

CTS HERITAGE

HERITAGE SCREENER

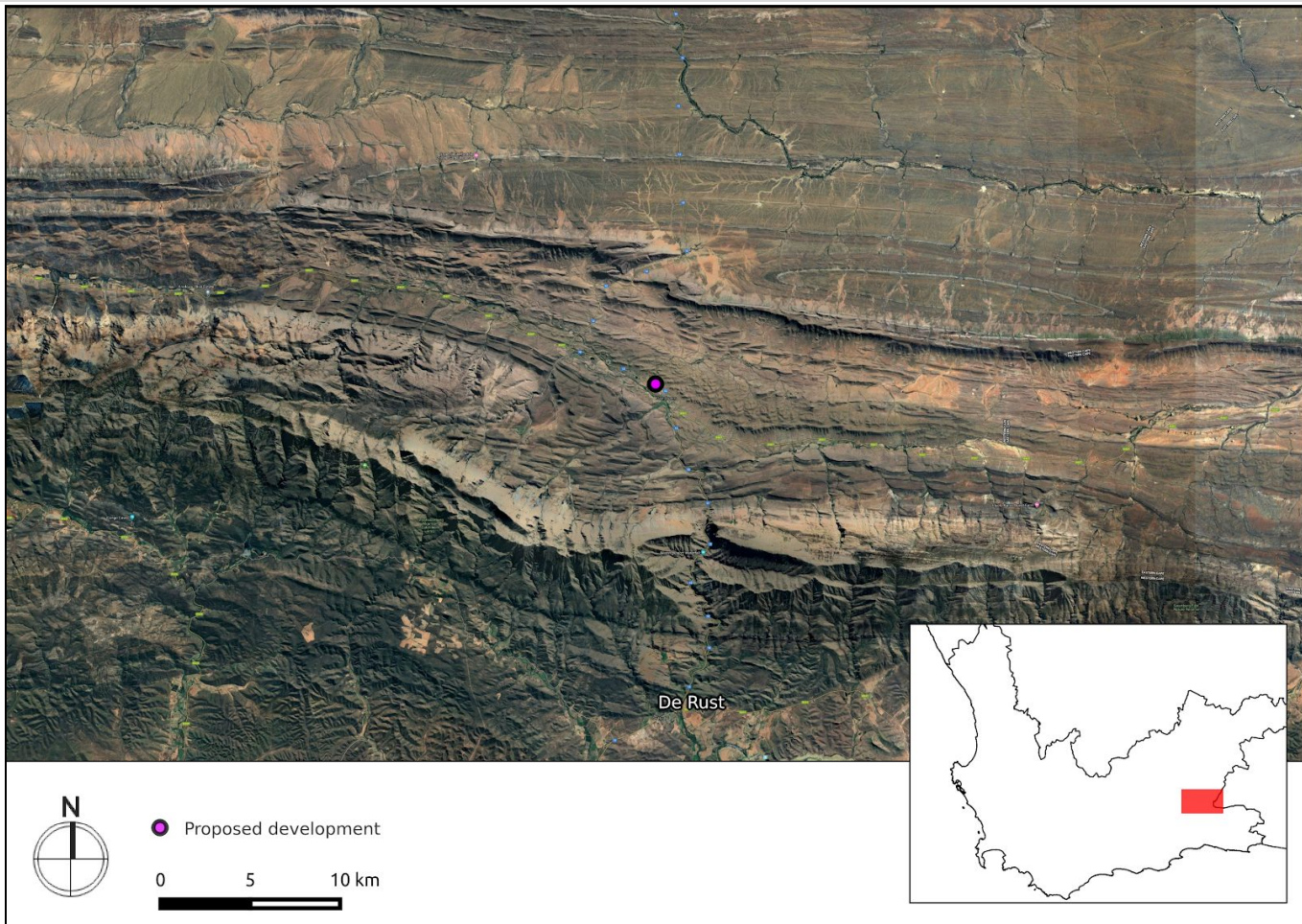
CTS Reference Number:	CTS18_244	
HWC Ref:	19012510	
Client:	EnviroAfrica	
Date:	25 January 2019	
Title:	The proposed upgrade of the Klaarstroom Oxidation Pond Wastewater Treatment System, Prince Albert Municipality.	
Recommendation by CTS Heritage Specialists	<p>RECOMMENDATION: The heritage resources in the area proposed for development are sufficiently recorded. Due to the location and nature of the proposed development, it is unlikely that significant heritage resources will be impacted by the development and as such, it is recommended that no further heritage studies are required, however the HWC Fossil Finds Procedure must be implemented throughout the development phase.</p>	

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

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1. Proposed Development Summary

