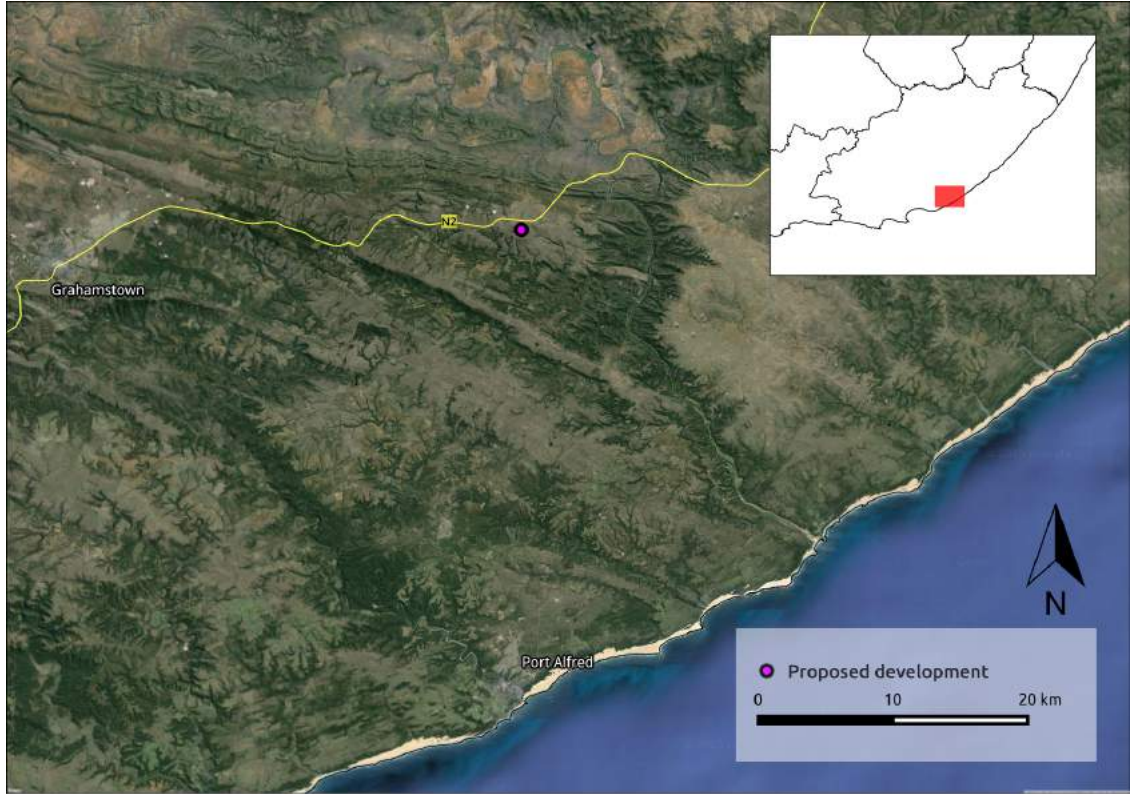




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## HERITAGE SCREENER

CTS Reference Number:	CTS16_007
Client:	Terreco Environmental
Date:	04 February 2016
Title:	Hempel Quarry, Grahamstown
	
<b>Figure 1a.</b> Satellite image with proposed development area indicated in the Eastern Cape province.	
Recommendation by CTS Heritage Specialists: <b>(Type 2)</b>	<b>(2) The heritage resources and the area proposed for development are only partially recorded - It is recommended that:</b> <ul style="list-style-type: none"><li>- an Archaeological Impact Assessment be conducted</li><li>- monitoring by the ECO should be undertaken for excavations in the 0.1ha of the Witpoort Formation and a chance fossil finds procedure should be included in the Environmental Management Plan.</li></ul>



## 1. Proposed Development Summary

Terreco Environmental are assessing a site proposed for quarrying in the Grahamstown area of the Eastern Cape Province.

