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HERITAGE SCREENER

CTS Reference Number:	**CTS17_094**
Client:	**Sue Lane Associates**
Date:	**15 August 2017**
Title:	**INSTALLATION OF HF RADAR ON THE SOUTH COAST OF RSA: OUWERF.**

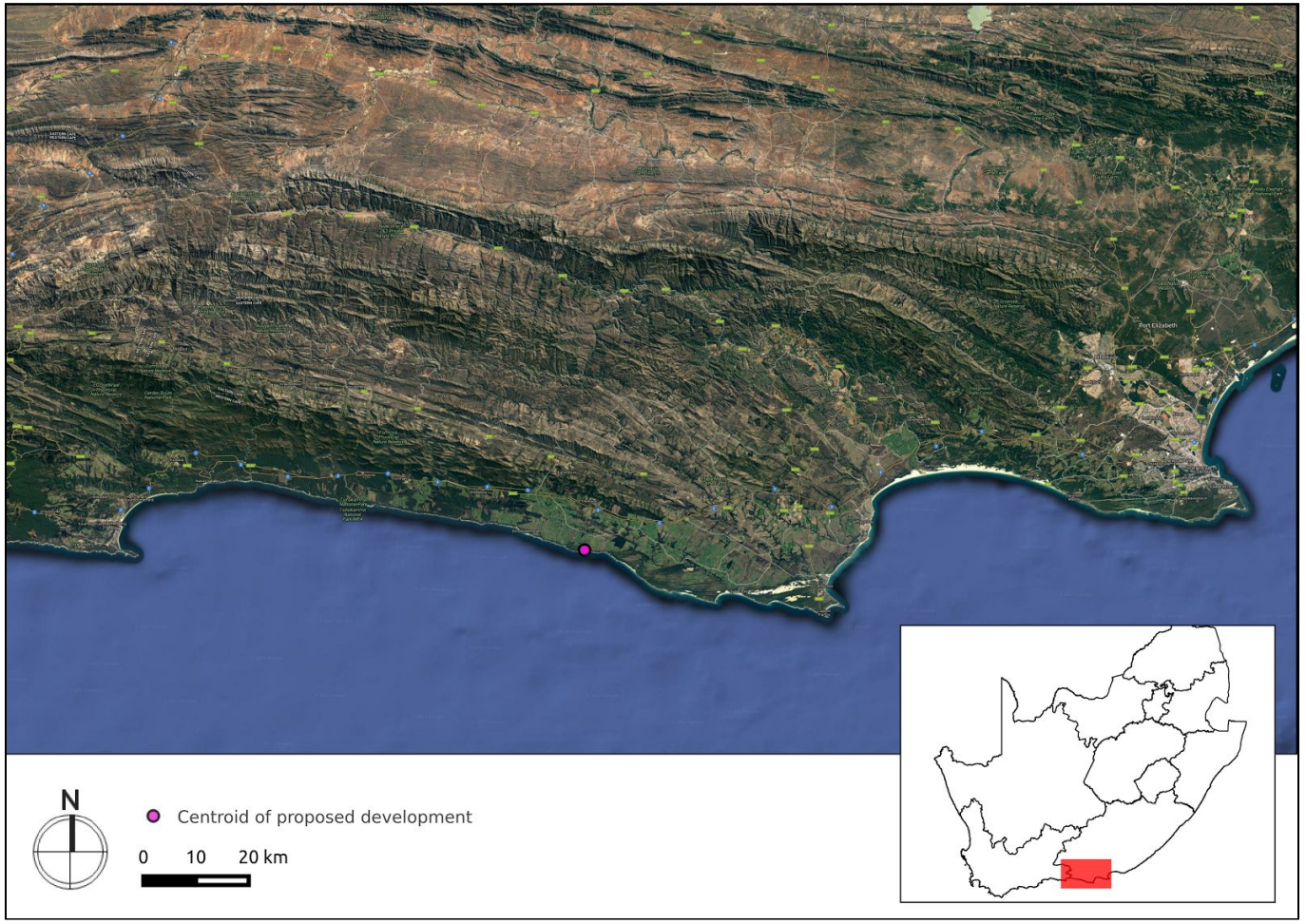

Figure 1a. Satellite map indicating the location of the proposed development in the Eastern Cape Province

Recommendation	**Type 1**: It is recommended that due to the limited scale and nature of the proposed installation, no further heritage studies are required.

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1. Proposed Development Summary

Lwandle Technologies (Pty) Ltd (Lwandle) in technical partnership with Actimar Operational Oceanography (Actimar) plan to provide near real time, remotely sensed, environmental data on sea surface current and wave conditions to the South African coastal and maritime sectors.

