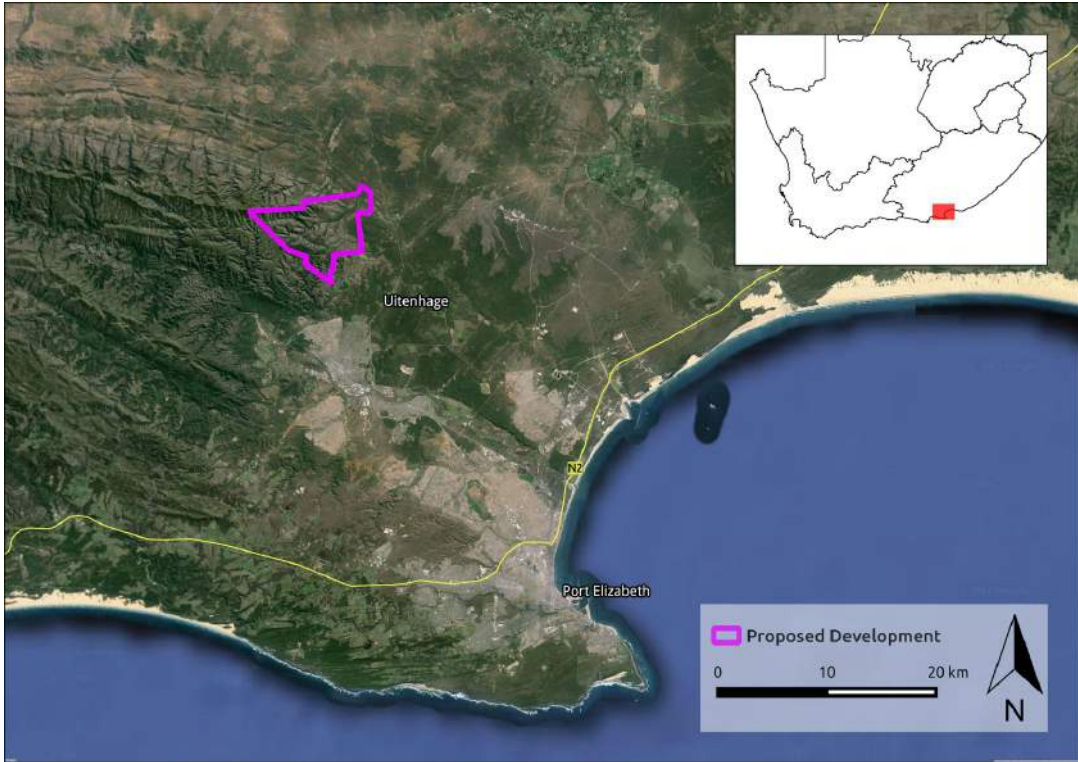




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HERITAGE SCREENER

CTS Reference Number:	CTS15_012
Client:	CEN Integrated Environmental Management
Date:	25 September 2015
Title:	Uitenhage Gasification Plant
 <p>Figure 1a. Satellite image with proposed development area indicated in Eastern Cape.</p>	
Recommendation by CTS Heritage Specialists: (Type 2)	<p>(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. It is recommended that:</p> <ul style="list-style-type: none"> - an Archaeological Impact Assessment be done on the area. It is expected that thick vegetation will hamper the archaeological surveys in Zones 3, 8, 13, 17, 18, 19 and 25. Shelters with rock art are likely to occur along the riverbanks and kloofs in Zones 1, 2, 6, 7, 9, 10, 11, 15, 20, 21, 22, 23, 26 and 29. The vegetation in Zones 5, 12, 14, 24, 27, 28 and 31 is relatively sparse compared to the remaining zones and it is therefore recommended that the archaeologist starts the survey in these zones to record a representative sample of the heritage resources in the area. See the heritage statement for more detail.



1. Proposed Development Summary

A Basic Assessment is being done for a planned gasification plant in the Uitenhage area. The applicant intends on clearing alien vegetation (black wattle (*Acacia mearnsii*)) and using it as fuel to produce 17.9 GWh of energy per year for 5 to 6 years from a 500 kW wood gasifier and gas-engine. The plant is mobile and can be re-located to different areas of alien infestation when required.

2. Application References

Name of relevant heritage authority(s)	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)
Name of decision making authority(s)	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)

3. Property Information

Farm Name and Number	Farm 236, Hillwagt 288, Bauwerskraal 234, Prentice Kraal 233
Local Municipality	Nelson Mandela Metropolitan Municipality
District Municipality	Nelson Mandela Bay
Previous Magisterial District	Uitenhage
Province	Eastern Cape
Current Use	Mostly vacant
Current Zoning	NA
Total Extent	Approximately 46km ²

4. Nature of the Proposed Development

Surface area to be affected/destroyed	7.55km ²
Depth of excavation (m)	Vegetation removal will not require any excavation
Height of development (m)	NA
Expected years of operation before decommission	5-6

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.	
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	
5. Other (state):	

6. Additional Infrastructure Required for this Development

An 11 kV power line to connect the plant (~1 ha) to the existing power distribution network and 10km access road using an existing servitude.

