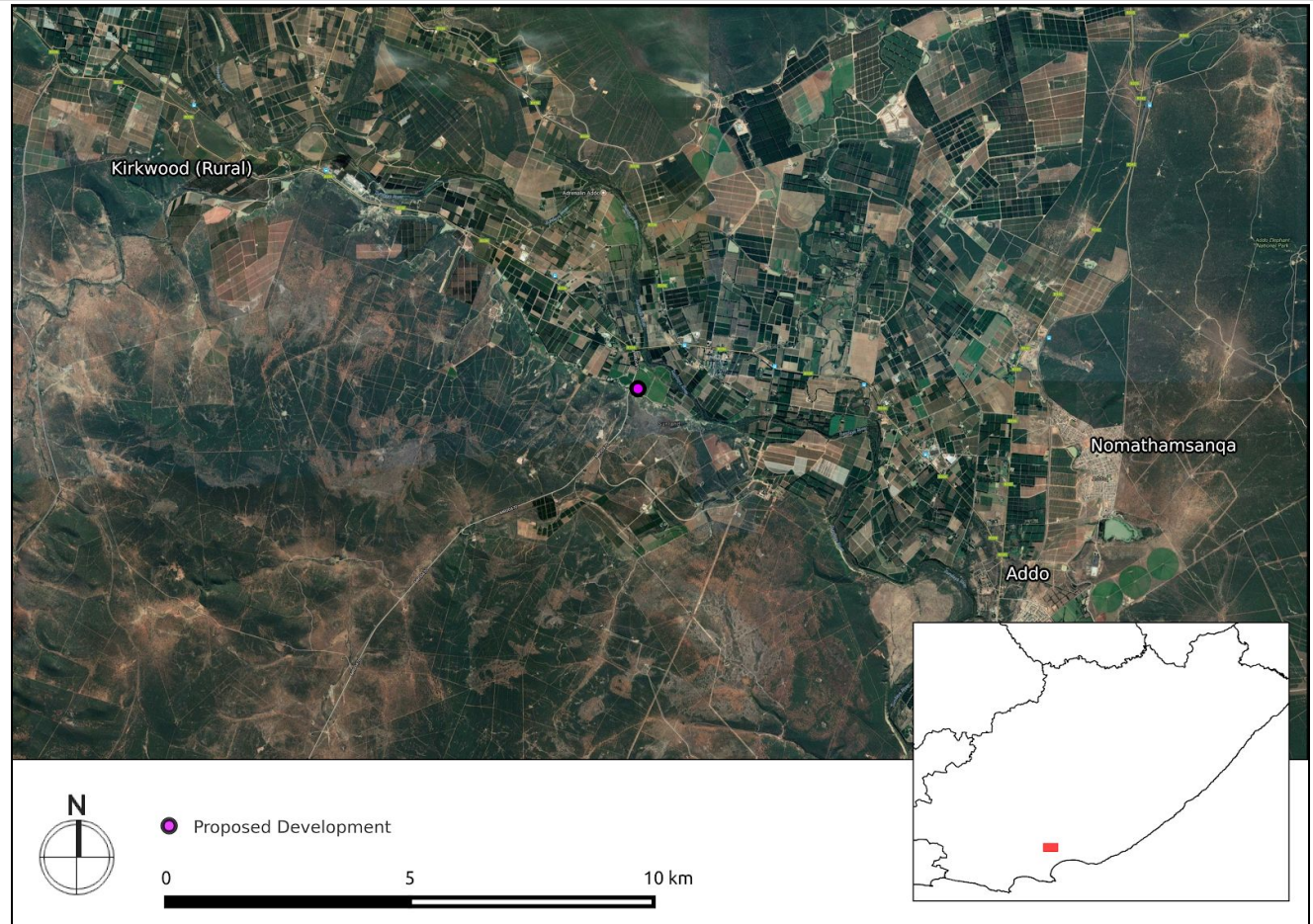




CTS HERITAGE

# HERITAGE SCREENER

CTS Reference Number:	<b>CTS18_204</b>
SAHRA Ref:	<b>13067</b>
Client:	<b>Public Process Consultants</b>
Date:	<b>19 October 2018</b>
Title:	<b>Proposed clearing and excavating of a portion of the pastures and demolition of the existing farm dam to accommodate the expansion of the existing farm dam on Farm 682, Sunday's River Valley</b>