The proposed development is looking at upgrading the existing Klaarstroom oxidation pond wastewater treatment system. The current system consists of a pump station in the Klaarstroom village which pumps the town's wastewater to two ponds located on the northern side of the N12. The current plant has a footprint of approximately 85m x 70m = 5950m². Given the existing layout of the plant, it is proposed that the existing plant be converted to a system comprising an inlet works, dual anaerobic ponds, conventual oxidation ponds and a reed bed. The total area of the plant on completion of the proposed upgrade will be approximately 120m x 70m = 8400m². Thus, a new area of approximately 2 450m² (0,245ha) will need to be cleared for the upgrade. The existing system has a given design capacity of 50m³ per day. The final effluent is currently chlorinated and then irrigated in the veld north of the plant by means of two overhead sprinklers. It is proposed that the current capacity of the Klaarstroom WWTP be upgraded to a new capacity of 61m³ per day (11m³/ day expansion). As described above, given the existing layout of the plant, it is proposed that the existing plant be converted to a system comprising an inlet works, dual aerobic ponds and a reed bed.

2. Application References

Name of relevant heritage authority(s)	HWC
Name of decision making authority(s)	DEADP

3. Property Information

Latitude / Longitude	33° 19' 20.09" S 22° 31' 43.44" E
Erf number / Farm number	Remainder of Portion 32 and Portion 34 of Farm Klaarstroom 178, Prince Albert
Local Municipality	Prince Albert
District Municipality	Central Karoo
Previous Magisterial District	Prince Albert
Province	Western Cape
Current Use	WWTW
Current Zoning	Municipal Commonage
Total Extent	242.09 ha

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4. Nature of the Proposed Development

Total Surface Area	0,245ha
Depth of excavation (m)	<5m
Height of development (m)	NA
Expected years of operation before decommission	NA

5. Category of Development

x	Triggers: Section 38(8) of the National Heritage Resources Act
	Triggers: Section 38(1) of the National Heritage Resources Act
x	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
	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