## 2. Application References

Name of relevant heritage authority(s)	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)
Name of decision making authority(s)	Department of Mineral Resources (DMR)

## 3. Property Information

Farm Name and Number	Farm 604
Local Municipality	Makana
District Municipality	Cacadu
Previous Magisterial District	Albany
Province	Eastern Cape
Current Use	Agricultural
Current Zoning	Agricultural
Total Extent	0.9ha

## 4. Nature of the Proposed Development

Surface area to be affected/destroyed	0.9ha
Depth of excavation (m)	Unknown



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Height of development (m)	NA
Expected years of operation before decommission	NA

## 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 <sup>2</sup> in extent	X
b) involving three or more existing erven or subdivisions thereof	
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 <sup>2</sup>	
5. Other (state):	

## 6. Additional Infrastructure Required for this Development

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

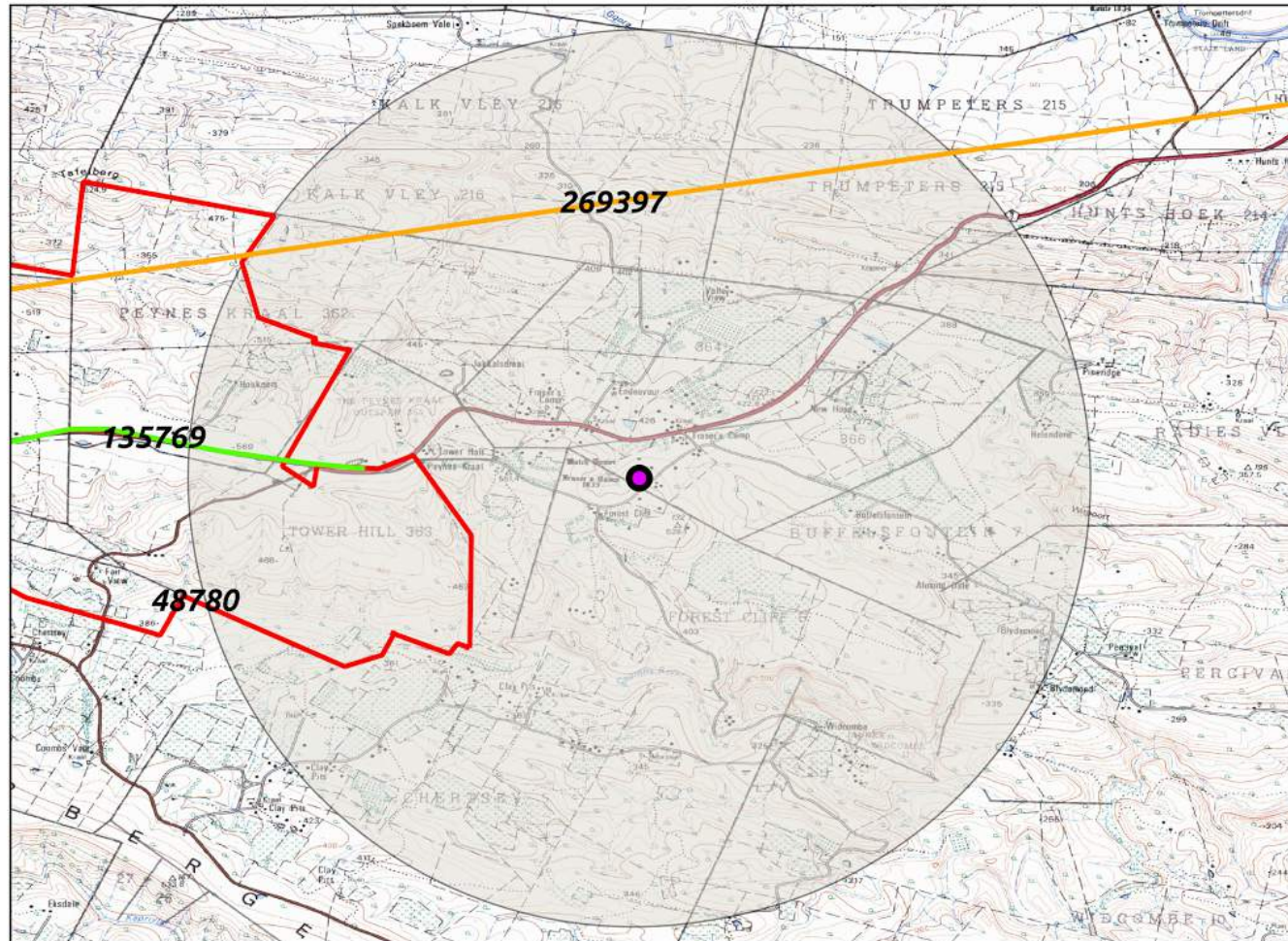