**Figure 1a.** Satellite map indicating the location of the proposed development in the Eastern Cape Province

Recommendation by  
CTS Heritage  
Specialists

**RECOMMENDATION:**

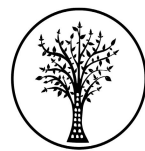
**The heritage resources in the area proposed for development are sufficiently recorded.**

**Due to the location and nature of the proposed development, it is unlikely that significant archaeological resources will be impacted by the proposed dam expansion, however it is likely that significant palaeontological resource may be impacted and as such, it is recommended that a site visit by a palaeontologist take place during the construction phase of the project to inspect fresh bedrock for significant fossil material. This requirement must form part of the EMP for the project.**

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## 1. Proposed Development Summary

This application is for the clearing and excavating of a portion of the pastures and demolition of the existing farm dam to accommodate the expansion of the existing farm dam on Farm 682, Sunday's River Valley. As part of the expansion of the dam the existing pumphouse will be demolished and rebuilt adjacent to the proposed new northern dam wall. The existing Eskom infrastructure, located near the existing northern dam wall, will be utilised to supply electricity to the relocated pumping infrastructure. The existing powerpoint has sufficient capacity to enable the pumping requirements for the expanded dam and is not required to be upgraded.

## 2. Application References

<b>Name of relevant heritage authority(s)</b>	ECPHRA
<b>Name of decision making authority(s)</b>	Department of Economic Development, Environmental Affairs and Tourism - Sarah Baartman Region

## 3. Property Information

<b>Latitude / Longitude</b>	33°30'36.92"S 25°36'35.13"E
<b>Erf number / Farm number</b>	Farm 682
<b>Local Municipality</b>	Sunday's River Valley
<b>District Municipality</b>	Cacadu
<b>Previous Magisterial District</b>	Kirkwood
<b>Province</b>	Eastern cape
<b>Current Use</b>	Existing pastures (e.g. lucerne/ kikuyu grass)
<b>Current Zoning</b>	Agriculture
<b>Total Extent</b>	51.8424ha

## 4. Nature of the Proposed Development

<b>Total Surface Area</b>	2.98ha
<b>Depth of excavation (m)</b>	Approximately 5m
<b>Height of development (m)</b>	Dam wall height of 6m
<b>Expected years of operation before decommission</b>	NA

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## 5. Category of Development

x	<b>Triggers: Section 38(8) of the National Heritage Resources Act</b>
	<b>Triggers: Section 38(1) of the National Heritage Resources Act</b>
	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
	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):

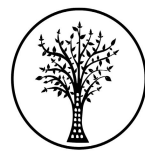
## 6. Additional Infrastructure Required for this Development

Demolition and reconstruction of the pump house adjacent to the northern corner of the new dam wall; Installation of irrigation pipes of varying diameters.