7. Mapping



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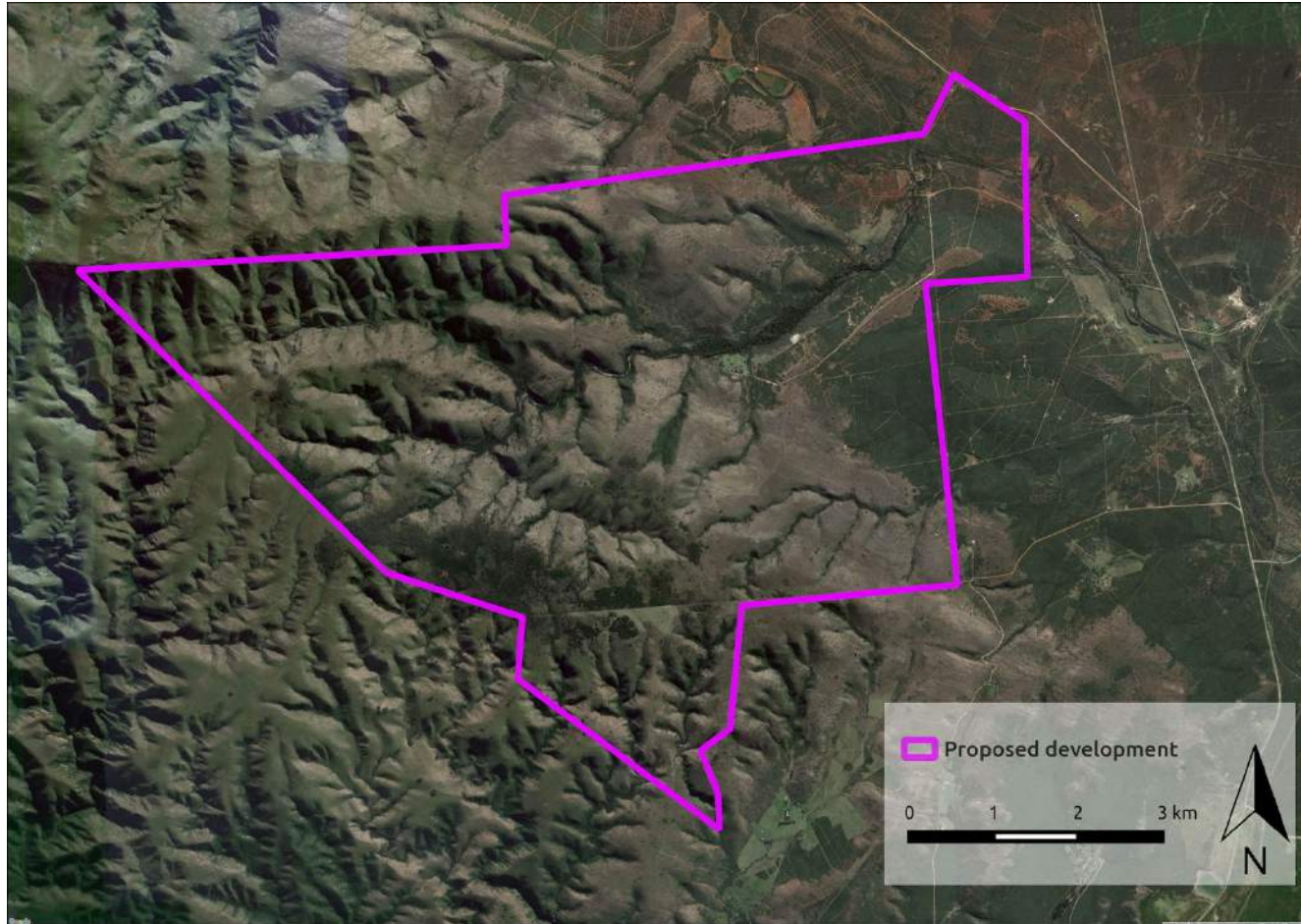


Figure 1b. Overview Map. Satellite image with proposed development indicated.