**Figure 1b. Overview Map.** Satellite image with proposed development indicated.





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### Legend

● Proposed development

■ Inclusion zone 5km

#### Line surveys

— High coverage

— Medium coverage

— Low coverage

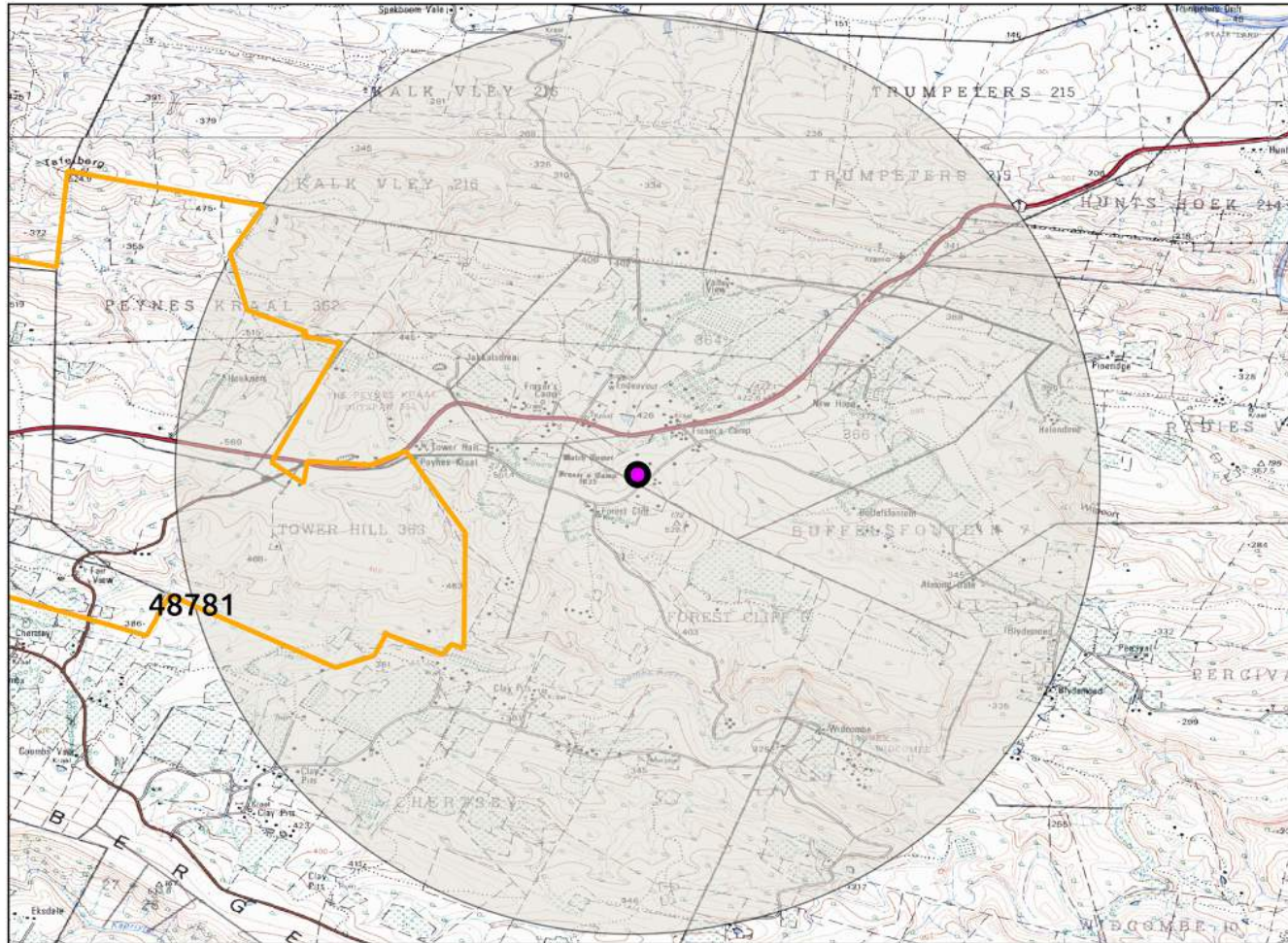


**Figure 2a. HIAs Map.** Previous Heritage Impact Assessments done in and near the proposed development area (PIAs excluded) with SAHRIS NID labels indicated.






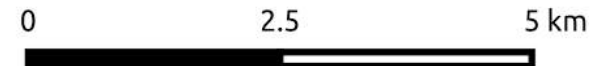


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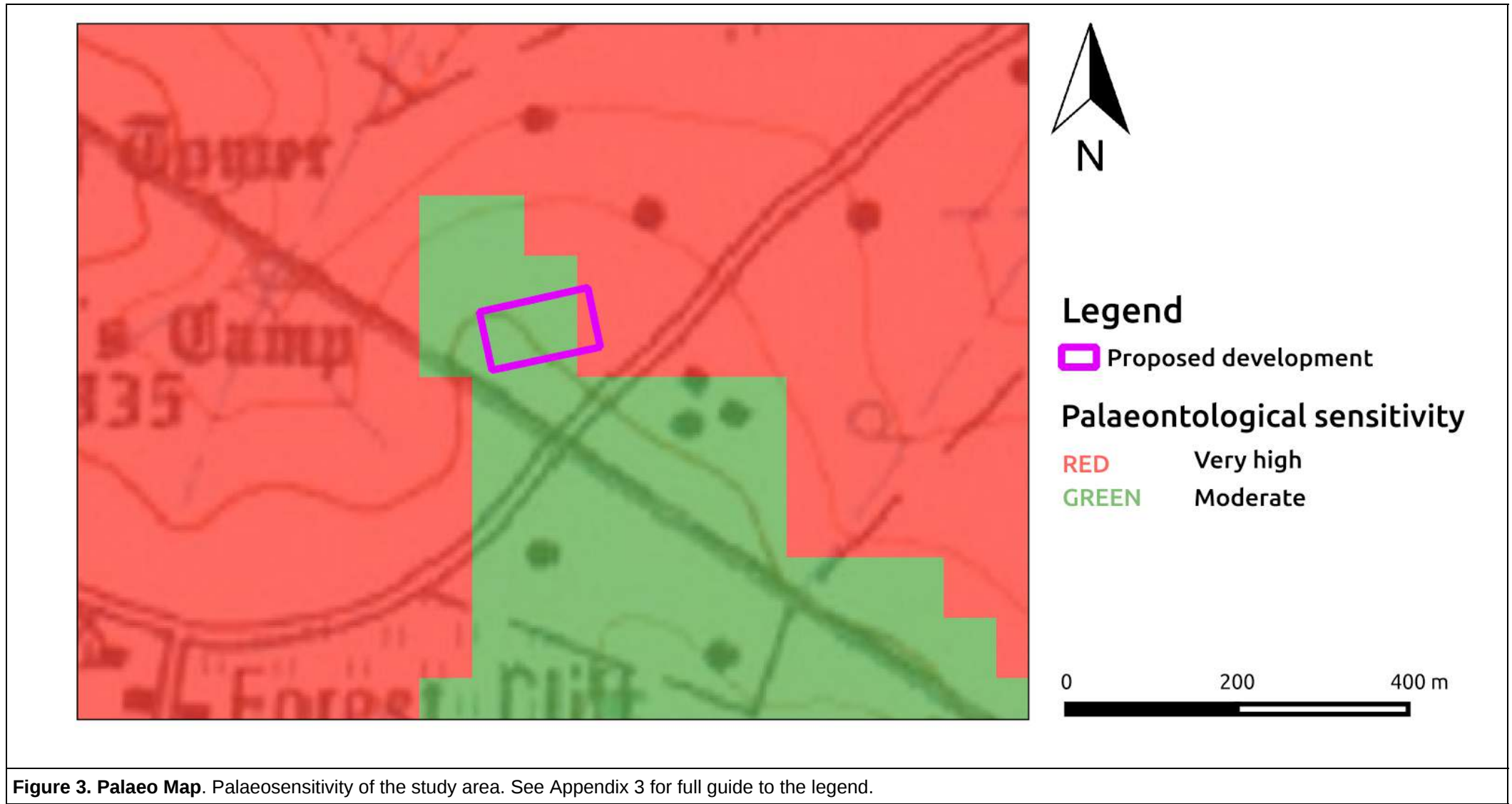


