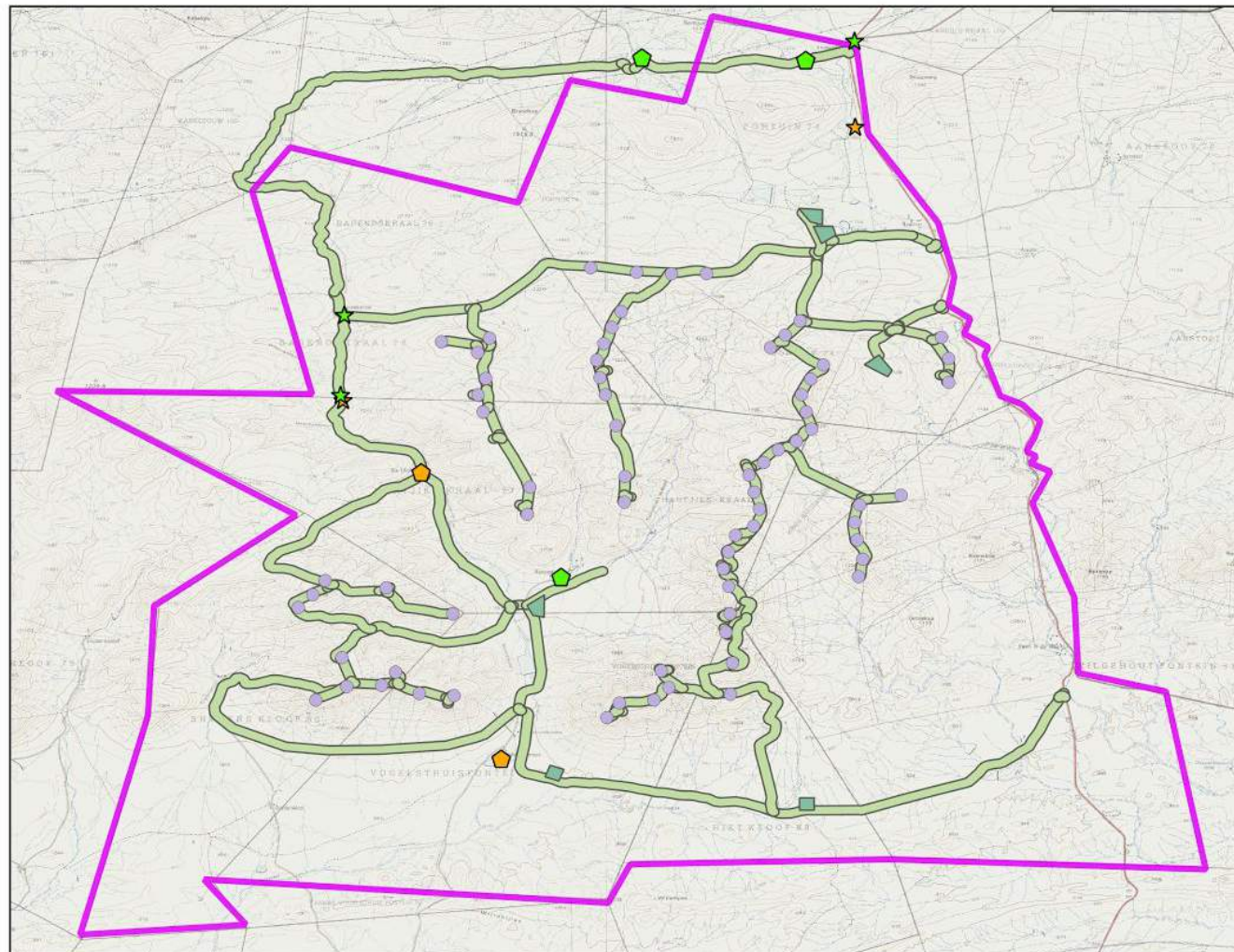


Figure 6. Topographical map showing farm portions and their boundaries.