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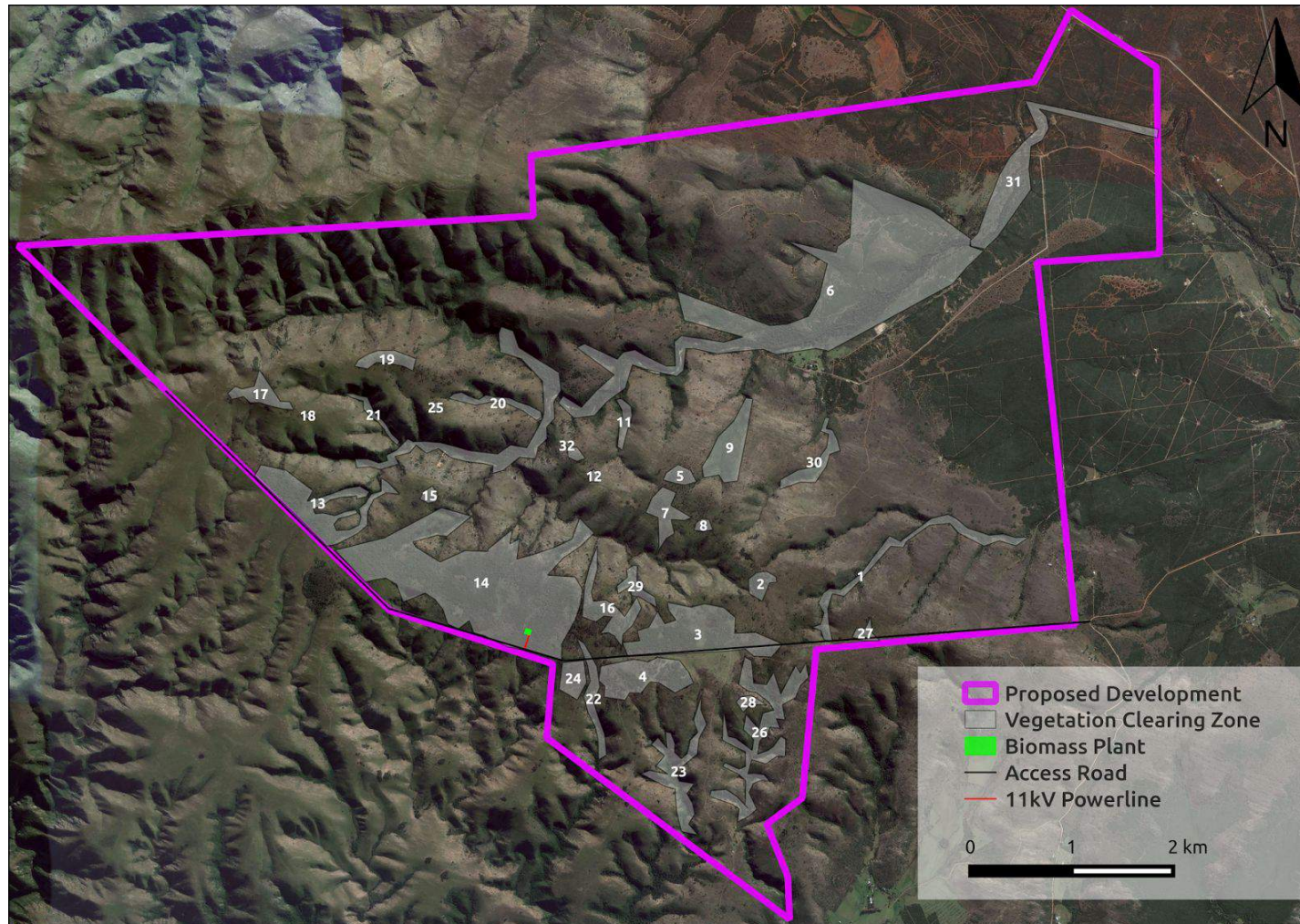
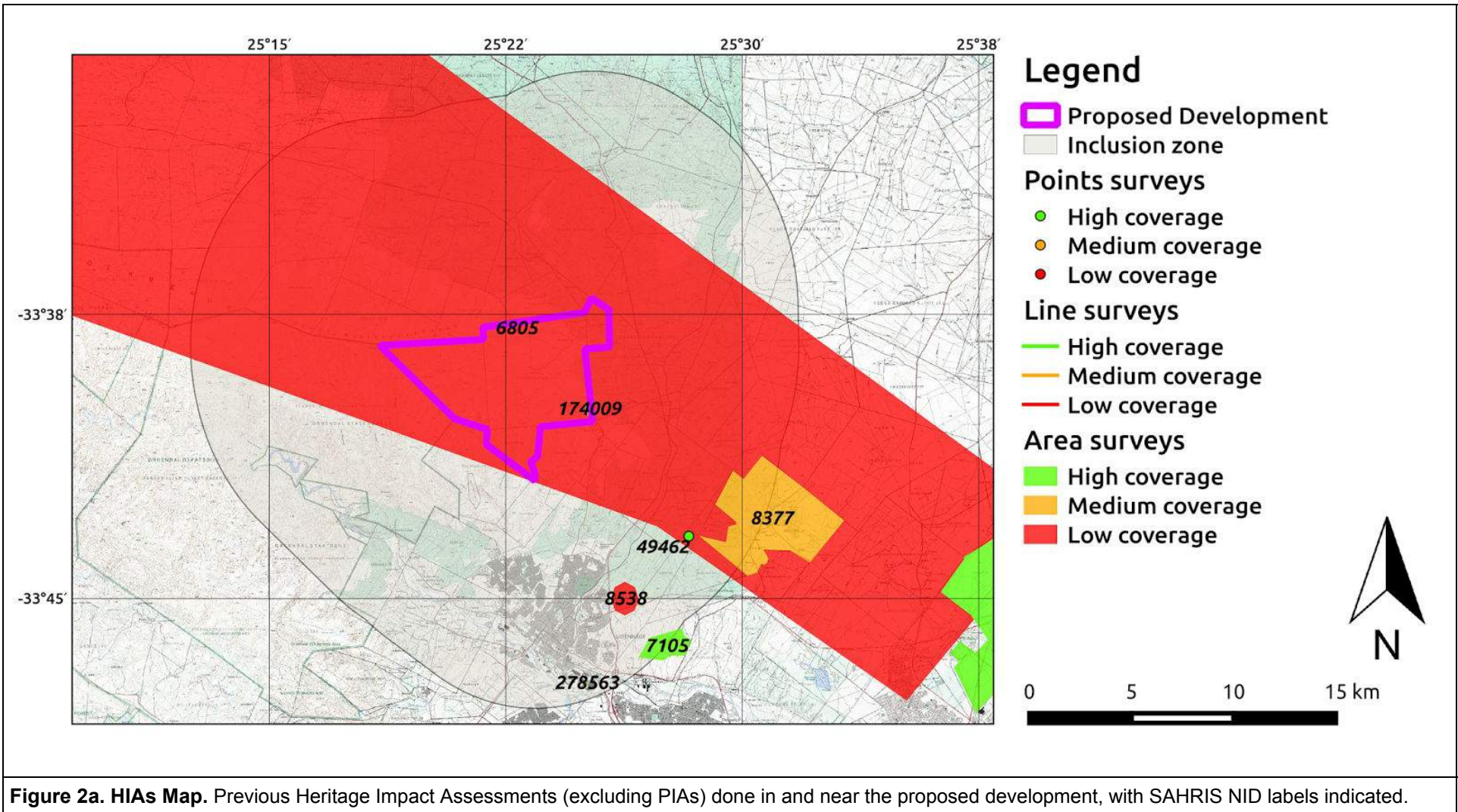


Figure 1c. Overview Map. Satellite image with proposed development, vegetation clearing zones and additional infrastructure indicated.