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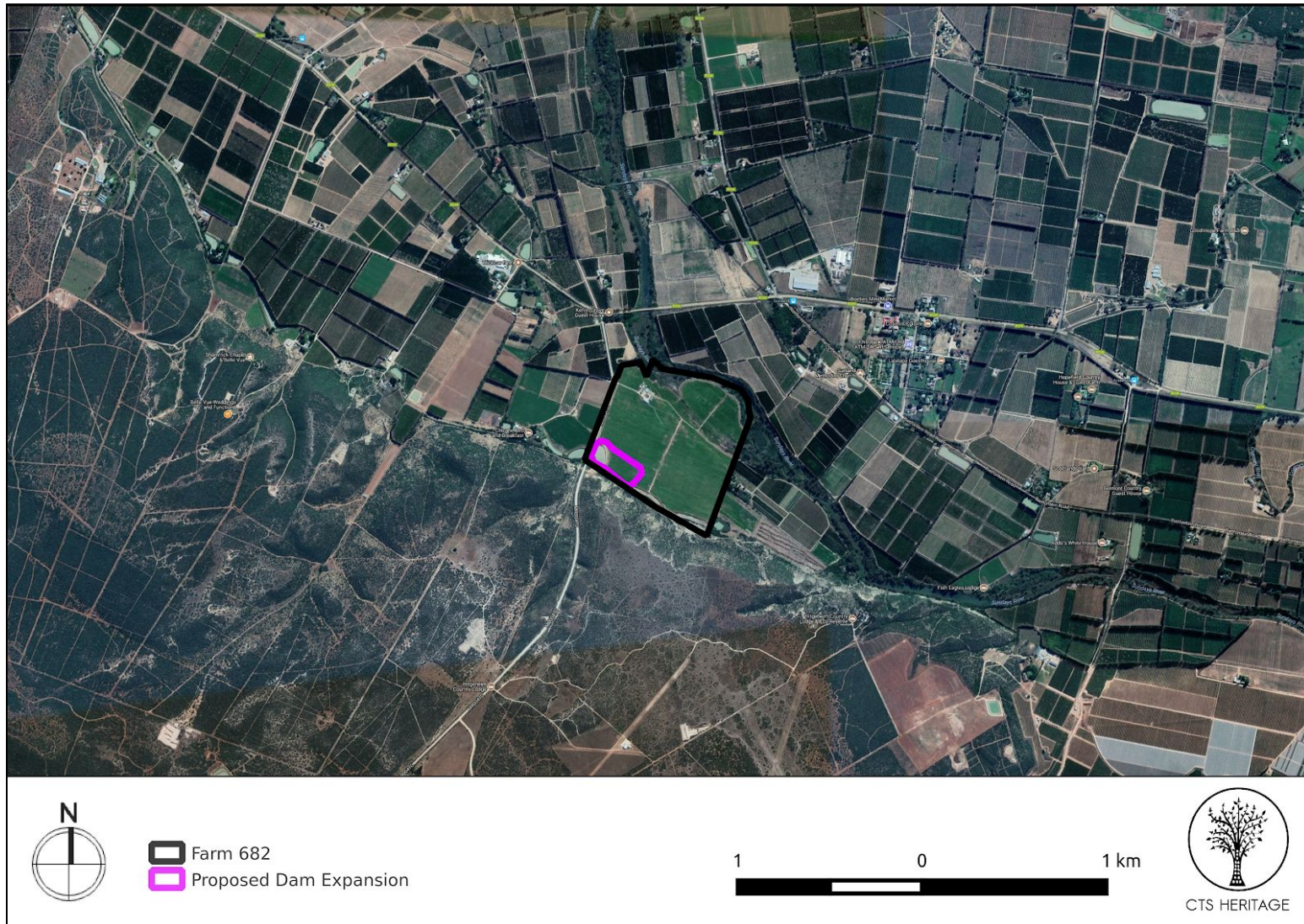
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## 7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)



**Figure 1b. Overview Map.** Satellite image (2017) indicating the proposed development area at closer range.



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 Farm 682  
 Proposed Dam Expansion

100 0 100 m



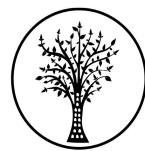
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**Figure 1c. Overview Map.** Satellite image (2017) indicating the proposed development area at closer range.

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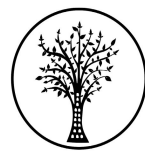