NA

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

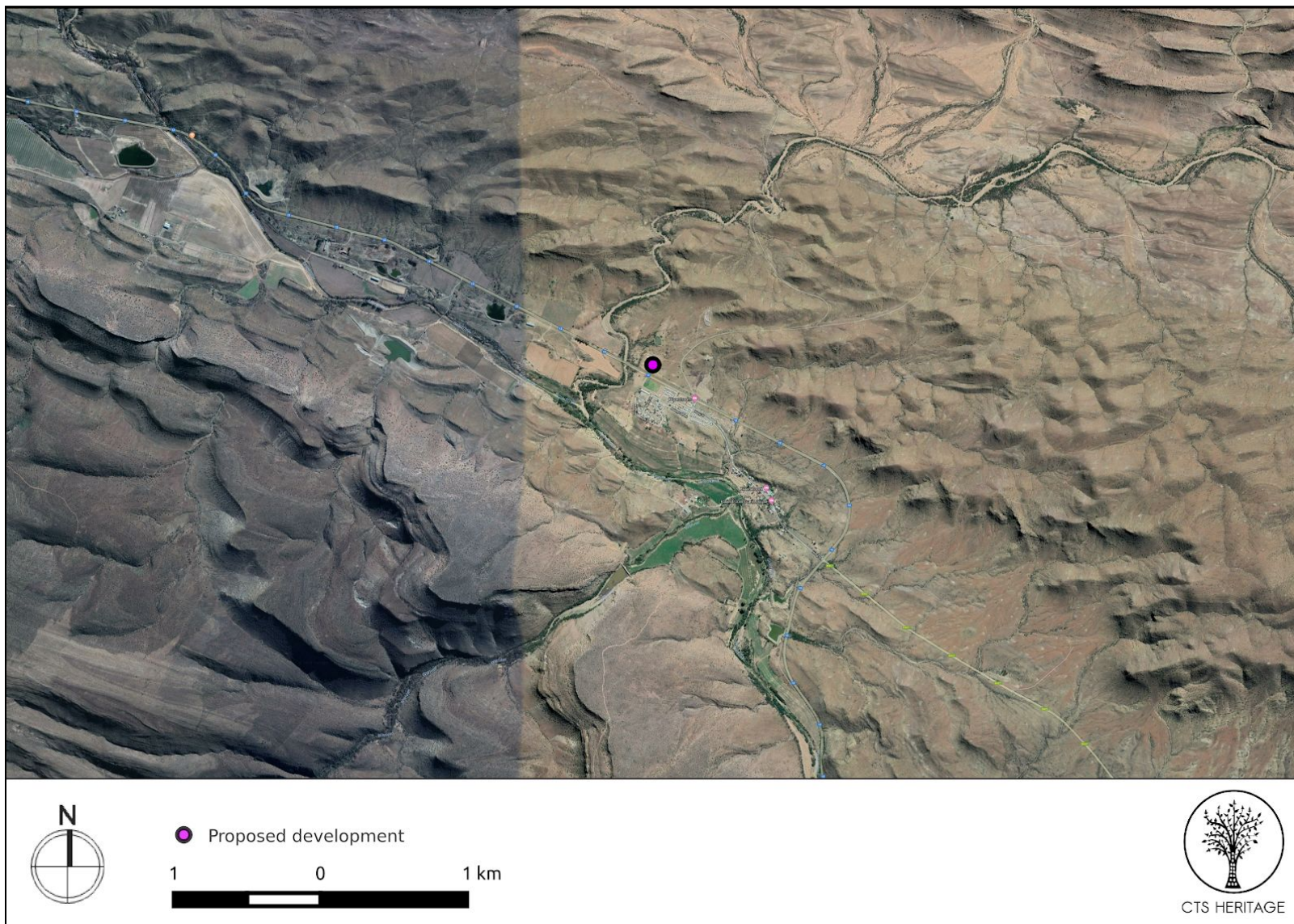


Figure 1b. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

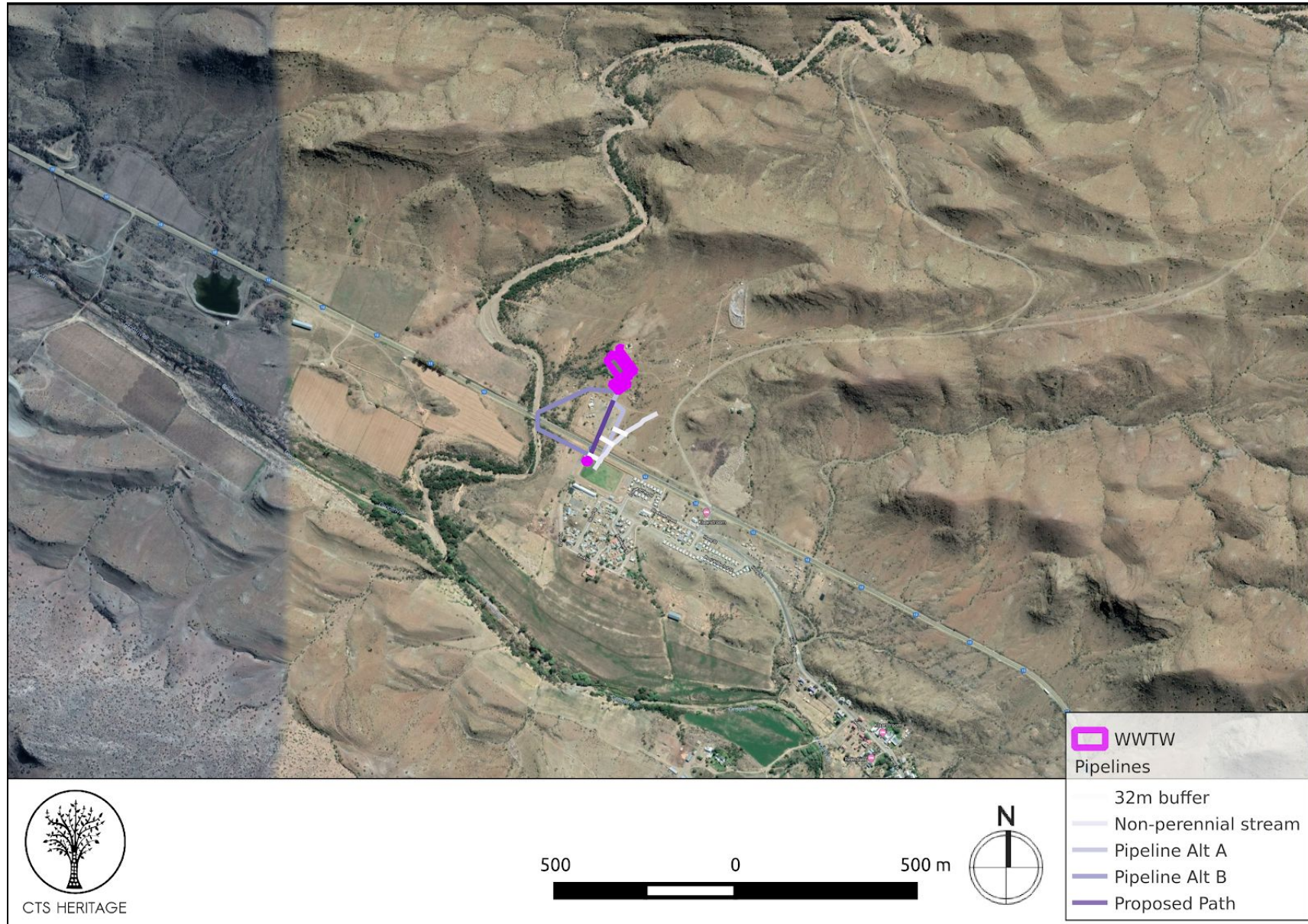
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Figure 1c. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