### Legend

-  Proposed development
-  Inclusion zone 5km
- Line surveys**
-  Medium coverage



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

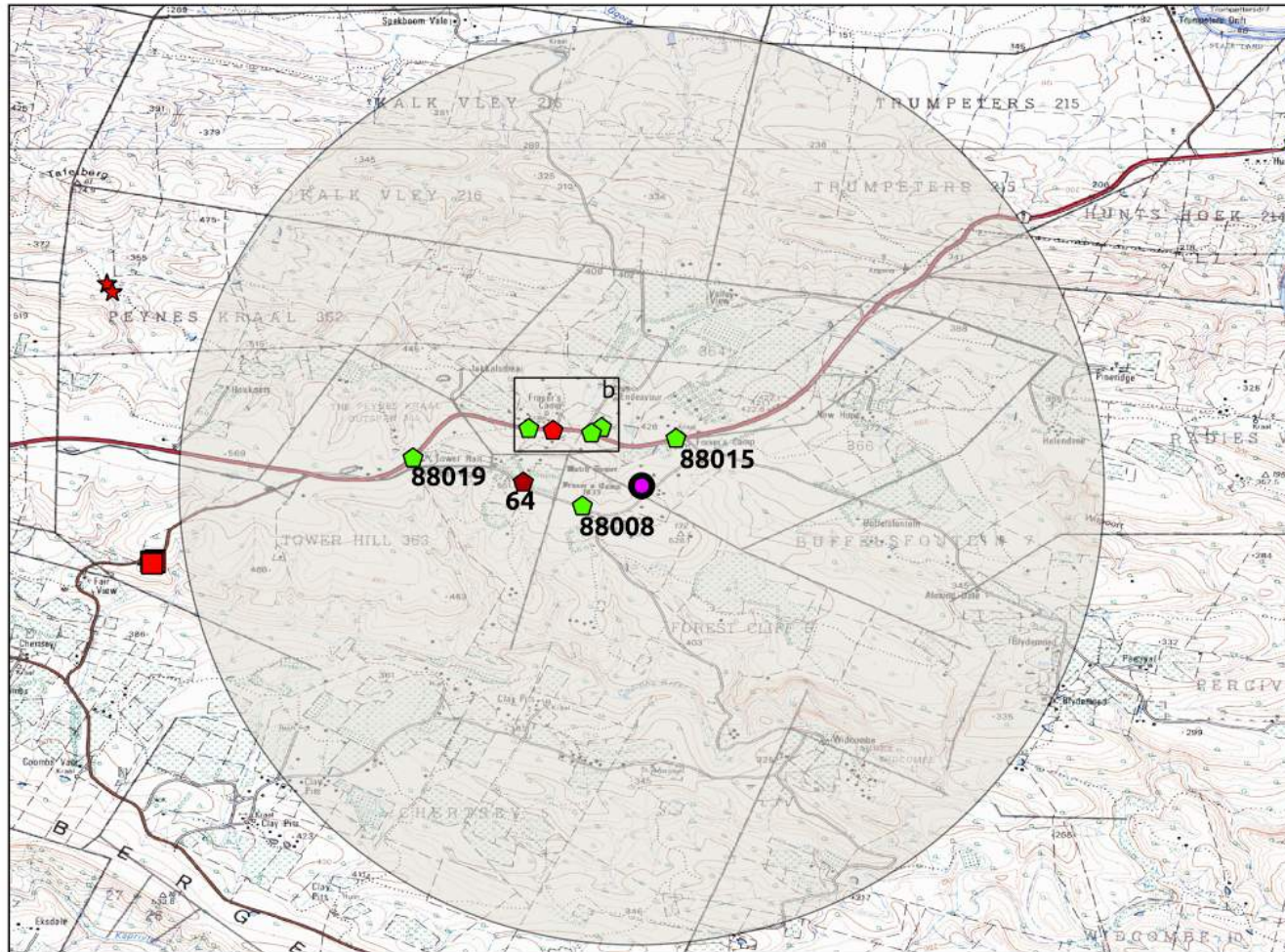


**Figure 3. Palaeo Map.** Palaeosensitivity of the study area. See Appendix 3 for full guide to the legend.





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## Legend

- Proposed development
- Inclusion Zone 5km

## 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 |

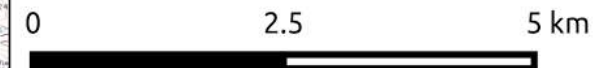


Figure 4a. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS Site IDs indicated (see figure 4b for inset).