**Figure 1d. Overview Map.** Satellite image (2017) indicating the proposed development area at closer range.

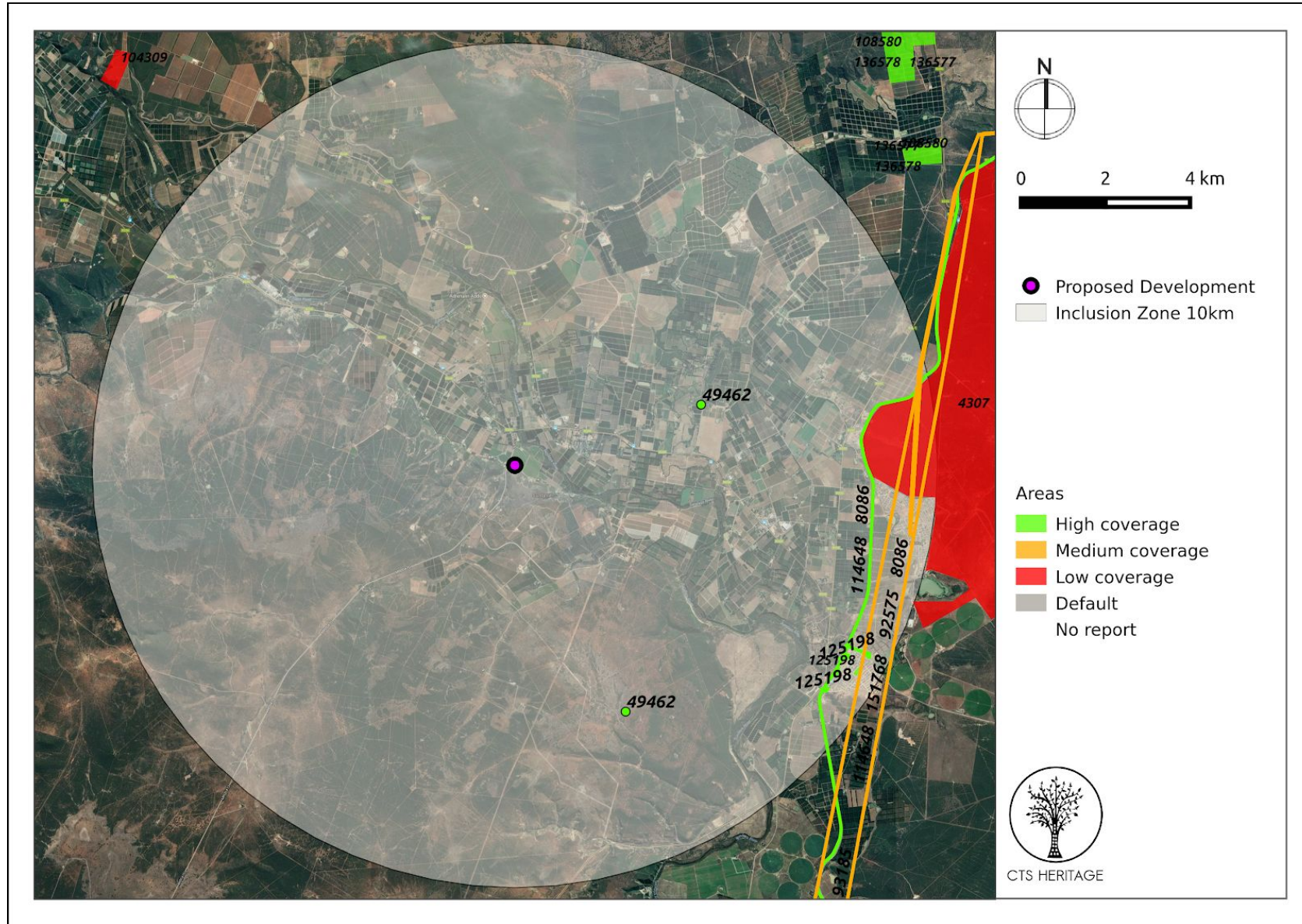
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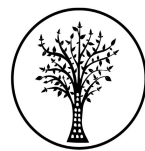
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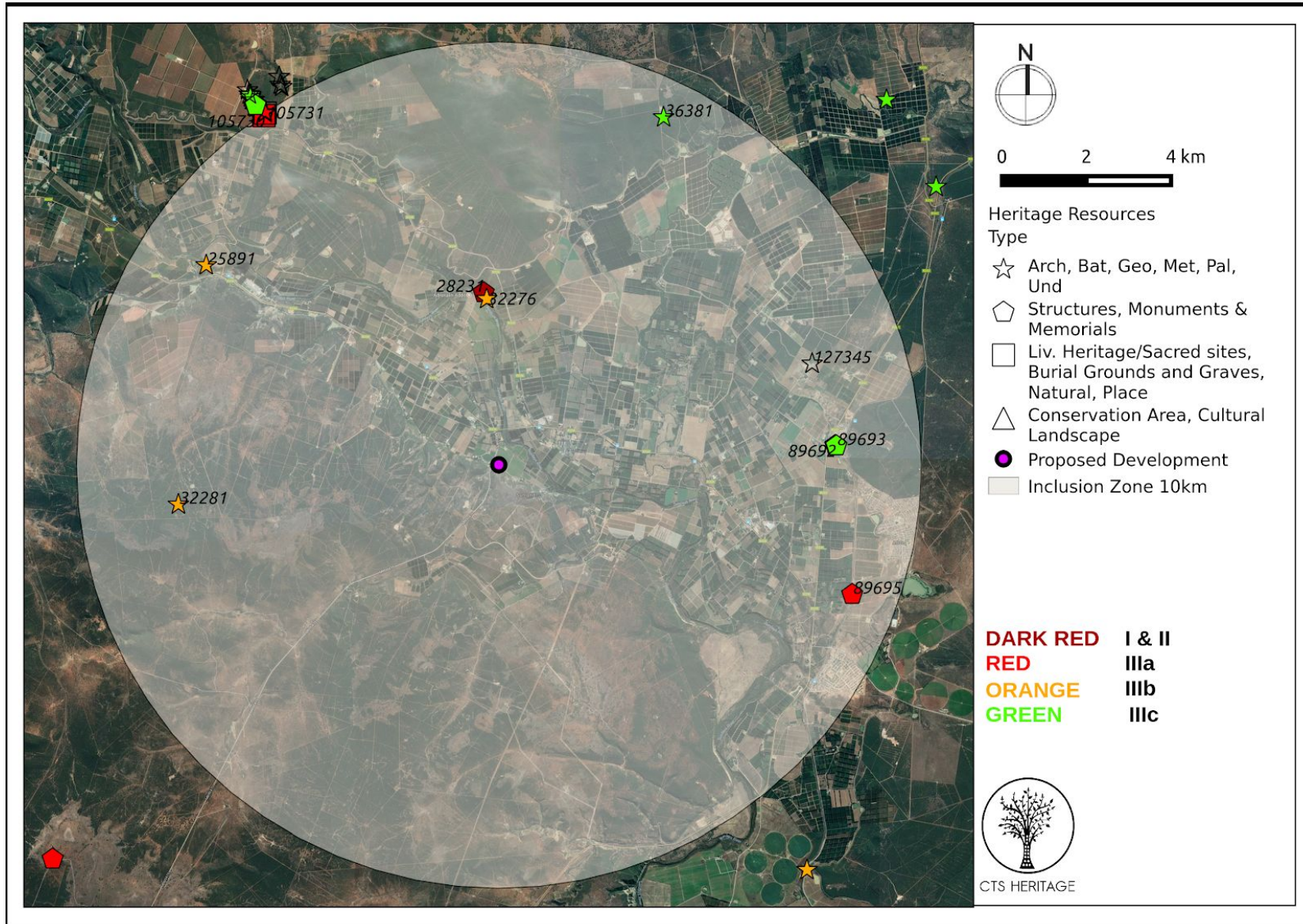
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**Figure 2. Previous HIAs Map.** Previous Heritage Impact Assessments surrounding the proposed development area within 5km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.