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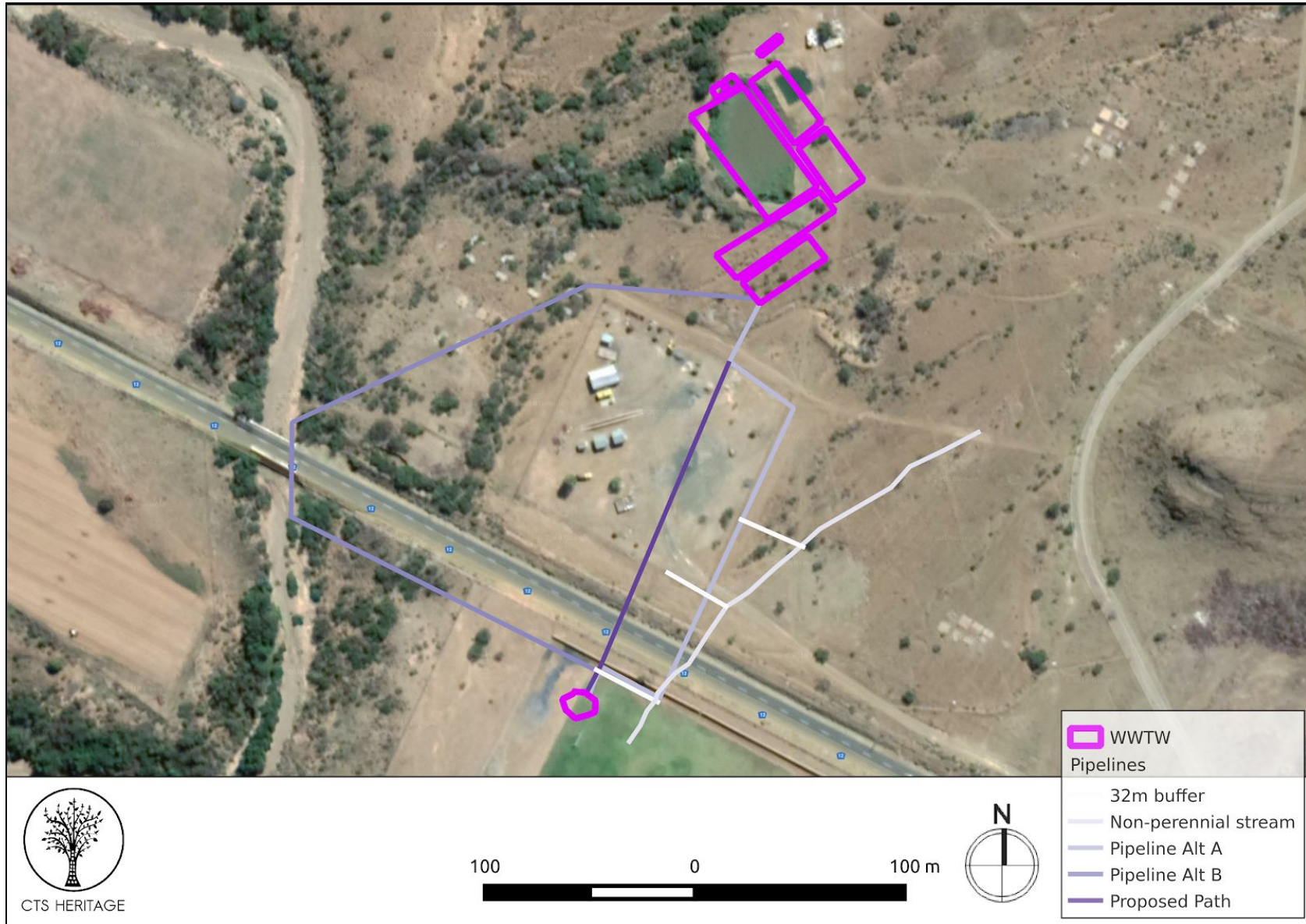