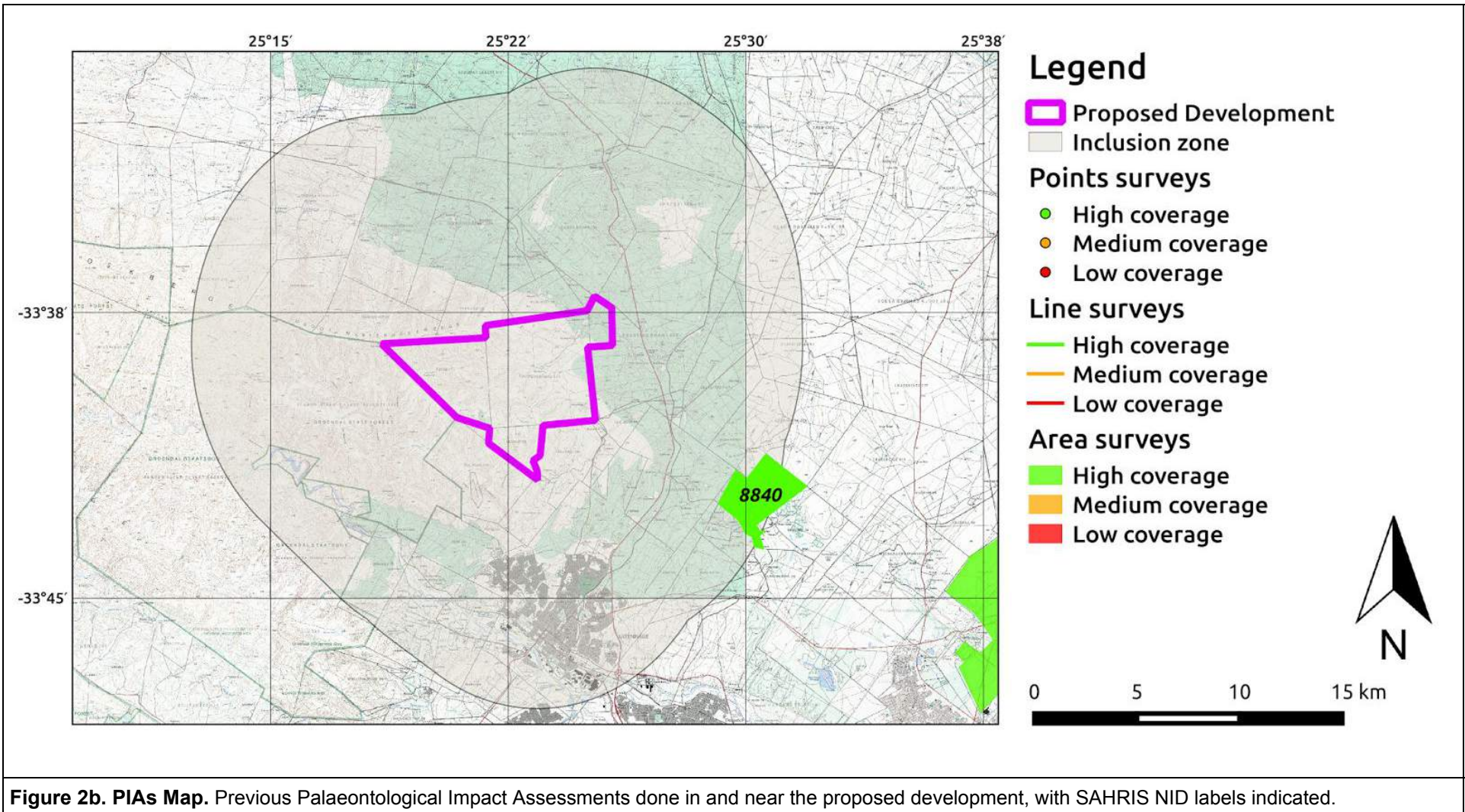


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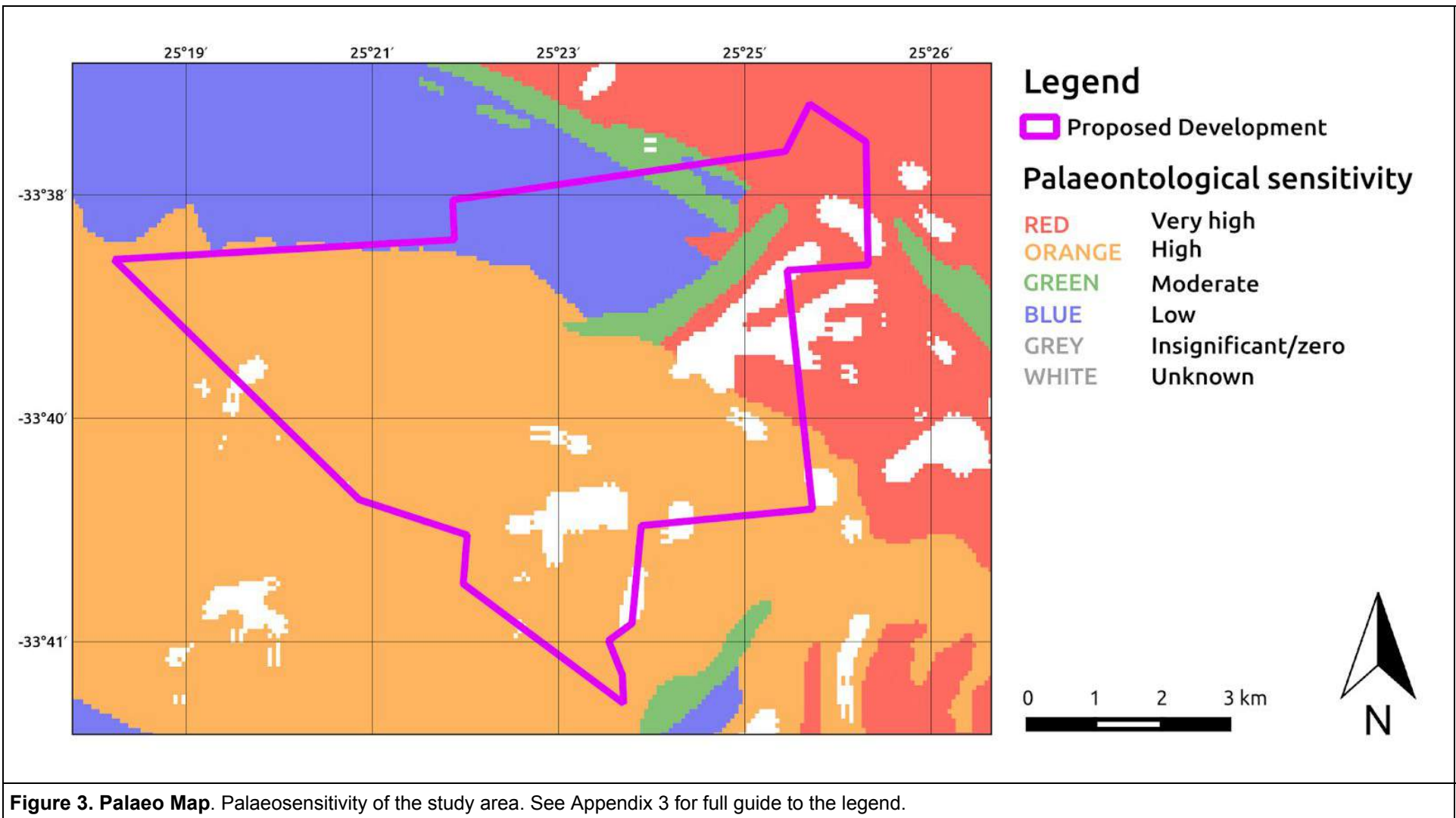