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**Figure 3. Heritage Resources Map.** Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

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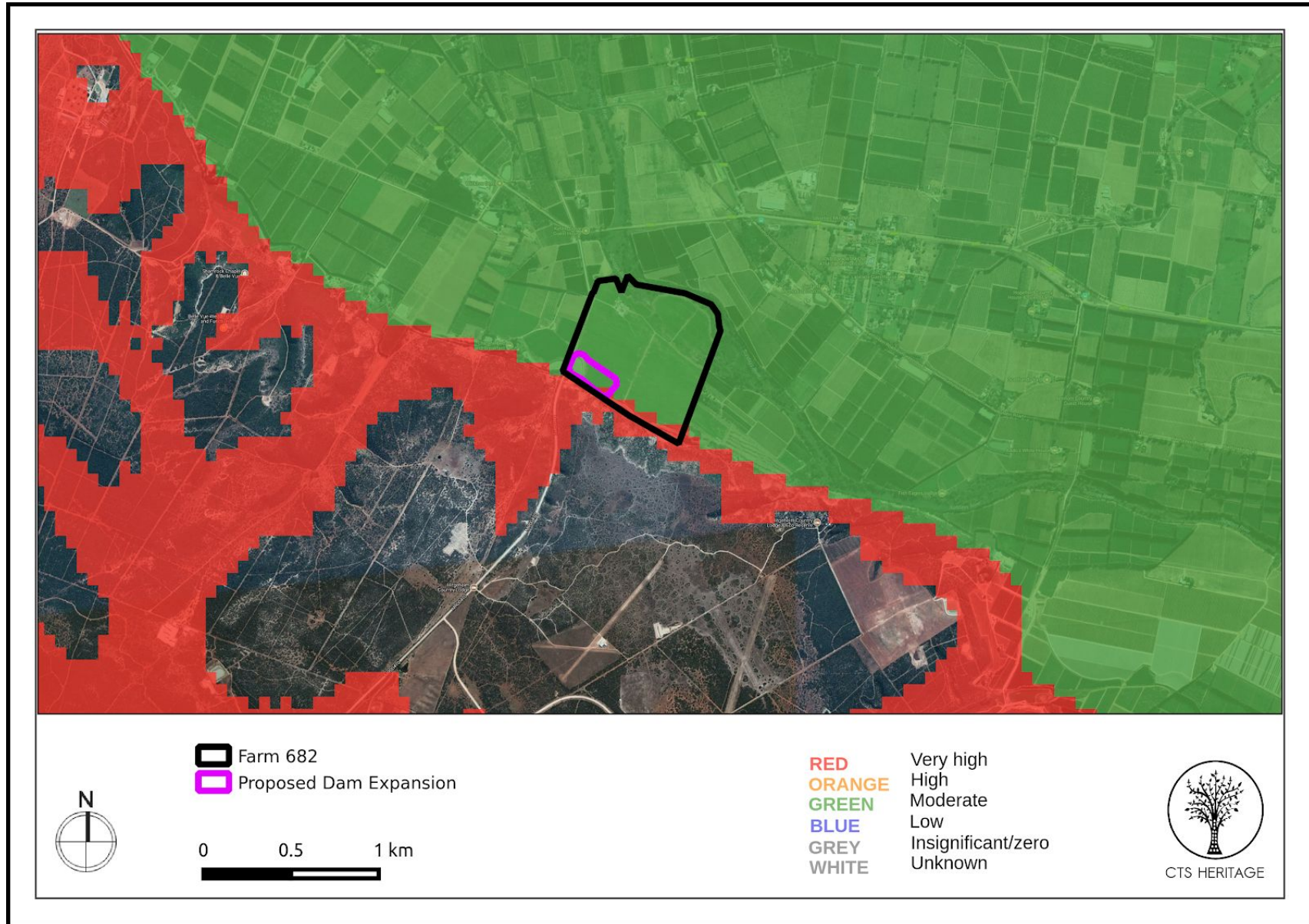
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**Figure 4. Palaeosensitivity Map.** Indicating varied fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