Figure 1d. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

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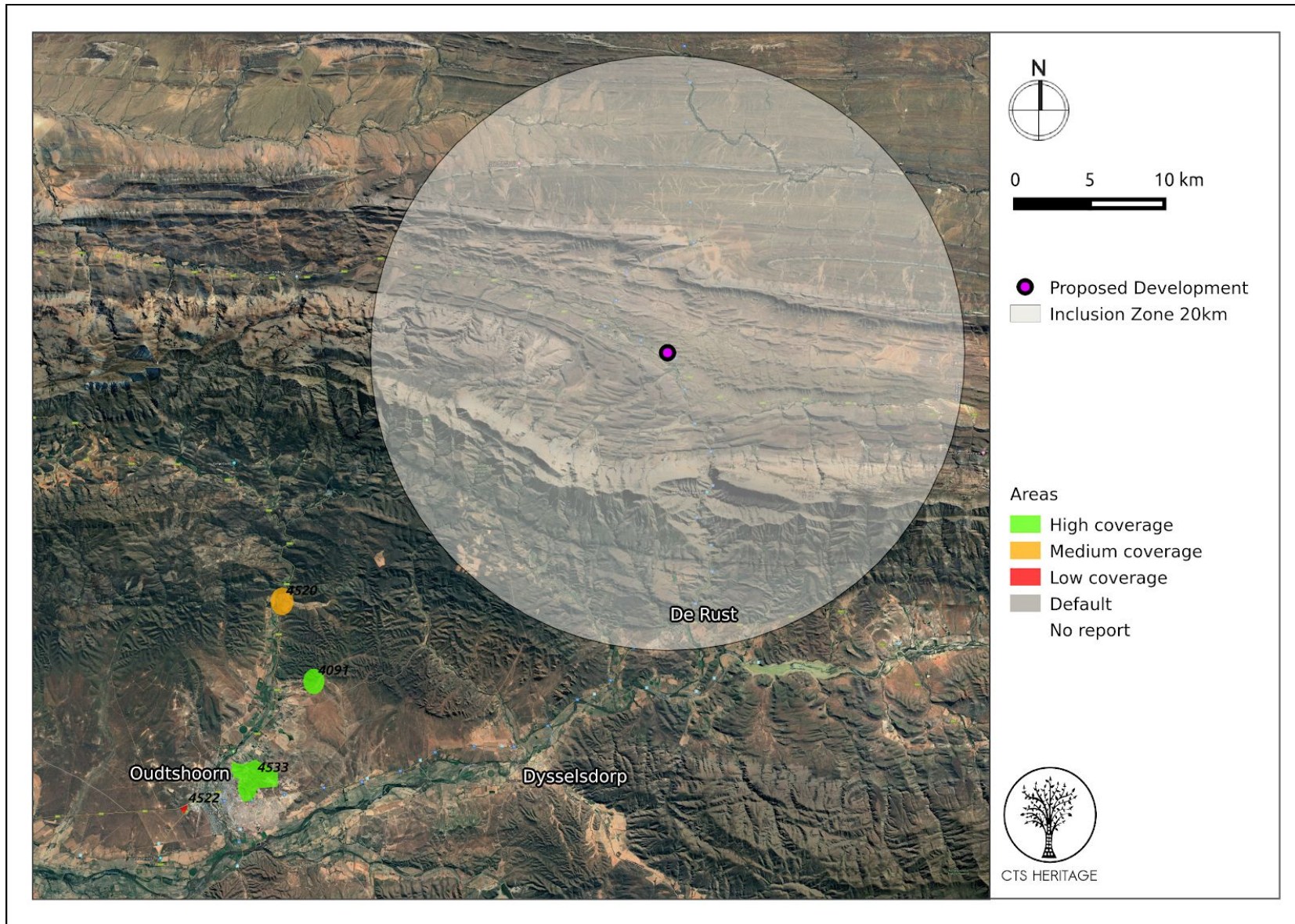


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 20km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.