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Legend

- Proposed Development
- Inclusion zone

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 km

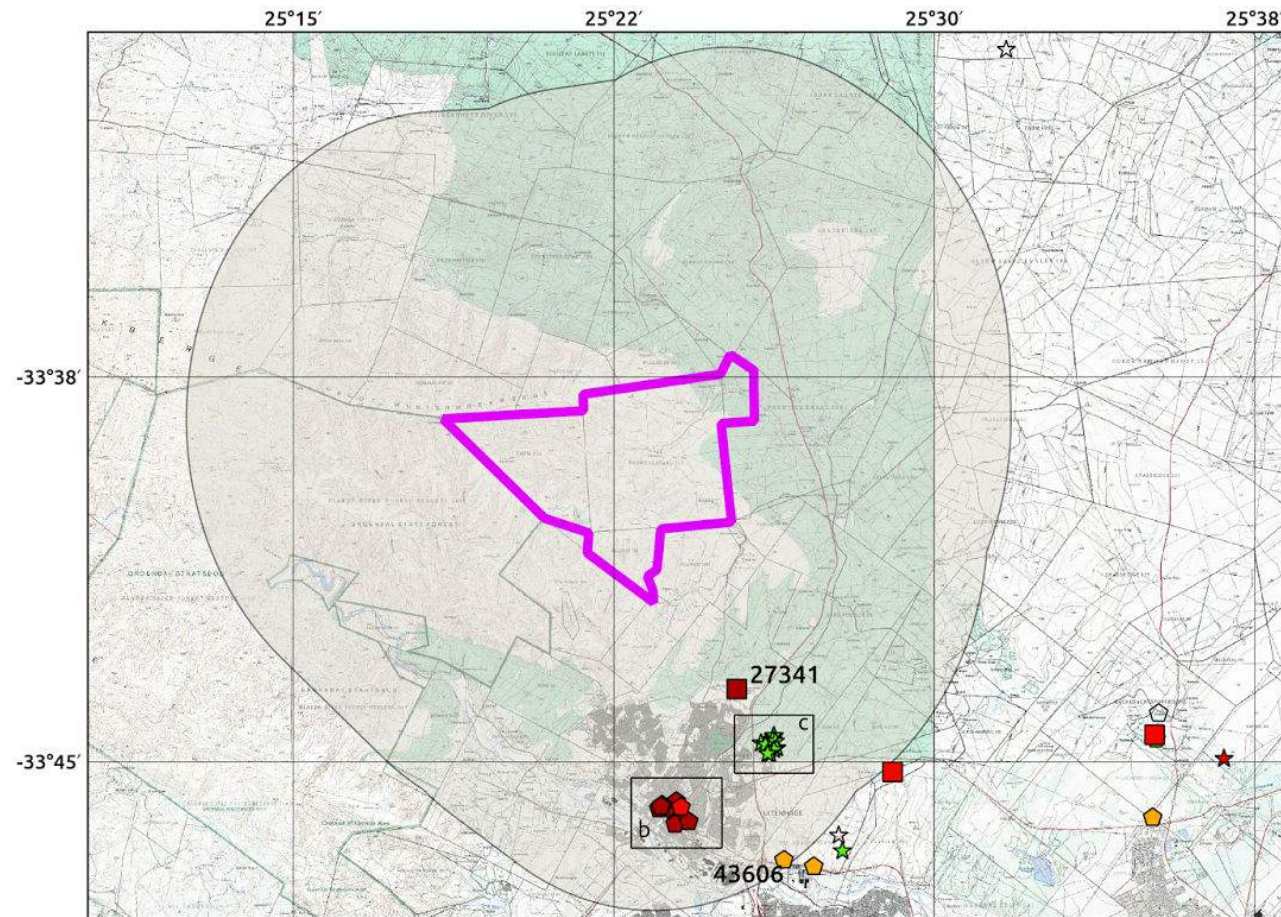


Figure 4a. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS site IDs indicated (for insets, see Maps 4b and 4c).