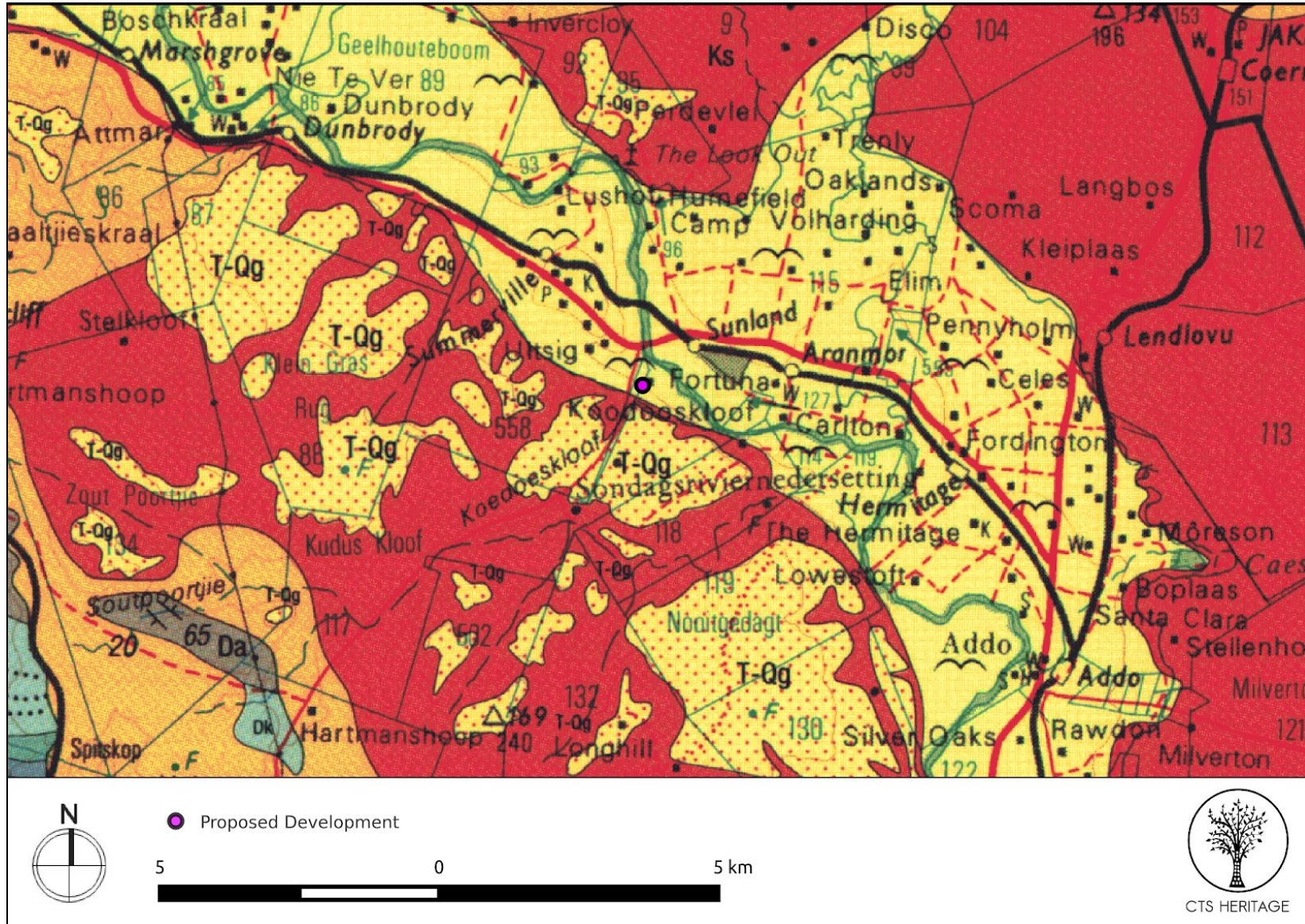
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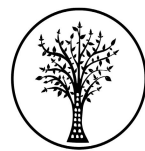