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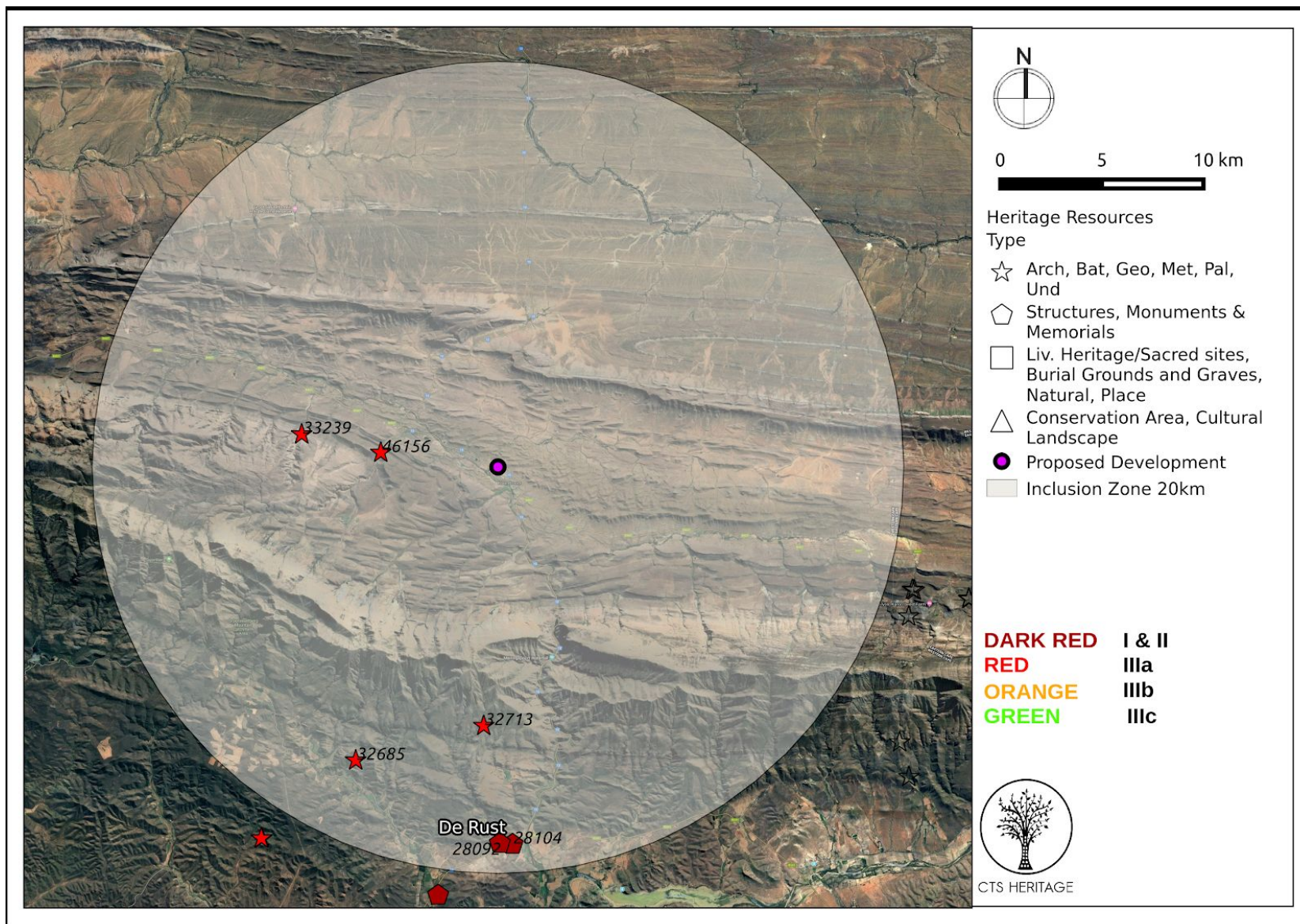


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

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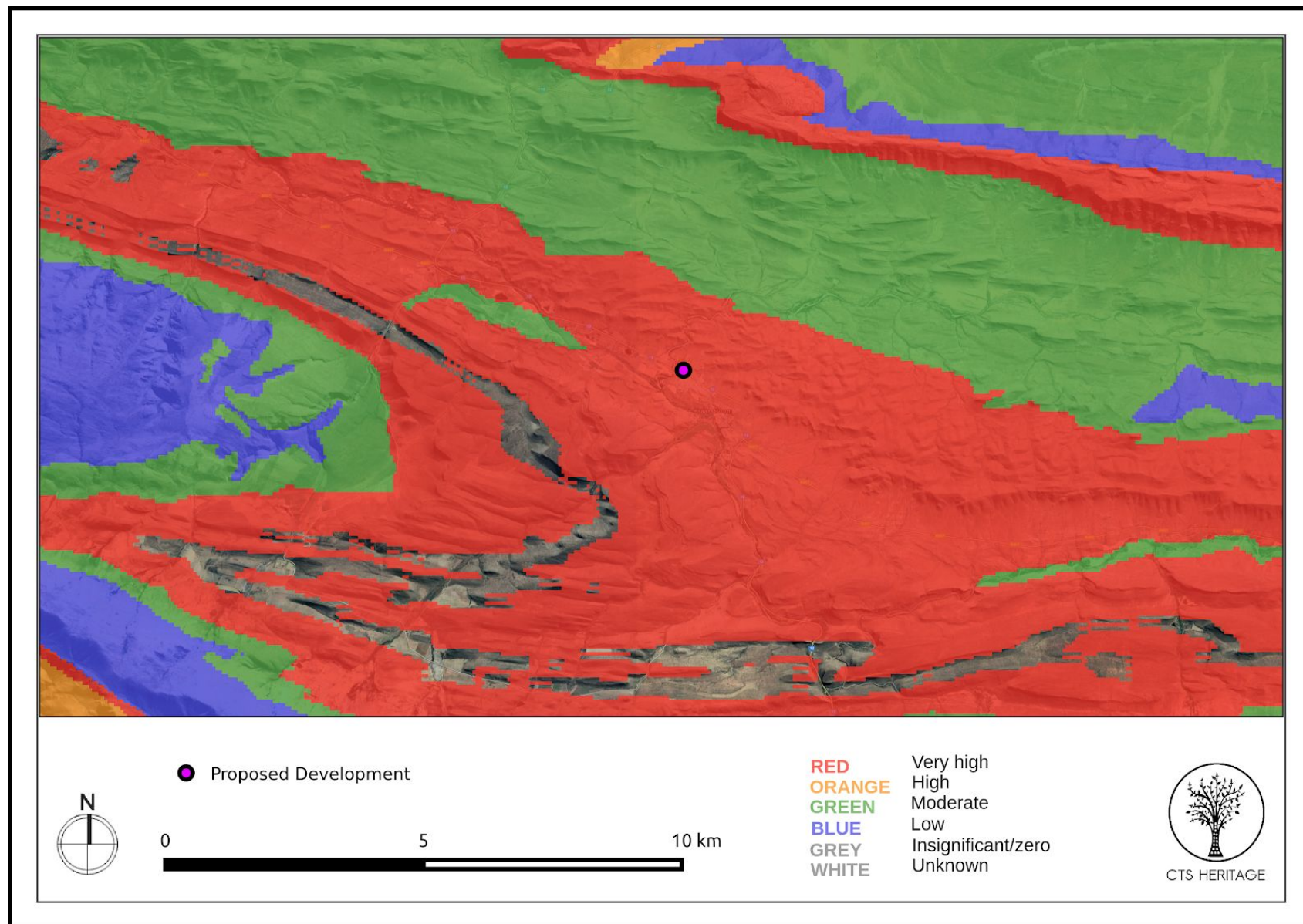