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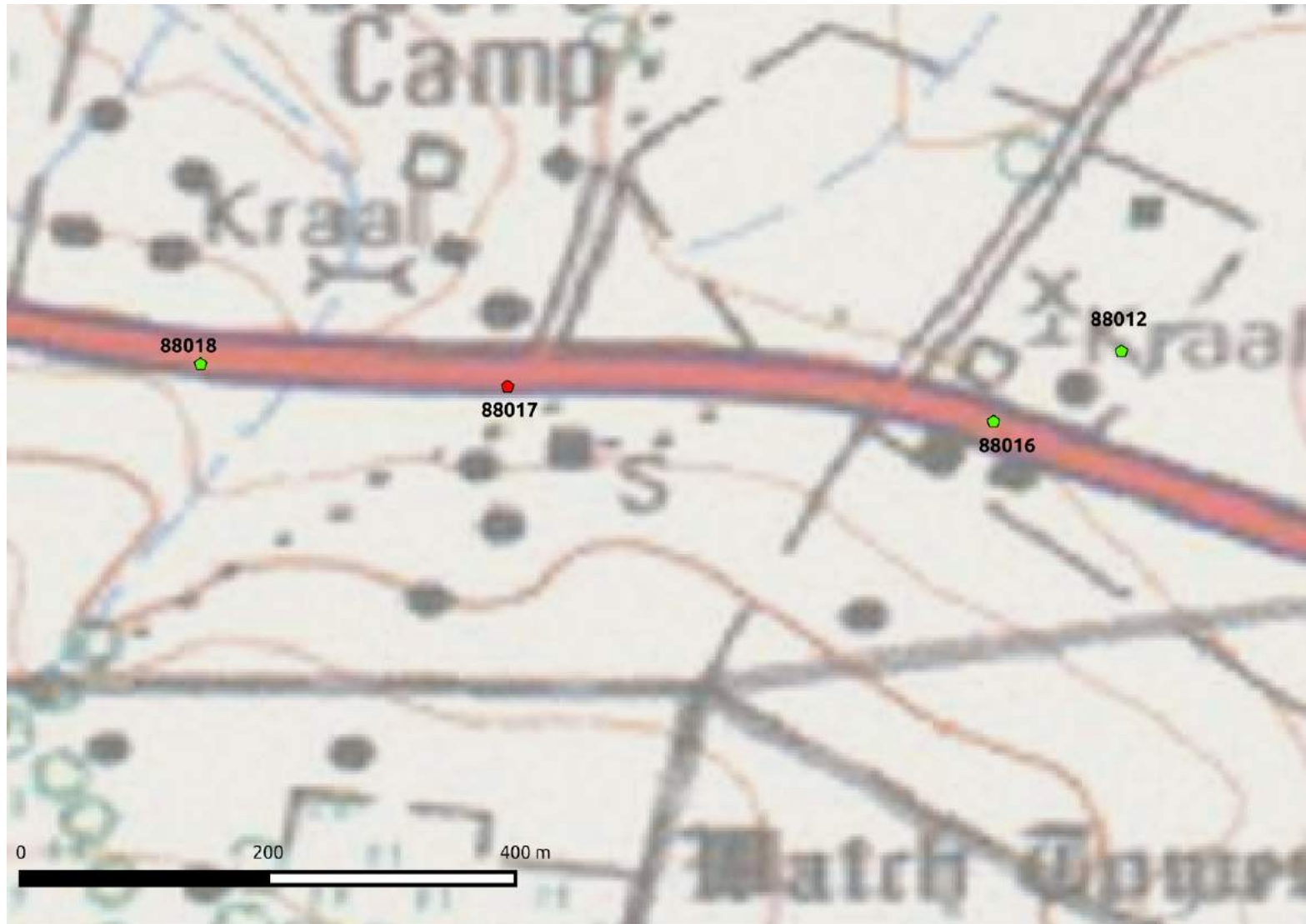


Figure 4b. Inset map.

## 8. Heritage statement and character of the area

Terreco Environmental is undertaking the assessment of a quarry site near Grahamstown in the Eastern Cape Province.

CTS assessed the proposed development area within an inclusion zone of 5km. A total of two Heritage Impact Assessments (HIAs) and one Palaeontological Impact Assessment (PIA) have been conducted in this area. During these assessments, eight heritage resources were recorded, however none of these falls within the development area itself, only in the surrounding inclusion zone. All of these sites are structures in the valley around the proposed quarry, and the majority lie along the N2 highway. There is one Grade II Provincial Heritage Site (Fraser's Camp Signal Tower - SiteID 64) recorded approximately 1.2km west of the proposed quarry, which will not be impacted by the development. The remaining sites are all structures of low local significance, and also will not be impacted by the proposed quarry.

Considering the proximity of the proposed quarry to a small river north-west of it, and a series of high ridges to the south-west, it is possible that archaeological material could be located within the proposed area of development. No impact assessments have been carried out in the immediate vicinity of the proposed development area, and this, in conjunction with the relatively unknown landscape just described, could result in archaeological material being impacted. The farm house ~150m south of the proposed quarry may be of heritage significance too. The proposed area is capped by silcretes of the Grahamstown Formation, which are of moderate fossil sensitivity. Gess (2011) mentions in his Palaeontological Impact Assessment (PIA) that several pre-colonial sites were recorded that have evidence of lithic manufacture of these silcretes. It is thus highly likely that, near to the river and mountain ridges, Stone Age people would have exploited these silcretes for tool production. **It is therefore recommended that an Archaeological Impact Assessment (AIA) be conducted before the development goes ahead.**