Proposed development

Turbine Infrastructure

- Turbine Layout
- Construction Camp Options
- 200m Road Buffer

Heritage resources

Type

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural, Place
- △ Conservation Area, Cultural Landscape

Grading

- | | |
|----------|----------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| CLEAR | Ungraded |



Figure 7. Infrastructure map, indicating turbine and road layout in relation to heritage resources.

8. Heritage statement and character of the area

The Rietkloof Wind Energy Facility (WEF) is proposed in the Western Cape at the border with the Northern Cape along the R354 road which connects Matjiesfontein to Sutherland. An inclusion zone of 10km was assessed around the proposed WEF in order to better characterise the heritage resources of the area. Several WEFs have previously been proposed within the 10km inclusion zone, including the Hidden Valley Phase 1 Karusa, the Hidden Valley Phase 2 Soetwater, the Hidden Valley Phase 3, Great Karoo, Roggeveld Wind Farm Phase 1 and Kareebosch Wind Project (Roggeveld Phase 2). The Brandvalley WEF (a phase of the Roggeveld Wind Farm) is proposed contemporaneously to the Rietkloof WEF on some overlapping properties. This WEF is also a part of Roggeveld Wind Energy Facility.

Because of the numerous applications in the area, several Heritage Impact Assessments (HIAs) have already been undertaken. These HIAs assessed the possible impacts of the proposed WEFs on the archaeology, built environment, palaeontology and sense of place of the area.

The previous HIAs were undertaken by the ACO and the Albany Museum. The ACO noted that, despite returning several times to the area, that “*Stone Age heritage and archaeology is extremely scarce in the areas that were searched. No archaeological sites of these kinds were recorded, despite the fact that 8 experienced archaeologists were involved in scouring the landscape*” (Hart & Webley 2013). Although several sites were identified, their density was not as high as anticipated by the specialists. The authors argued that this may be related to the less favourable occupation areas up on the higher ridges where the wind turbines were proposed. The sites identified thus far within the development area include structures older than 100 years (such as stone walling related to pastoralism and Anglo Boer War fortifications) and burial grounds and graves. Most of the sites are of low archaeological significance, excluding the burials which are of high local significance.

The area included on Remainder and Portion 3 of Farm Fortuin 74, Remainder and Portion 1 of Farm Barendskraal 76 and Portion 1 of Hartjieskraal 77 and Remainder of Nuwerus 284 have already been assessed by archaeologists (see Area A of Figure 5). It is therefore recommended that **a walk-through of the final position of the turbines and ancillary infrastructure is undertaken for the turbines are proposed in Area A of Figure 5. An Archaeological Impact Assessment in Area B** of Figure 5, assessing both the position of the turbines and the general area, must be undertaken on Remainder and Portion 1 of Farm Snyders Kloof 80, Farm Vogelstruisfontein 81, Portion 1 of Farm Rietkloof Annexe 88 and Remainder of Farm Wilgehoutfontein 87. It is recommended that an archaeologist familiar with the historical and Stone Age archaeology of the Northern Cape be commissioned to carry out the study.

From a palaeontological perspective the area is underlain by formations of low to very high fossil sensitivity. Amongst these are the Abrahamskraal Formation of the Beaufort Group and the Whitehill Formations (very high sensitivity) and the Waterford, Fort Brown and Tierberg Formations of the Ecca Group of moderate to high sensitivity. Several Palaeontological Impact Assessments (PIAs) were undertaken for WEF projects in the area. One of the first assessments was conducted by Dr Miller who surveyed the area with the ACO archaeological team in 2011. He identified very few fossils in the Abrahamskraal Formation and therefore recommended that monitoring be undertaken during excavations for footings of turbines, trenches, borrow pits and deep rock excavations, since palaeontological heritage may be affected during the construction phase. In 2014, Dr Almond conducted a field survey for the Karreebosch Wind Energy Facility (Roggeveld Phase 2) as part of the Heritage Impact Assessment undertaken by the ACO (Kendrick, 2014). The outcome of this survey was that *during the construction phase all deeper (> 1m) bedrock excavations should be monitored for fossil remains by the responsible ECO*. Further field work conducted by Dr Almond for the expansion of the Komsberg substation concluded that no further palaeontological studies would be required, except for possible monitoring of excavations deeper than 1m, since the Lower Beaufort Group bedrocks in this study area are normally of low palaeontological sensitivity and are underlain by thick superficial sediments (Almond 2015).