The area of Ouwerf where the HF radar system will be installed, comprising 14 slim-line antennae, 1 container/workstation, connecting cables and 1 solar panel, will be towards the southern/coastal edge of the grazing land on the farm. The precise location of individual components is to be confirmed with radar specialists on site and agreed with the landowner before installation.

2. Application References

Name of relevant heritage authority(s)	Eastern Cape Provincial Heritage Resources Authority
Name of decision making authority(s)	NA

3. Property Information

Latitude / Longitude	34° 5'57.73"S 24°20'7.14"E
Erf number / Farm number	Klipdrift Oost 349
Local Municipality	Kou-Kamma Municipality
District Municipality	Cacadu
Previous Magisterial District	Humansdorp
Province	Eastern Cape
Current Use	Agricultural
Current Zoning	Agricultural
Total Extent	NA

4. Nature of the Proposed Development

Total Surface Area	Approximately 1 km
Depth of excavation (m)	<1m
Height of development (m)	5.5m

Expected years of operation before decommissior	1 year

5. Category of Development

Triggers: Section 38(8) of the National Heritage Resources Act	
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	
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^2	
5. Other (state):	

6. Additional Infrastructure Required for this Development

This radar site will require:

- vehicle access for installation, monthly checking and then eventual uninstalling;
- a container either 2.4 m or 6 m long x 2.4 m wide x 2.4 m high, to house the computer for storing the data collected, and ~10 batteries for storing solar power
- ~60 m2 of solar panels, to supply approximately 17.28 kWh/day of power
- electrical and antenna cables, in protective black plastic tubes laid on the ground surface, or buried if required for protection against trampling by cattle; radar signals transmitted at 5.25 MHz frequency which is an extremely low/ non-invasive electromagnetic force used by oceanographic research vessels;
- 4 transmission (TX) antennae, and 12 reception antennae (RX), with supporting poles, reaching 5.5 m high. This height is lower than a telephone transmission pole, and about half the height of the majority of wooden poles used for power transmission lines. For technical reasons the bases of the 12 RX antennae need to be at the same height off the ground and thus follow the topography, but for good transmission the tops of the 4 TX antennae need to be at the same elevation so their length would differ to compensate for any differences in ground level;
- the antennae will be placed approximately 28 m apart, and
- protective wooden fencing around antennae where necessary.

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 locations of the proposed radar installation.

Figure 2a. HIAs map. Previous Heritage Impact Assessments (excluding PIAs) surrounding the proposed development area within 20kms, with SAHRIS NIDS indicated (please see Appendix 2 for full reference list).