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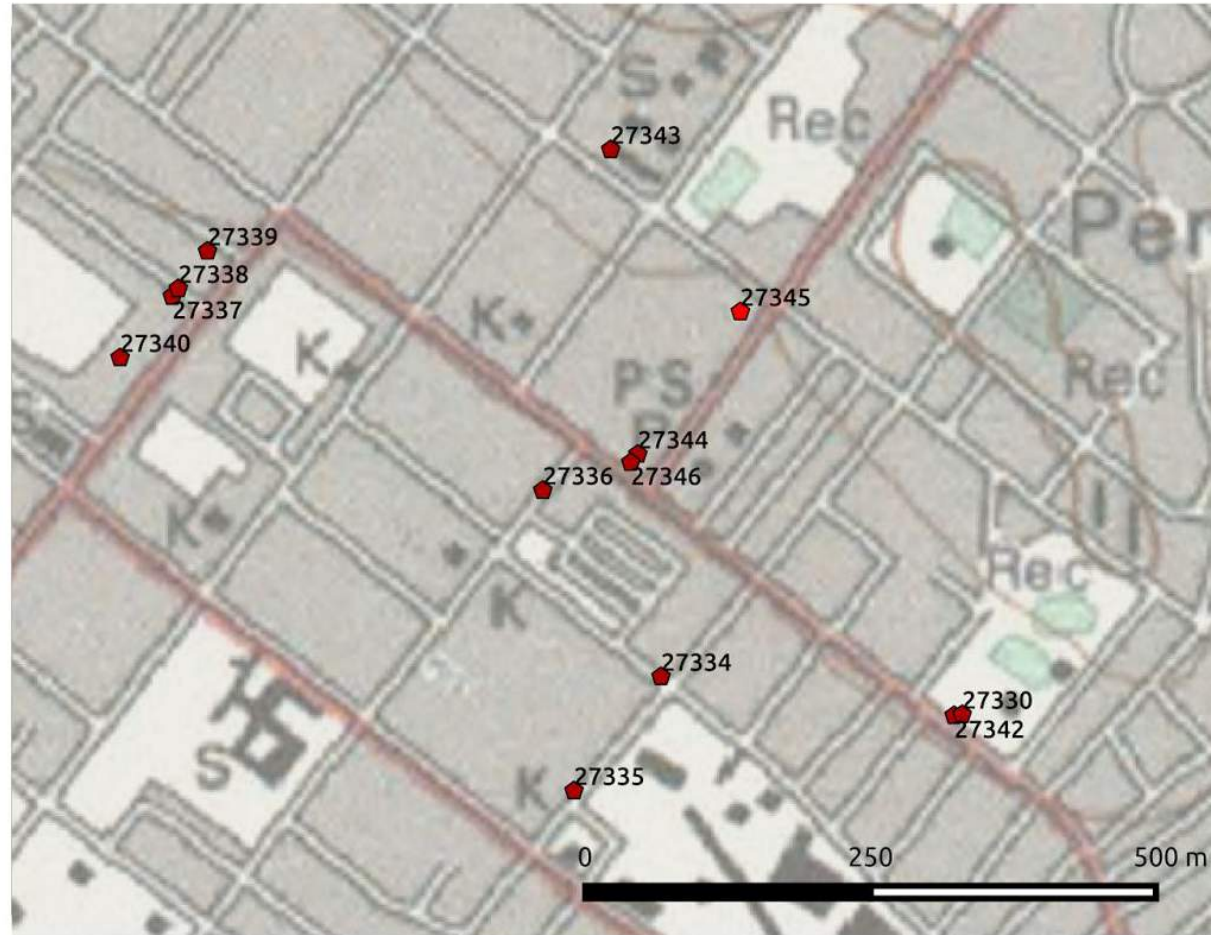


Figure 4b. Heritage sites inset map, with SAHRIS site IDs indicated.



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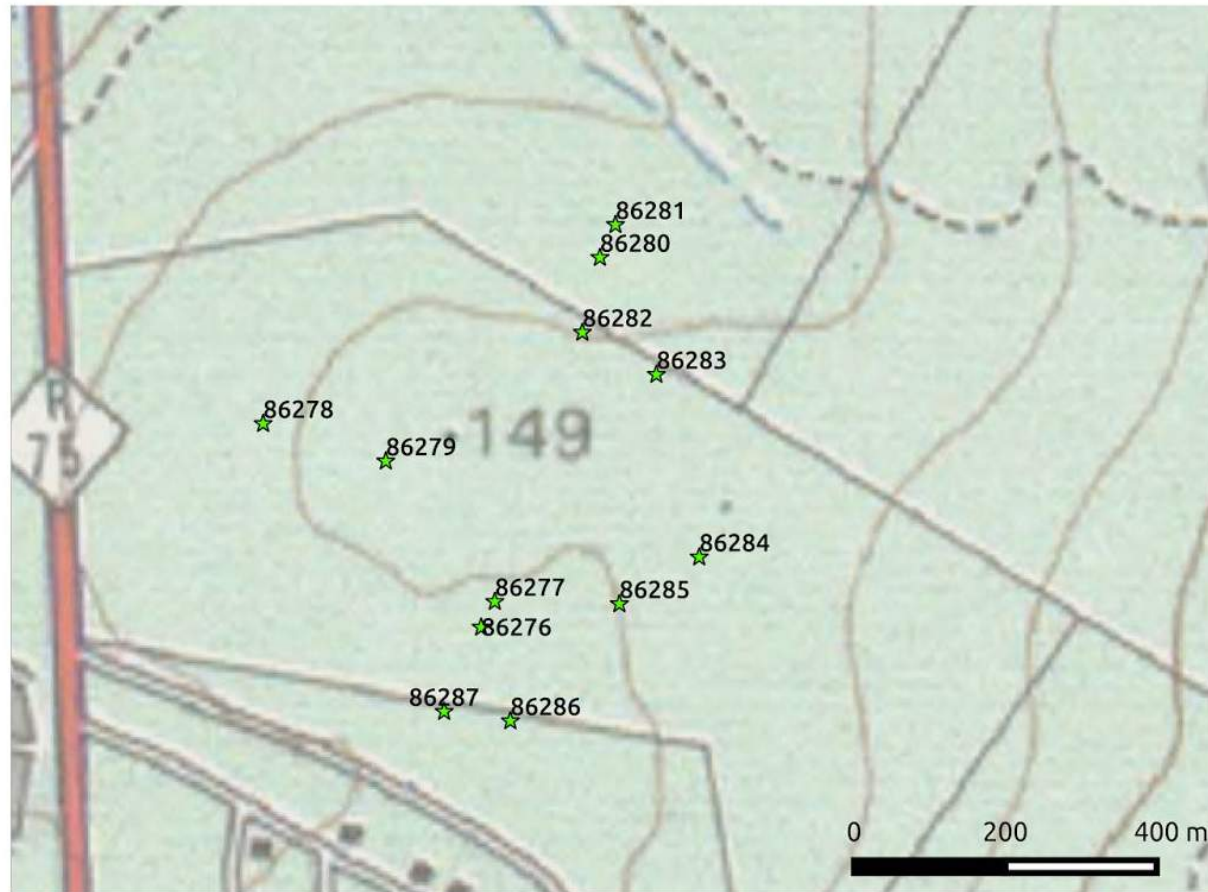


Figure 4c. Heritage sites inset map, with SAHRIS site IDs indicated.