The palaeontological formations that the proposed area falls in includes 0.1ha of the highly sensitive Witpoort Formation of quartzitic sandstone and subordinate mudrock which is of very high fossil significance, and is capped in part by silcretes of the Grahamstown Formation, which Gess (2011) proclaimed has no fossil material in the area that he surveyed. In his assessment Gess states that, although the formation is of high fossil significance, the specific quartzite ridges assessed "...were not, at surface, found to be significantly fossiliferous." (Gess 2011, 15). However, given that this is a quarry site and will be excavated deep into the ground, the "(p)otentially important interbedded black shales within the quartzites..." (Gess 2011, 15), which are bedded deeper than the surface, may result in fossiliferous material being impacted. **It is therefore recommended that monitoring by the ECO should be undertaken for the 0.1ha excavation in the Witpoort Formation and a chance fossil finds procedure should be included in the Environmental Management Plan.**





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## APPENDIX 1 - Site Lists

### List of sites within 5km inclusion zone and outside proposed development area

Site ID	Site no	Full Site Name	Site Type	Grading
64	9/2/003/0054	Fraser's Camp Signal Tower, Albany District	Building	Grade II
88008	GRAHA010	GRAHAMSTOWN 010	Structures	Grade IIIc
88012	GRAHA014	GRAHAMSTOWN 014	Structures	Grade IIIc
88015	GRAHA016	GRAHAMSTOWN 016	Structures	Grade IIIc
88016	GRAHA017	GRAHAMSTOWN 017	Structures	Grade IIIc
88017	GRAHA018	GRAHAMSTOWN 018	Structures	Grade IIIc
88018	GRAHA019	GRAHAMSTOWN 019	Structures	Grade IIIc
88019	GRAHA020	GRAHAMSTOWN 020	Structures	Grade IIIc



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## APPENDIX 2 - Reference List

Nid	Author/s	Date	Report Type	Title
269397	Celeste Booth	2/3/2015	AIA	FibreCo Repeater Sites Routes 3 and 4_Heritage_2015 AIA report
135769	Celeste Booth	1/9/2013	AIA	A Phase 1 Archaeological Impact Assessment (AIA) For The Proposed N2 National Route (N2-13) Between Grahamstown And The Fish River Bridge As Well As Six Borrow Pits And Three Quarries, Eastern Cape Province.
48780	Peter Nilssen	15/11/2011	AIA	Scoping Archaeological Impact Assessment - Proposed development of the Plan 8 Grahamstown Wind Energy Project: including Farms Gilead 361, Peynes Kraal 362 and Tower Hill 363, Grahamstown, Makana Municipality, Eastern Cape Province
48781	Robert Gess	1/12/2011	PIA	Palaeontological Heritage Impact assessment for a proposed 80MW Windfarm, 30km east of Grahamstown.











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## APPENDIX 3 - Keys/Guides

### Key/Guide to Acronyms

<b>AIA</b>	Archaeological Impact Assessment
<b>DEA</b>	Department of Environmental Affairs
<b>HIA</b>	Heritage Impact Assessment
<b>LEDET</b>	Department of Economic Development, Environment and Tourism (Limpopo)
<b>MPRDA</b>	Mineral and Petroleum Resources Development Act, no 28 of 2002
<b>NEMA</b>	National Environmental Management Act, no 107 of 1998
<b>NHRA</b>	National Heritage Resources Act, no 25 of 1999
<b>PIA</b>	Palaeontological Impact Assessment
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SAHRIS</b>	South African Heritage Resources Information System
<b>VIA</b>	Visual Impact Assessment

### Full guide to Palaeosensitivity Map legend

	<b>RED:</b>	VERY HIGH - field assessment and protocol for finds is required
	<b>ORANGE/YELLOW:</b>	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	<b>GREEN:</b>	MODERATE - desktop study is required
	<b>BLUE/PURPLE:</b>	LOW - no palaeontological studies are required however a protocol for chance finds is required
	<b>GREY:</b>	INSIGNIFICANT/ZERO - no palaeontological studies are required
	<b>WHITE/CLEAR:</b>	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 PALAEOONTOLOGICAL 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.**