CTS therefore agrees with the ACO (Kendrick 2014) that *while the geology of the study area is potentially palaeontologically sensitive, very few fossils were found by either Dr Duncan Miller or Dr John Almond in the study area. No further work in this respect is recommended. While the geology of the study area is potentially palaeontologically sensitive, very few fossils were found by either Dr Duncan Miller or Dr John Almond in the study area. No further work in this respect is recommended.* These recommendations were previously supported by SAHRA in its comment dated January 2012. Considering the number of palaeontological studies undertaken in the area, the paucity of fossil material identified so far and previous recommendations done by the heritage authority in adjacent areas with similar geological background and similar projects, CTS recommends that **a monitoring brief by a palaeontologist be set up before construction starts: this brief will indicate where fresh exposures of the highly sensitive Abrahamskraal Formation are to be monitored by a palaeontologist during construction, setting out areas and infrastructures for which this may be necessary. A monitoring brief can only be laid out after the final position of turbines and infrastructure is decided.** Monitoring is justified on the basis that so far Palaeontological Impact Assessments in the area have not recorded any fossil of particular significance and have lowered the sensitivity of the area compared to the SAHRIS palaeosensitivity map.

While Miller (2011) reports states that the overall palaeontological significance of the Waterford, Tierberg and Fort Brown Formation is negligible, Almond identified possibly some of the best petrified logs in the SW outcrop area of the Eccra group within the Waterford Formation (Eccra Group) on Dwars in die Weg (SE corner of the study area) (Almond pers. comm.) and Caenozoic fossil remains may be present in the old thick alluvial sediment. It is therefore recommended that **a walk through be conducted on the Waterford Formation and Caenozoic alluvial sediments once the final position of the turbines and ancillary infrastructure is decided.**

It is recommended that **a Visual Impact Assessment be conducted on Areas A and B with particular consideration of the impact of the proposed WEF on the R354.** An initial comment by HWC on the Roggeveld WEF had requested that the turbines be removed from the ridges of the mountains along the R354. A final comment in January 2013 had rescinded this requirement but maintained that **no turbines are to be located on Tafelkop or Spitskop.** Moreover, comments by the SAHRA dated April 2013 maintained that:

- *No turbines are to be located within 3km of the R354 in order to create a visual buffer between the road and the development.*
- *Ancillary infrastructure should be no closer than 500m to the R354.*

The developer should be aware of these recommendations during the planning of the layout of the proposed WEF. This will specifically affect the position of the turbines on the Remainder and Portion 1 of Farm 87, Farm 83, and Portion 2 of Farm 74. While the 3km buffer between the R354 and the turbines has since been lessened, the impact of the proposed WEF on the sense of place of the R354 must be considered. This must also be considered as a cumulative impact with the already approved WEFs of the Hidden Valley Wind Farm and the Roggeveld Phase 1. It is recommended that a consistent approach is taken with the previous two wind farms in mind.

APPENDIX 1 - Site Lists

List of sites within 10km inclusion zone but outside proposed development area

Site id	Site no	Full site name	Site type	Grading
35644	GK121	Gamma Kappa 121	Stone walling	Grade IIIa
35220	HDV002	Hidden Valley 02	Stone walling	Grade IIIb
35224	HDV003	Hidden Valley 03	Stone walling	Grade IIIb
35643	GK120	Gamma Kappa 120	Stone walling	Grade IIIb
35138	ROG008	Roggeveld 008	Stone walling	Grade IIIc
35140	ROG009	Roggeveld 009	Building	Grade IIIc
35151	ROG011	Roggeveld 011	Ruin >100 years	Grade IIIc
35152	ROG012	Roggeveld 012	Building	Grade IIIc
35154	ROG013	Roggeveld 013	Stone walling	Grade IIIc
35157	ROG014	Roggeveld 014	Transport infrastructure	Grade IIIc
35159	ROG015	Roggeveld 015	Building	Grade IIIc
35171	ROG016	Roggeveld 016	Stone walling	Grade IIIc
35172	ROG017	Roggeveld 017	Stone walling	Grade IIIc
35173	ROG018	Roggeveld 018	Ruin > 100 years	Grade IIIc
35200	ROG026	Roggeveld 026	Ruin > 100 years	Grade IIIc
35202	ROG028	Roggeveld 028	Artefacts	Grade IIIc
35204	ROG029	Roggeveld 029	Cultural Landscape	Grade IIIc
35208	ROG030	Roggeveld 030	Stone walling	Grade IIIc
35213	ROG031	Roggeveld 031	Ruin > 100 years	Grade IIIc
35242	ROG047	Roggeveld 047	Ruin >100 years	Grade IIIc