**Figure 5. Geology Map.** Indicating the geology underlying the study area. Extract from CGS Map Tile 3324 Port Elizabeth (T-Qg/Bird wings: Quaternary Sands and alluvial deposits, Ks: Sundays' River Formation (in red))

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## 8. Heritage statement and character of the area

This application is for the clearing and excavating of a portion of the pastures and demolition of the existing farm dam to accommodate the expansion of the existing farm dam on Farm 682, Sunday's River Valley in between Kirkwood and Addo. As part of the expansion of the dam the existing pumphouse will be demolished and rebuilt adjacent to the proposed new northern dam wall. The existing Eskom infrastructure, located near the existing northern dam wall, will be utilised to supply electricity to the relocated pumping infrastructure. The existing powerpoint has sufficient capacity to enable the pumping requirements for the expanded dam and is not required to be upgraded.

As a source of freshwater, the Sundays River valley has likely been occupied continuously throughout history. According to Webley (2003 SAHRIS NID 4307), Early and Middle Stone Age scatters are found along the banks of the Sundays River. These scatters are found immediately below the topsoil, at a depth of no more than 30cm and appear to have been deposited through river action, and as such, are not *in situ*. The artefacts identified consist of flaked quartzite cobbles with cortex and quartzite flakes. Very few diagnostic flakes were identified. In her assessment of number of borrow pits, van Ryneveld (2012, SAHRIS NID 49462) did not identify any archaeological resources within the two borrow pits located near the proposed development area. According to Gaigher (2013 SAHRIS NID 125198), "Excavations at sites such as Melkhoutboom and Vygeboom (inside Addo Park) have uncovered graves with rich grave goods indicating a complex belief system. The rock art too indicates the San occupants took part in trance before painting... Many of the shell middens in the Addo Park contain pottery, confirming the presence of the Khoekhoen in the area." According to Gaigher (2013), "The majority of hunter-gatherer groups had been pushed out of the Zuurberg by the 1820's and was forced to move further inland to escape European settlement on their lands." The area proposed for the dam extension is currently utilised for the cultivation of lucerne and fodder. Based on the distance of the proposed dam expansion from the banks of the Sundays River, as well as the previously disturbed nature of the area, it is unlikely that the proposed development will impact on significance archaeological resources.

The area proposed for the dam expansion is underlain by alluvial deposits of moderate palaeontological sensitivity according to the SAHRIS Palaeosensitivity Map (Figure 4 and 5). The low sensitivity alluvial deposits overlay sediments of the Sundays River Formation of very high palaeontological sensitivity (Figure 4 and 5). According to the SAHRIS Fossil Heritage Browser, the Sundays River Formation is dated to the early Cretaceous and is known to contain rich marine invertebrate fauna (molluscs, echinoderms *etc*), vertebrates (eg plesiosaurs), microfossils (foraminiferans, ostracods) and trace fossils of high palaeontological significance. In addition, it is likely that the proposed excavation for the dam extension may intersect with the significant Sundays River Formation. While a pre-construction site visit is unlikely to identify any palaeontology, it is recommended that a site visit by a palaeontologist take place during the construction phase of the project to inspect fresh bedrock for significant fossil material.