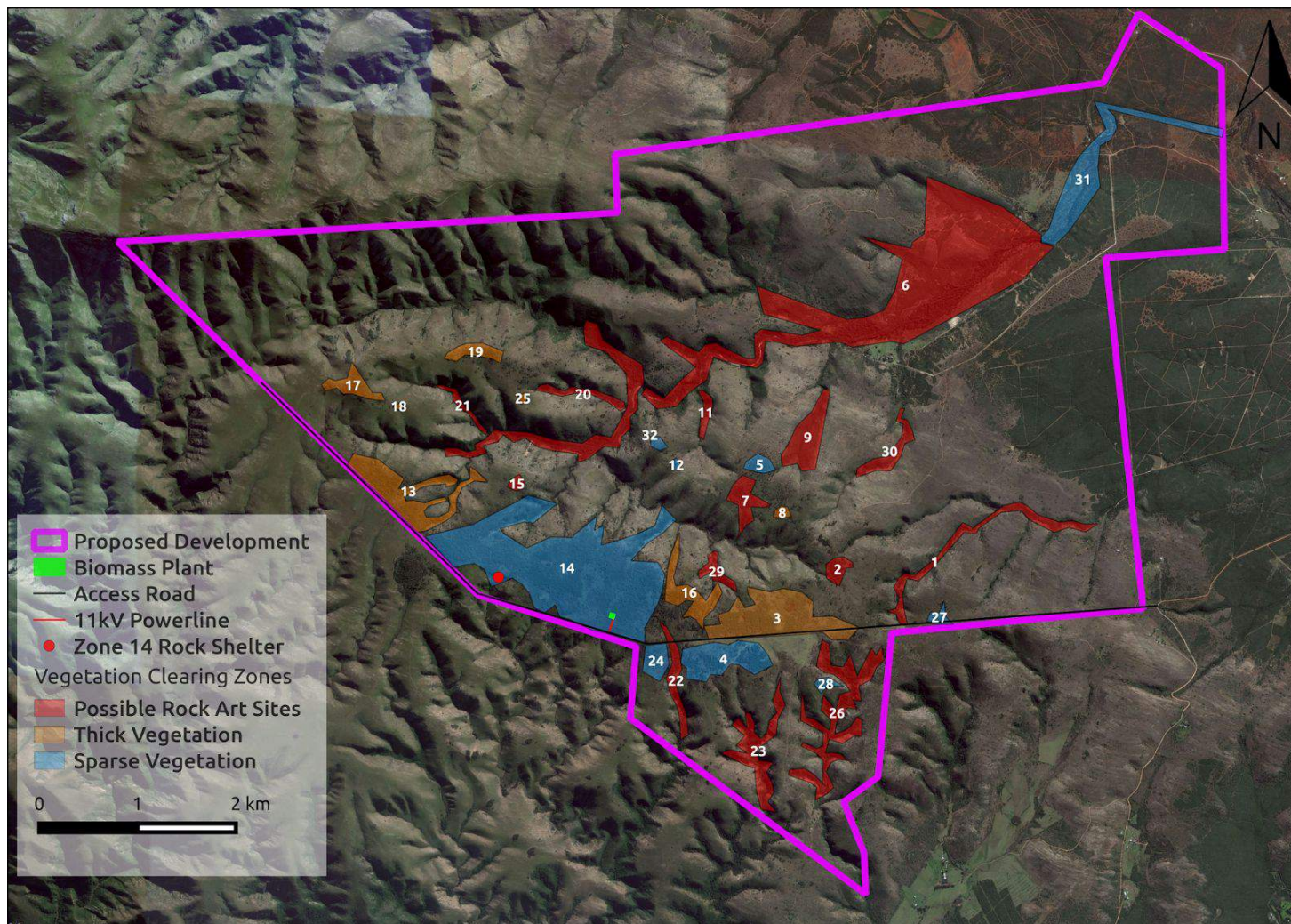


Figure 5. Potential Survey map, with zone numbers and broad level of vegetation cover indicated.

8. Heritage statement and character of the area

Working for Water is proposing to build a biomass gasification plant in an undeveloped area of the Winterhoek mountains, 80km north of Port Elizabeth. Of the 46km² identified for the development, only 7.5km² will be impacted upon by alien vegetation (black wattle) clearing activities. This area is further divided into 32 zones as shown in Figure 1c.

No heritage impact assessments have previously been undertaken within the area earmarked for development, however, there are eight heritage impact assessments within the 10km inclusion zone surrounding the proposed development. Webley (2008) identified twelve archaeological sites, all of low significance. Most of these sites are Stone Age scatters mostly consisting of non diagnostic artefacts. Very little information from the Albany Museum's Department of Archaeology have yet been made available on SAHRIS, but, given the topography of the area and its geological setting, it is expected that a number of rock art sites may be located in shelters and boulders along the riverbanks. These sites are generally considered to be of high significance and must be avoided during the construction and operation phases of the proposed development.

As the currently available information is limited and the area may have sites of high heritage significance, it is recommended that a **Phase 1 Archaeological Impact Assessment** be undertaken. The archaeologist conducting the site survey will need to be an expert in the Stone Age archaeology and rock art of the area. Mitigation may be necessary for Stone Age sites of significance identified during the survey. For rock art sites, vegetation clearing can normally be carried out in a way which requires minimal mitigation such as cordoning off the immediate area surrounding a rock art site. These kinds of measures should be included in the Environmental Management Plan.

It is expected that **thick vegetation** will hamper the archaeological surveys in Zones **3, 8, 13, 16, 17, 18, 19** and **25**. Shelters with **rock art** are likely to occur along the riverbanks and kloofs of Zones **1, 2, 6, 7, 9, 10, 11, 15, 20, 21, 22, 23, 26, 29** and **30**. A 220m wide shelter is present in Zone 14 at 33 40 08.33S 25 21 01.07E. It is recommended that the archaeologist assess this shelter for the possible presence of rock art and/or deposit. The **vegetation** in Zones **4, 5, 12, 14, 24, 27, 28, 31** and **32** is relatively sparse compared to the remaining zones and it is therefore recommended that the archaeologist commences the survey in clearer zones to record a representative sample of the heritage resources which are likely to extend into areas with thicker vegetation cover.