List of sites intersecting proposed development area and associated infrastructure

Site id	Site no	Full site name	Site type	Grading	Latitude	Longitude	Description	Recommendations
35578	GK056	Gamma Kappa 056	Artefacts	IIIb	-32.966667	20.55	MSA scatter at Fortuin	To be reassessed if impact is expected
35753	ROG050	Roggeveld 050	Building	IIIb	-33.095038	20.478026	Volstruisfontein farm complex	A historical architect should be consulted for any sensitive re-adaptation or restoration of the structure - a workplan to be submitted to HWC for any alteration
35188	ROG024	Roggeveld 024	Ruin > 100 years	IIIb	-33.022167	20.445861	Trapvloer 8m ø with 1.5x2m 'room' on one side	Not to be impacted - 25m buffer zone - recording of the site is required if site is to be impacted - a workplan to be submitted to HWC for approval
35214	ROG032	Roggeveld 032	Building	IIIb	-33.036861	20.46175	De Libanon. Mid 19 th C farm house with early 20 th additions	The house is currently used seasonally - A historical architect should be consulted for any sensitive re-adaptation or restoration of the structure
35217	ROG035	Roggeveld 035	Ruin > 100 years	IIIc	-33.021111	20.445361	Stone ruin 0.5m from road and a few metres from river	Not to be impacted - 25m buffer zone recording of the site is required if site is to be impacted - a workplan to be submitted to HWC for approval
35218	ROG036	Roggeveld 036	Stone walling	IIIc	-33.004861	20.446111	Stone kraal. A second one occurs 200m east and a third 250m northwest	Not to be impacted - 25m buffer zone around each recording of the site is required if site is to be impacted - a workplan to be submitted to HWC for approval
35141	ROG010	Roggeveld 010	Building	IIIc	-32.953139	20.539944	Small white building	A historical architect should be consulted for any sensitive re-adaptation or restoration of the structure - a workplan to be submitted to HWC for any alteration if the building is older than 60 years
35216	ROG034	Roggeveld 034	Building	IIIc	-33.058111	20.490194	Hartjies Kraal Farm Complex	A historical architect should be consulted for any sensitive re-adaptation or restoration of the structure - a workplan to be submitted to HWC for any alteration