### RECOMMENDATION:

**The heritage resources in the area proposed for development are sufficiently recorded.**

**Due to the location and nature of the proposed development, it is unlikely that significant archaeological resources will be impacted by the proposed dam expansion, however it is likely that significant palaeontological resource may be impacted and as such, it is recommended that a site visit by a palaeontologist take place during the construction phase of the project to inspect fresh bedrock for significant fossil material. This requirement must form part of the EMP for the project.**

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## APPENDIX 1

### List of heritage resources within the 10km Inclusion Zone

Site ID	Site no	Full Site Name	Site Type	Grading
25891	Attmar	Attmar Farm	Palaeontological	Grade IIIb
32281	Atmar-001	Atmar	Archaeological	Grade IIIb
36381	WIL005	Willowmore 005	Artefacts	Grade IIIc
28231	9/2/051/0003	The Look Out, Kirkwood District	Building	Grade II
32276	Look-out -001	Kirkwood District	Archaeological	Grade IIIb
127345	Langbos Citrus	Langbos Citrus Dam site	Palaeontological	
105728	Sms014	Sylvania	Archaeological, Artefacts	Ungraded
105730	Sms020	Sylvania graveyard	Burial Grounds & Graves	Grade IIIa
105731	Sms015	Sylvania potential palaeosol.	Palaeontological, Natural	Ungraded
105738	Sms016	Sylvania	Artefacts, Archaeological	Ungraded
89692	LGBW004	Langbos Bulk Water Supply Services 004	Building	Grade IIIc
89693	LGBW005	Langbos Bulk Water Supply Services 005	Building	Grade IIIc
89695	LGBW007	Langbos Bulk Water Supply Services 007	Monuments & Memorials	Grade IIIa

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## APPENDIX 2 Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
125198	HIA	Stephan Gaigher	01/07/2013	HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED UPGRADING OF STORMWATER INFRASTRUCTURE IN VALENCIA, ADDO, SUNDAYS RIVER VALLEY MUNICIPALITY, EASTERN CAPE PROVINCE
4307	AIA	Lita Webley	11/06/2003	Addo Elephant National Park: Upgrading of Existing Tourist Road Network and Construction of Southern Access Road near Colchester - Phase 1 Archaeological Impact Assessment
49462	AIA	Karen Van Ryneveld	06/04/2012	Utilization Of Existing Gravel Borrow Pits, Cacadu District, Eastern Cape, South Africa
92575	HIA	Elize Becker	10/10/2012	Phase 1 Heritage Impact Assessment Kimberley to De Aar
114648	PIA	John E Almond	01/09/2012	Palaeontological specialist assessment: desktop study PROPOSED 16 MTPA EXPANSION OF TRANSNET'S EXISTING MANGANESE ORE EXPORT RAILWAY LINE & ASSOCIATED INFRASTRUCTURE BETWEEN HOTAZEL AND THE PORT OF NGQURA, NORTHERN & EASTERN CAPE.
129751	HIA	Elize Becker	20/02/2013	Phase 1 Heritage Impact Assessment Hotazel to Kimberley and De Aar to Port of Ngqura
151768	PIA	John E Almond	01/11/2013	Palaeontological specialist assessment: combined desktop and field-based study: PROPOSED 16 MTPA EXPANSION OF TRANSNET'S EXISTING MANGANESE ORE EXPORT RAILWAY LINE & ASSOCIATED INFRASTRUCTURE BETWEEN HOTAZEL AND THE PORT OF NGQURA, NORTHERN & EASTERN
93185	HIA	Elize Becker	01/11/2012	Phase 1 Heritage Impact Assessment Hotazel to Kimberley and De Aar to Port Ngqura
8086	AIA	Johan Nel	14/11/2008	Final Report Heritage Resources Scoping Survey & Preliminary Assessment Transnet Freight Line EIA, Eastern Cape and Northern Cape

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## APPENDIX 3 - Keys/Guides

### Key/Guide to Acronyms

<b>AIA</b>	Archaeological Impact Assessment
<b>DARD</b>	Department of Agriculture and Rural Development (KwaZulu-Natal)
<b>DEA</b>	Department of Environmental Affairs (National)
<b>DEADP</b>	Department of Environmental Affairs and Development Planning (Western Cape)
<b>DEDEAT</b>	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
<b>DEDECT</b>	Department of Economic Development, Environment, Conservation and Tourism (North West)
<b>DEDT</b>	Department of Economic Development and Tourism (Mpumalanga)
<b>DEDTEA</b>	Department of economic Development, Tourism and Environmental Affairs (Free State)
<b>DENC</b>	Department of Environment and Nature Conservation (Northern Cape)
<b>DMR</b>	Department of Mineral Resources (National)
<b>GDARD</b>	Gauteng Department of Agriculture and Rural Development (Gauteng)
<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.

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## 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 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.

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**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

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- 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.**

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