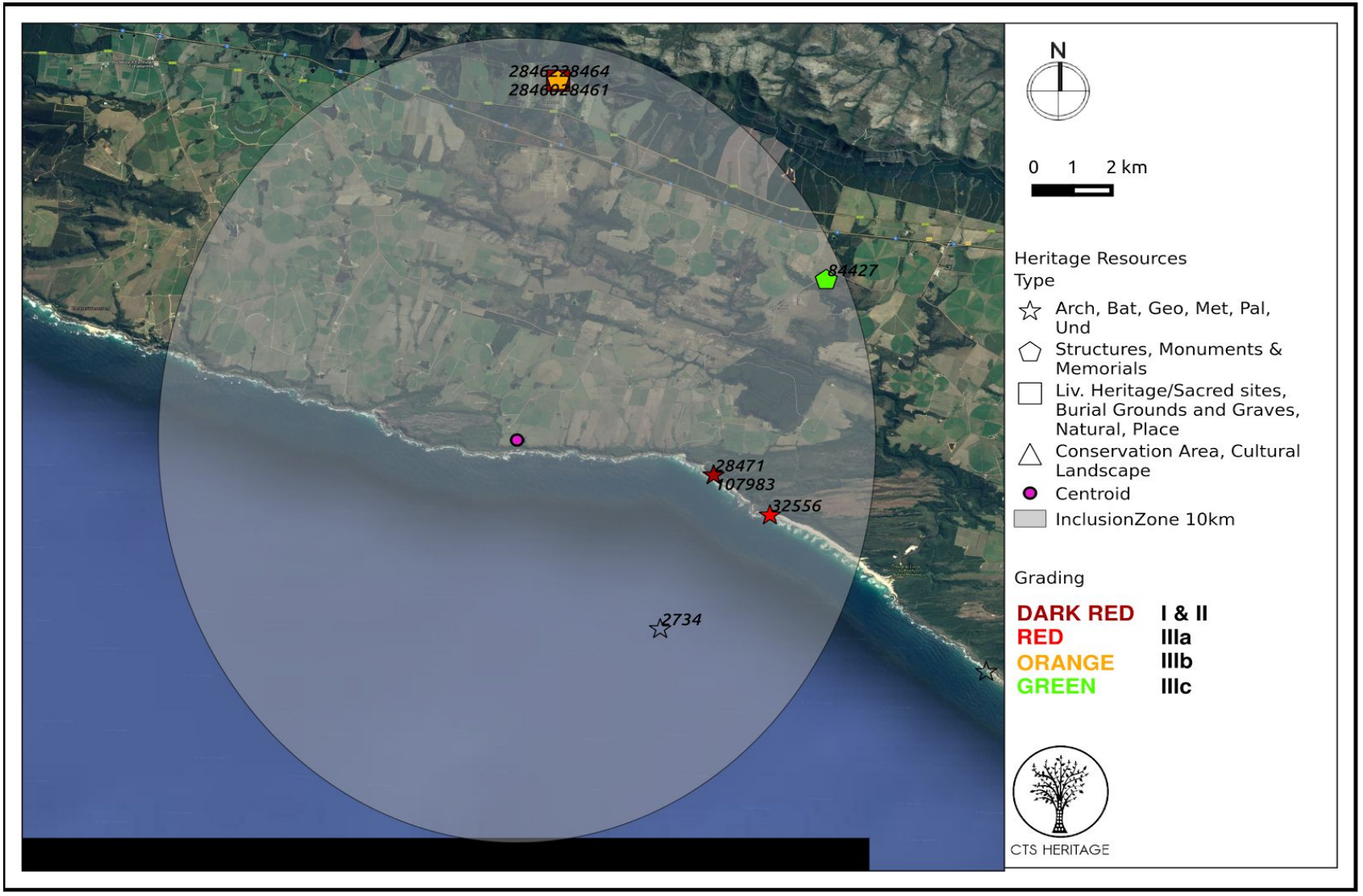

Figure 3a. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS Site IDs indicated. See Appendix 4 for full description of heritage resource types.