APPENDIX 2 - Reference List

NID	Author	Date	Type	Title
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44934	Booth, C.	Aug-11	AIA	An archaeological desktop study for the proposed establishment of the Hidden Valley wind energy facility and associated infrastructure on a site south of Sutherland, Northern Cape Province
44935	Booth, C.	Feb-12	AIA	A Phase 1 AIA for the proposed Hidden Valley Wind Energy Facility, near Sutherland, Northern cape Province
44936	Rossouw, L.	Mar-12	PIA	Palaeontological desktop assessment of the proposed Hidden Valley Wind Energy Facility near Sutherland, Northern Cape Province
53187	Hart, T. and L. Webley	Mar-11	HIA	Heritage Impact Assessment Proposed Wind Energy Facility
130621	van der Walt, J.	Jun-13	AIA	Archaeological Scoping Report for the Proposed Gunstfontein Renewable Energy Project: Wind and Solar Energy Facilities and The Associated Grid Connection Infrastructure, Northern Cape
130623	Millstead, B.	Jul-13	PIA	Desktop Palaeontological Heritage Impact Assessment Report on the Site of Proposed Solar and Wind Energy Generation Facilities (Gunsfontein Project) to be Located on Various Farms Near Sutherland, Northern Cape Province
152531	Hart, T. and L. Webley	Dec-13	HIA	Heritage Impact Assessment Report for the Phase 1 Roggeveld Wind Farm
183350	Kendrick, N.	Dec-14	HIA	Heritage Impact Assessment for the Karreebosch Wind Farm (Phase 2 Roggeveld Wind Farm)
183350	Almond, J.	Oct-14	PIA	Palaeontological Heritage Assessment: Combined Desktop & Field-Based Study. proposed Karreebosch Wind Farm (Roggeveld Phase 2) near Sutherland, Northern Cape Province
186695	Murimbika, M.	Aug-14	HIA	Proposed Gamma-Kappa 2nd 765kV Eskom Transmission Powerline and Substations Upgrade Development in Western Cape Phase 1 Heritage Impact Assessment Study Report
186697*	Bandama, F. and S. Chirikure	Aug-14	AIA	An Archaeological Scoping and Assessment report for the proposed Gamma (Victoria West, Northern Cape) - Kappa (Ceres – Western Cape) 765Kv (2) Eskom power transmission line
186698*	Durand, F.	Jun-13	PIA	GAMMA-KAPPA 765kV Transmission Line, Western Cape Province Scoping Report - Palaeontology
186703	Axis Landscape Architects	Jan-14	VIA	The Proposed Gamma-kappa 2nd 765KV transmission powerline and substations upgrade - Northern and Western Cape (NEAS reference DEA/EIA/0001267/2012 DEA reference 14/12/16/3/3/2/353)*
337370	Miller, D.	Mar-11	PIA	Palaeontological Impact Assessment Proposed Roggeveld Wind Energy Facility
340999	Booth, C.	Oct-15	AIA	A Phase 1 Archaeological Impact Assessment for the Proposed Karusa Facility Substation and Ancillaries, near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, NC Province
341015	Booth, C.	Oct-15	AIA	A Phase 1 Archaeological Impact Assessment for the Proposed Eskom Karusa Switching Station, Ancillaries and a 132kV Double Circuit Overhead Power Line, Near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province

351846	Kaplan, J.	Dec-15	AIA	Proposed borrow pit (Karusa North) on the Farm Rheeboke Fontein 209 Remainder near Sutherland, Northern Cape Assessment conducted under Section 38 (3) of the National Heritage Resource Act (No. 25 of 1999)
353483	Kaplan, J.	Dec-15	AIA	Proposed borrow pit (Karusa R354) on the Farm Karreebosch 200/1 near Sutherland, Northern Cape Assessment conducted under Section 38 (3) of the National Heritage Resource Act (No. 25 of 1999)
353706	Booth, C.	Oct-15	AIA	An Archaeological Walk-Through For The Proposed Soetwater Wind Energy Facility Situated On The Farms: The Remainder Of And Portion 1, 2 And 4 Of Farm Orange Fontein 203 And Annex Orange Fontein 185, Farm Leeuwe Hoek 183 And Farm Zwanepoelshoek 184, Near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province.
353707	Almond, J.	Oct-15 (b)	PIA	Palaeontological Heritage Assessment: Combined Desktop & Field-Based Study: Authorised Soetwater Wind Farm Near Sutherland, Northern Cape Province
353708	Almond, J.	Oct-15 (c)	PIA	Palaeontological Heritage Assessment: Combined desktop & field-based study: authorised Karusa Wind Farm near Sutherland, Namaqua District Municipality, Northern Cape Province
353709	Booth, C.	Oct-15	AIA	An Archaeological Walk-Through For The Proposed Karusa Wind Energy Facility Situated On The Farms: De Hoop 202, Standvastigheid 210, Portion 1 Of The Farm Rheeboke Fontein 209, Portion 2 Of The Farm Rheeboke Fontein 209, Portion 3 Of The Farm Rheeboke Fontein 209 And The Remainder Of The Farm Rheeboke Fontein 209, Near Sutherland, Karoo Hoogland Local Municipality, Namakwa District Municipality, Northern Cape Province.
354082	Booth, C.	Aug-15	AIA	Phase 1 Archaeological Impact Assessment for the proposed extension of the existing Komsberg Substation (two alternative areas) and widening of the access road, near Sutherland, NC Province
354083	Almond, J.	Aug-15 (a)	PIA	Palaeontological Heritage Assessment: Combined Desktop and Field-Based Study (Basic Assessment) for the proposed expansion of the existing Komsberg MTS on farm Standvastigheid 210 near Sutherland, NC Province
354173	Almond, J.	Jan-16	PIA	Recommended exemption from further palaeontological studies: Proposed Construction of the Eskom Karusa Switching Station Complex, 132kV Double Circuit Overhead Power Line, Karusa Facility Substation Complex and Ancillary Developments near Sutherland, NC Province
354206	Almond, J.	Dec-15 (d)	PIA	Recommended exemption from further palaeontological studies: Proposed exploitation of fresh and weathered dolerite from four quarry sites near Sutherland, Namaqua District Municipality, Northern Cape