Structures are located near Zone 31 but no impact is anticipated on any of these structures. **A specific built environment component of the Heritage Impact Assessment is not recommended.** The archaeologist will be required to document any historical structures encountered during the survey.

The area is underlain by some formations of unknown palaeontological sensitivity containing high-level terrace gravel, silcrete and ferricrete (Zones 3 and 4). Moderately sensitive areas (Goudini Formation) are found in Zones 6 and 31 while low palaeontological sensitivity (Skurweberg Formation) occurs in Zone 6. Very high sensitivity (Kirkwood Formation) in Zones 6 and 31 and high sensitivity (Peninsula Formation) occur in all the remaining zones. While the palaeosensitivity map on SAHRIS shows the Peninsula Formation as having high palaeontological significance, the Palaeotechnical reports (Almond, de Klerk & Gess, 2009) issued by SAHRA in 2009 and the Heritage Layer Browser on SAHRIS assign a low significance to this formation. As the proposed development only involves the clearing of alien vegetation and will not require any excavation down to bedrock in sensitive palaeontological formations, **it is recommended that no Palaeontological Impact Assessment be undertaken.**



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APPENDIX 1 - Site List

Site ID	Site no	Full Site Name	Site Type	Grading	Declaration Status
27343	9/2/095/0005	Muir College Boys' Primary School, Park Avenue, Uitenhage	Building	Grade II	Provincial Heritage Site
27344	9/2/095/0006	Old Magistrate's Court, Caledon Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27339	9/2/095/0007	Scheepers House, 11/13 Cuyler Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27340	9/2/095/0008	34 Cuyler Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27341	9/2/095/0010	Site of Anglo-Boer War Concentration Camp, Uitenhage	Place	Grade II	Provincial Heritage Site
27336	9/2/095/0014	Blenheim House, 4 Baird Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27346	9/2/095/0004	Dutch Reformed Church Hall, 112 Caledon Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27342	9/2/095/0011	Old Drostdy, 50 Caledon Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27334	9/2/095/0012	Town Hall, 25 Market Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27335	9/2/095/0013	Old Railway Station, Market Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27337	9/2/095/0015	23 Cuyler Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27338	9/2/095/0016	21 Cuyler Street, Uitenhage	Building	Grade II	Provincial Heritage Site
27330	9/2/095/0017	Cuyler Manor, Uitenhage District	Building	Grade II	Provincial Heritage Site
27345	9/2/095/0002-304	Park Centre, 17 Upper Church Street, Uitenhage	Building	Grade IIIa	Heritage Register
43606	KOE-03	Koedoeskloof 03	Building	Grade IIIb	NA
86276	WINT001	WINTERHOEK 001	Artefacts	Grade IIIc	NA
86277	WINT002	WINTERHOEK 002	Artefacts	Grade IIIc	NA
86278	WINT003	WINTERHOEK 003	Archaeological	Grade IIIc	NA
86279	WINT004	WINTERHOEK 004	Artefacts	Grade IIIc	NA
86280	WINT005	WINTERHOEK 005	Artefacts	Grade IIIc	NA
86281	WINT006	WINTERHOEK 006	Archaeological	Grade IIIc	NA
86282	WINT007	WINTERHOEK 007	Artefacts	Grade IIIc	NA
86283	WINT008	WINTERHOEK 008	Artefacts	Grade IIIc	NA
86284	WINT009	WINTERHOEK 009	Artefacts	Grade IIIc	NA
86285	WINT010	WINTERHOEK 010	Artefacts	Grade IIIc	NA
86286	WINT011	WINTERHOEK 011	Artefacts	Grade IIIc	NA
86287	WINT012	WINTERHOEK 012	Artefacts	Grade IIIc	NA

APPENDIX 2 - Reference List

Nid	Author/s	Date	Report Type	Title
6805	van Schalkwyk, L. and E. Wahl	01/09/2007	HIA	Heritage Impact Assessment of Gamma Grassridge Power Line Corridors and Substation, Eastern, Western and Northern Cape Provinces, South Africa
7105	van Ryneveld, K.	02/12/2010	AIA	Development of the Koedoeskloof Landfill Site, Uitenhage, Eastern Cape, South Africa
8377	Webley, L.	01/08/2008	HIA	Heritage Impact Assessment for the Farm 294 Amanzi Estate, Portion 4 of the Farm 296 Amanzi Mooi Water, Erf 296 Portion 3 of Rietheuveld and Erf 296 Rietheuveld, in the Nelson Mandela Bay Municipality, Eastern Cape
8538	Webley, L.	18/10/2006	HIA	Heritage Impact Assessment for Proposed Housing Development at Winterhoek Park, Uitenhage
8840	Gess, R.	01/08/2008	PIA	Palaeontological Heritage Study for Amanzi Estates
49462	van Ryneveld, K.	06/04/2012	AIA	Utilization Of Existing Gravel Borrow Pits, Cacadu District, Eastern Cape, South Africa (sic)
174009	Binneman, J.	30/06/2014	AIA	Letter of recommendation (with conditions) for the exemption of a full Phase 1 Archaeological Heritage Impact Assessment for the proposed Sace ranger photovoltaic (solar) plant near Uitenhage, Eastern Cape Province
278563	van Ryneveld, K.	17/06/2012	AIA	Letter of Recommendation for Exemption from a Heritage Impact Assessment - Extension to the Existing Volkswagen Body Shop project, Volkswagen Plant, Uitenhage, Nelson Mandela Bay Municipality, Eastern Cape
108744	Almond, J., de Klerk, B. and Gess, R.	01/03/2009	Palaeotechnical report	Palaeontological Heritage of the Eastern Cape



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APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (Kwa-Zulu Natal)
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDETEA	Department of Economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
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.

Sites identified and mapped during research projects will also be considered.

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.**