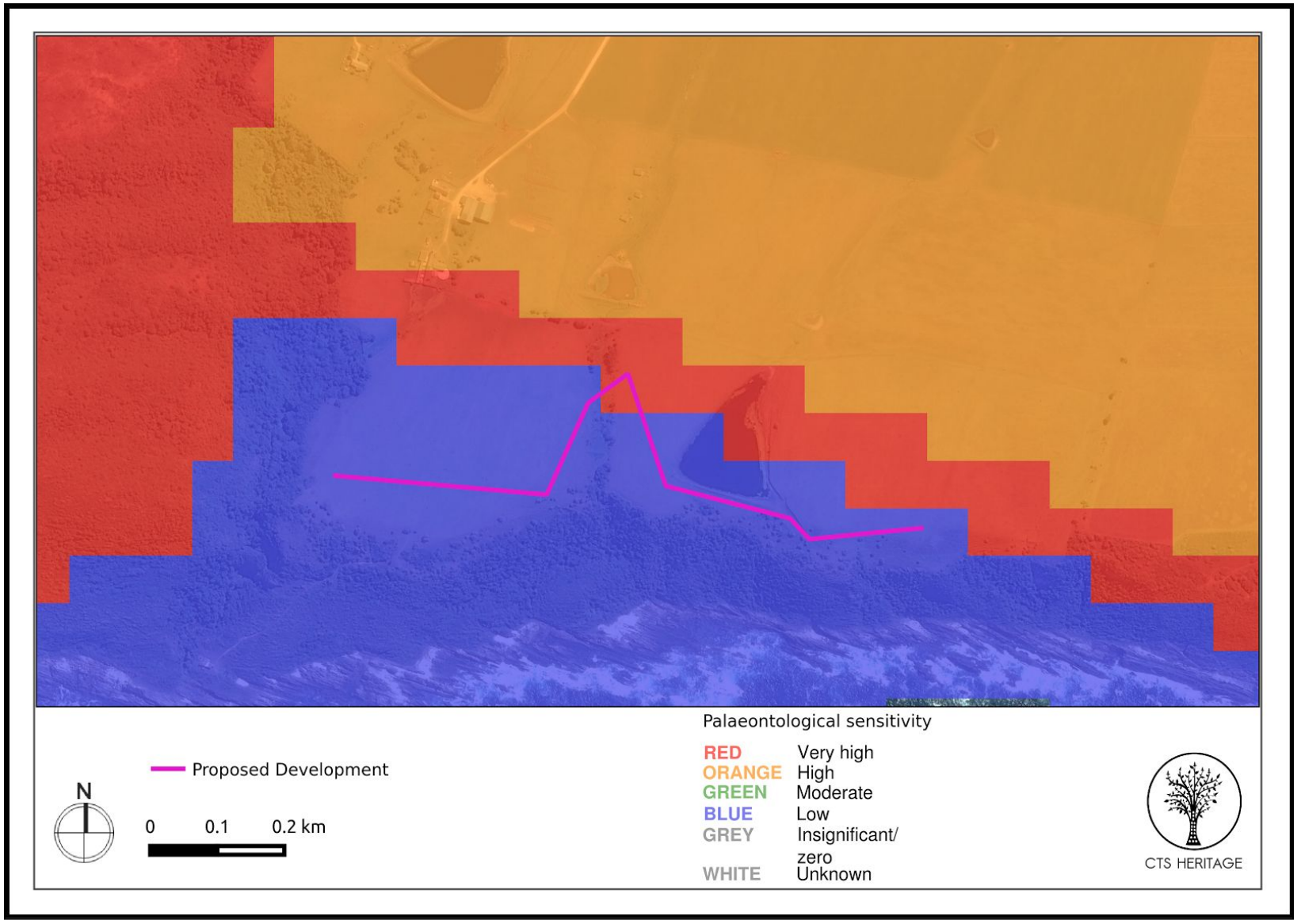

Figure 4. Palaeosensitivity Map, indicating low fossil sensitivity underlying the study area.

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8. Heritage statement and character of the area

Lwandle Technologies (Pty) Ltd (Lwandle) in technical partnership with Actimar Operational Oceanography (Actimar) plan to provide near real time, remotely sensed, environmental data on sea surface current and wave conditions to the South African coastal and maritime sectors.

The area of Ouwerf where the HF radar system will be installed, comprising 14 slim-line antennae, 1 container/workstation, connecting cables and 1 solar panel, will be towards the southern/coastal edge of the grazing land on the farm. The precise location of individual components is to be confirmed with radar specialists on site and agreed with the landowner before installation. Please see the images included in the BID document indicating the limited nature of the installation.

As can be seen in Figure 1b, the proposed radar system will be constructed in areas that have been previously disturbed by agricultural activities.

Of the 14 known heritage sites within a 10km radius of the proposed installation, 9 of these are structures located within the town of Clarkson associated with the Moravian Mission Complex. Three of these sites are associated with Klasies River Mouth Archaeological Site, which is located approximately 6km from the proposed installation site. One of the known sites is a shipwreck located approximately 6km offshore from the proposed installation area and the last is a grade IIIC structure, also located approximately 6km away from the proposed installation area. None of these sites will be directly or indirectly impacted. While it is demonstrated that various heritage resources including archaeological sites, rock art, stone walling, burial grounds and graves are known from this area, no known archaeological or built environment heritage resources will be impacted by the proposed development due to its limited scale.

The area proposed for development is predominantly underlain by geological layers of low palaeontological sensitivity of the Goudini Formation. In close proximity to the proposed installation area are areas of high and very high palaeontological sensitivity (the Peninsula and Cedarberg Formations respectively). Considering the depth of excavation will be less than 1m, it is very unlikely that the proposed limited scale of the installation will impact on significant palaeontological resources.

RECOMMENDATION
Type 1: It is recommended that due to the limited scale and nature of the proposed installation, no further heritage studies are required.

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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	Declaration
32556	KSR1	Klasies River 1	Rock Art	Ungraded	NA
84427	TSITSI002	Tsitsikamma Borrow Pits 002	Structures	Grade IIIc	NA
2734	SHIPWRECKID2530	Panaghia	Shipwreck	Ungraded	NA
28463	9/2/044/0006-007	Memorial to Pastor Nauhaus, Moravian Mission Complex, Clarkson, Humansdorp District	Monuments & Memorials	Grade II	Provincial Heritage Site
28471	9/2/044/0003	Klasies River Caves, Humansdorp District	Archaeological	Grade I	National Heritage Site
107983	Klasies River Mouth Caves 1/1A		Archaeological	Ungraded	NA
28459	9/2/044/0006-003	School, Moravian Mission Complex, Clarkson, Humansdorp District	Building		Provisional Protection
28467	9/2/044/0006	Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site
28468	9/2/044/0006-001	Church, Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site
28469	9/2/044/0006-002	Parsonage, Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site
28460	9/2/044/0006-004	Church offices, Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site
28461	9/2/044/0006-005	Mission store, Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site
28462	9/2/044/0006-006	Cemetery, Moravian Mission Complex, Clarkson, Humansdorp District	Burial Grounds & Graves	Grade II	Provincial Heritage Site
28464	9/2/044/0006-008	Church bell, Moravian Mission Complex, Clarkson, Humansdorp District	Building	Grade II	Provincial Heritage Site

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APPENDIX 2

Reference List

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
269397	AIA	Celeste Booth	02/03/2015	FibreCo Repeater Sites Routes 3 and 4_Heritage_2015 AIA report

APPENDIX 3: Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-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)
DEDTEA	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

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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.

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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.

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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.