*The visual impact assessment (186703) was undertaken on the same project as 186697 and 186698

APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DEA	Department of Environmental Affairs
HIA	Heritage Impact Assessment
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

	RED:	VERY HIGH - field assessment and protocol for finds is required
	ORANGE/YELLOW:	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	GREEN:	MODERATE - desktop study is required
	BLUE/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
	GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required
	WHITE/CLEAR:	UNKNOWN - these areas will require a minimum of a desktop study.



APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Grading of heritage sites which form part of the national estate is defined in s. 7 of the National Heritage Resources Act (NHRA) as:

*(a) **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;* Examples of these sites are Mapungubwe Cultural Landscape, The Parliament of South Africa, Sarah Baartman Burial Site, Robert Sobukwe's grave, Lake Fundudzi, Voortrekker Monument, Union Buildings.

*(b) **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region;* they are normally declared Provincial Heritage Sites under s. 27 of the NHRA after the competent Provincial Heritage Resources Authority has established their significance. Many of the current Provincial Heritage Sites were declared National Monument under the previous heritage legislation and their status was changed to Provincial Heritage Sites when the National Heritage Resources Act was proclaimed in 1999. Amongst these sites, Mapoch's Caves in Limpopo, Umhlatuzana Rock Shelter in KwaZulu Natal, Van der Stel's Copper Mine in the Northern Cape, the old Cemetery in Grahamstown, Eastern Cape and Baboon Point, in the Western Cape.

*(c) **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated (...).*

The following sub-categories are currently in use for Grade III::

Grade IIIa sites are sites of such a high local significance that should be protected and retained. These sites should be included in the heritage register of each province as defined in s. 30 of the NHRA and should not be impacted upon. In the instance of buildings, any alteration must be regulated. Because of their nature, all human remains are



considered of high significance. While relocation of graves is common practice, this should always be considered as the last option. Examples of these sites are all graves and burial grounds which have not been graded I or II, Peers Cave in Western Cape,

Grade IIIb sites are resources of medium local significance. They should preferably be retained where possible, but where not possible the site must be fully investigated and/or mitigated. After mitigation they may be impacted upon.

Grade IIIc sites are of low local significance. These resources must be satisfactorily studied before destruction. In many instances the recording and description of the site undertaken at the heritage impact assessment level is sufficient and further recording or mitigation may not be required. These sites include for instance small knapping sites which have been sufficiently recorded at the archaeological impact assessment level, palaeontological fossils of low significance which do not require recovery. In the case of the built environment, IIIc structures will only require protection and regulation if the significance of the environs in which they are located is sufficient to warrant protective measures.

The heritage specialist in the field should suggest a grading for the site, but it will then need to be ratified and accepted by the competent heritage authority.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEONTOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.



Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area



- compilation of a report for a component of a heritage impact assessment not already undertaken in the area
- undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.

Note:

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

The compilation of the Heritage Screener will not include any field assessment. The Heritage Screener will be submitted to the applicant within 24 hours from receipt of full payment. **If the 24-hour deadline is not met by CTS, the applicant will be refunded in full.**