Figure 4.1. SAHRIS Palaeosensitivity Map. Indicating low to zero fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

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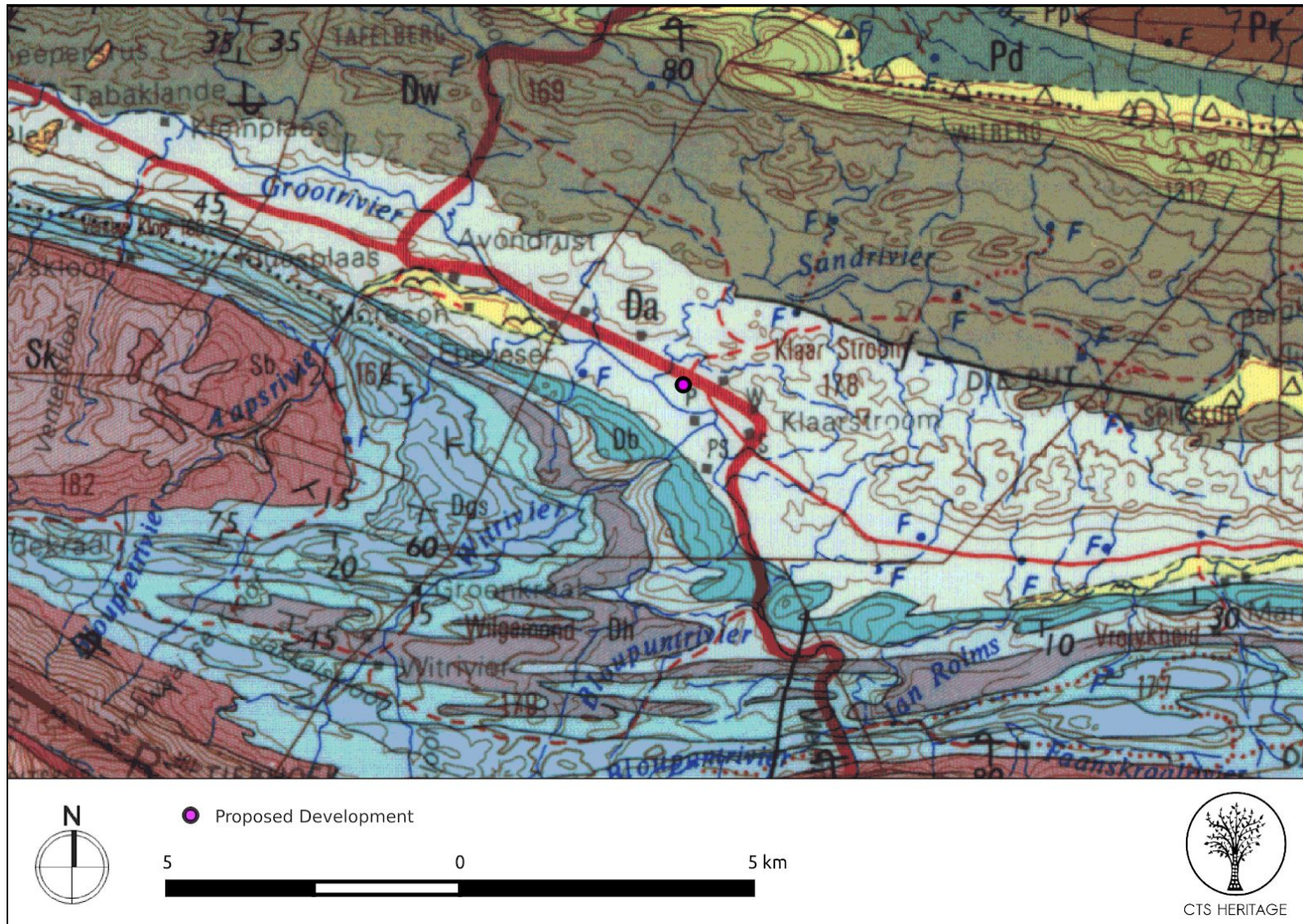


Figure 4.2. Geology Map. Indicating the geology underlying the study area. Extract from CGS 1:250 000 Oudtshoorn geological map 3322 (Da: Siltstone, Shale and Arenaceous shale of the Traka Subgroup of the Bokkeveld Group of the Cape Supergroup)

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Figure 5.1. General Site Context.General view of the site, looking north towards the site from the N12 (Google Street View)

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Figure 5.2. General Site Context.General view of the site, looking south away from the site from the N12 (Google Street View)

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8. Heritage statement and character of the area

This application is for the proposed upgrade to the Klaarstroom WWTW, which is located just outside of Klaarstroom, north of De Rust and south west of Prince Albert, and sits at the northern end of the Meiringspoort Pass. Klaarstroom (Clear Stream) is a small Victorian town established in the mid-1800's, presently located just off the N12 highway. It is said that the Karoo sheep farmers would stop here to wash their wool which they would then sell at Mossel Bay. The town is also mentioned in the Anglo-Boer War Memoir of Deneys Reitz called "Commando". Reitz writes how, having been informed that General Smuts had crossed the Swartberg into the district of Oudtshoorn, his commando makes its way towards the mountain range. "After this we went more carefully, and sunrise found us leading our horses up the street of a tiny village standing at the bottom of the pass. Dogs began to bark, and windows to open, and we saw soldiers running to a large building, so we mounted and rode hastily out." The tiny village is Klaarstroom and the large building is the existing police station.

There are no heritage assessments recorded on SAHRIS within 20km of the proposed development (Figure 2). However, it is known that the village of Klaarstroom is a unique, Victorian town located just off the main thoroughfare of the N12. The historic core of Klaarstroom remains largely intact and has a distinctive sense of place. However, the proposed development is unlikely to impact this sense of place as the proposed development is simply an upgrade to the existing WWTW located outside of the Victorian historic core, and on the other side of the N12 (Figure 5.1 and 5.2).

Situated on the outskirts of a small Karoo town, and alongside a river, it is likely that Early, Middle and Later Stone Age artefacts are present within the WWTW site. In addition, some of the area has been surveyed for rock art by Nardell and a number of rock art sites have been identified within 20km of the proposed development area (Figure 3). However, as this site is already developed, and as this site is located far from any rocky outcrops, it is unlikely that any significant archaeological resources or rock art sites will be impacted by the proposed development.

The area proposed for development is underlain by siltstone, shale and arenaceous shale sediments of the Traka Subgroup of the Bokkeveld Group of the Cape Supergroup (Figure 44.2), of very high palaeontological sensitivity according to the SAHRIS Palaeosensitivity Map (Figure 4.1). According to SAHRIS, the Traka Subgroup is known for its fossils of fish (sharks, acanthodians, placoderms, bony fish, recorded especially from Da), bivalves and vascular plants (psilophytes, lycopods), common but low diversity trace fossils, including *Spirophyton*, and rare brachiopods. Tectonic deformation often limits fossil collection, especially within mudrock-rich horizons, and distorts fossils. Biostratigraphically and palaeoecologically important fossil assemblages are known from high palaeoaltitudes (such as the Klipbokkop and Adolphspoort Fms). These sensitive formations may be impacted by the proposed development, and as such it is recommended that the HWC Fossil Finds Procedure be implemented throughout the development phase.

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 heritage resources will be impacted by the development and as such, it is recommended that no further heritage studies are required, however the HWC Fossil Finds Procedure must be implemented throughout the development phase.

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APPENDIX 1

List of heritage resources within the 20km Inclusion Zone

Site ID	Site no	Full Site Name	Site Type	Grading
46156	KLS1	Klaarstroom 1	Rock Art, Artefacts	Grade IIIa
28104	9/2/068/0016	Dutch Reformed Church and Parsonage, Le Roux Street, De Rust	Building	Grade II
28092	9/2/068/0027	Vredelus homestead, De Rust, Oudtshoorn District	Building	Grade II
33239	PAL19	Prince Albert 19 (Venterskloof 1)	Rock Art	Grade IIIa
32685	DRR1	Villierspoort 1	Rock Art, Artefacts	Grade IIIa
32713	MPT2	Meiringspoort 2 (Meijersrus 2)	Rock Art	Grade IIIa

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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 (National)
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 (National)
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

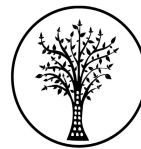
Full guide to Palaeosensitivity Map legend

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.

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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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