

HERITAGE SCREENER

CTS Reference Number:	CTS23_315
Client:	Zutari
Date:	September 2023
Title:	Desktop Heritage Screening Assessment for the Proposed pipeline and boreholes for the provision of water to the PG Bison facility near eMkhondo, Mpumalanga.

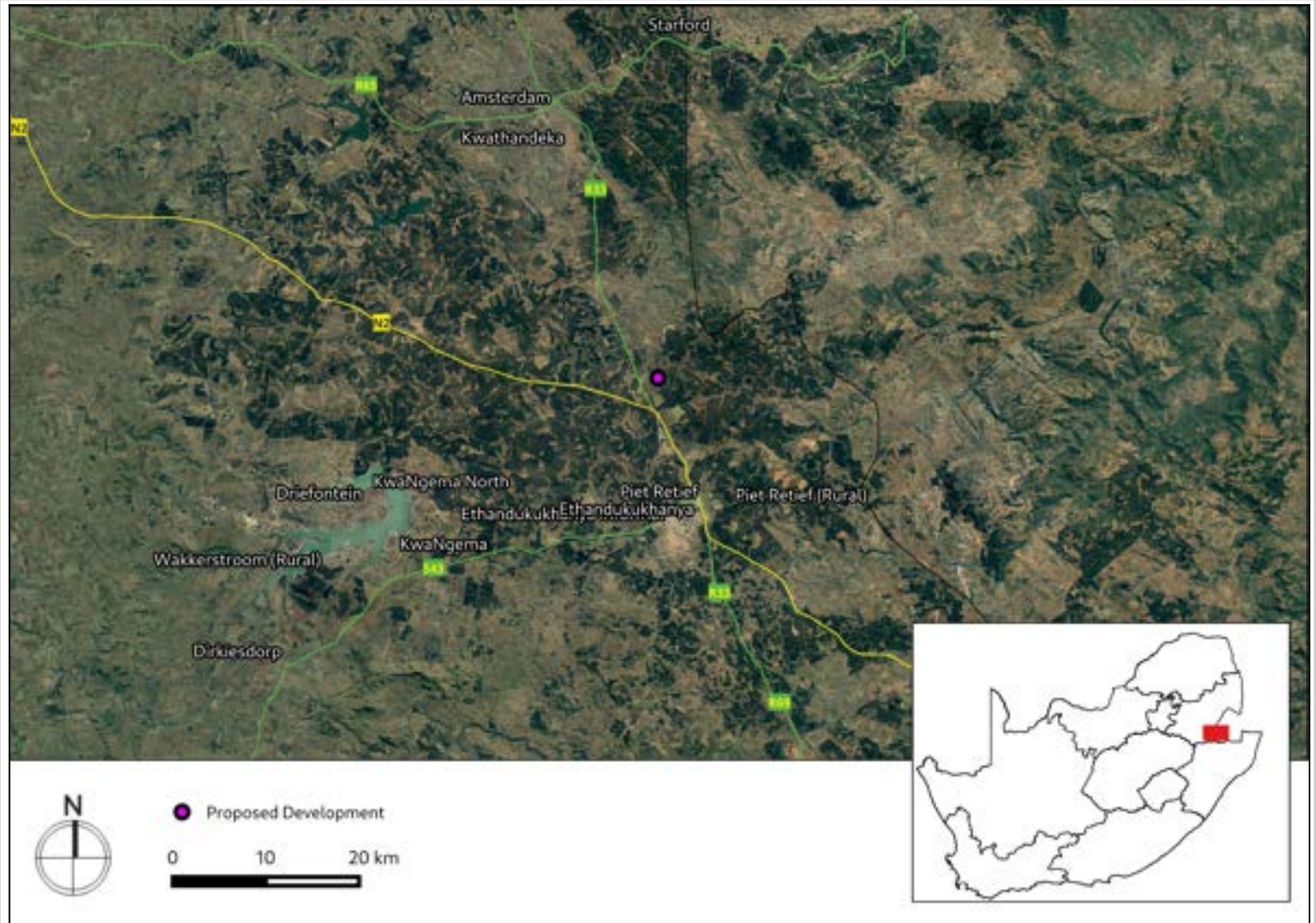


Figure 1a. Satellite map indicating the location of the proposed development in the Mpumalanga Province



1. Proposed Development Summary

The proposed project involves the provision of water to the PG Bison facility near eMkhondo, Mpumalanga. Water will be abstracted from seven new boreholes and conveyed to the facility via two new rising mains where it will be treated and used for domestic and process purposes. The water is primarily required as the existing water supply to the facility will be insufficient when the new Medium Density Fibreboard (MDF) plant comes on-line. The MDF plant represents a major economic investment for the area and is one of the projects identified in the national presidential economic recovery strategy that was implemented after the Covid-19 pandemic. Securing a sustainable source of water for the plant is therefore an economic priority. PG Bison would also like to secure their own water supply to reduce pressure on existing sources and to minimise the impacts of potential disruptions of external supply. The water will also be used to supplement existing domestic and process supply at the facility.

Details of the proposed activity are as follows:

- The equipping and abstracting of water (approx. 710kl/day) from 4 boreholes approximately 10km north of the facility.
- The construction of a 15km rising main (estimated 200mm diameter) from these boreholes to PG Bison. The pipeline will cross some watercourses.
- The equipping and abstracting of water (approx. 680kl/day) from 3 boreholes approx. 3km north-north-east of the facility.
- The construction of a 4.5km rising main (estimated 200mm diameter) from these boreholes to PG Bison.
- Water treatment facilities consisting of 1.5ml/day package plant for domestic water and a reverse osmosis plant for process water.
- Water storage facilities for raw water (approx.600m³), treated water (approx. 2222m³), process water and for firefighting.
- Associated infrastructure such as a pump room and internal pipelines.

The proposed activity requires authorisation in terms of the National Environmental Management Act and also in terms of the National Water Act. A public participation process is thus being carried out as part of the authorisation application procedures.

The rising mains run as follows:

- The 4.5km rising main taking water from boreholes MP08-00017, MP08-00018 and BHM03 to PG Bison will cross under the N2 and the railway line approximately 2.7km north of PG Bison. The pipeline will then run parallel to the railway line (outside the railway reserve) until opposite PG Bison, where it will cross under the railway line again to go to the new water treatment plant and storage tanks.
- The 15km rising main taking water from boreholes MP08-00022, MP08-00024, MP08-00025 and MP08-00027 will run east of the R33 and N2 towards the other three boreholes located closer to PG Bison. From these boreholes, it follows the same route as the 4.5km rising main and the pipes will be laid in the same trench.

The water treatment plants and storage tanks will be located at the PG Bison facility.

2. Application References

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



3. Property Information

Latitude / Longitude	<ul style="list-style-type: none"> - Borehole MP08-00017 - 26°55'6.49"S, 30°45'51.30"E - Borehole MP08-00018 - 26°54'59.87"S, 30°45'59.22"E - Borehole BHM03 - 26°54'55.18"S, 30°46'22.28"E - Borehole MP08-00022 - 26°52'12.04"S, 30°44'44.56"E - Borehole MP08-00024 - 26°52'4.04"S, 30°44'38.36"E - Borehole MP08-00025 - 26°50'57.00"S, 30°44'12.15"E - Borehole MP08-00027 - 26°51'50.64"S, 30°44'33.35"E
Erf number / Farm number	<ul style="list-style-type: none"> - RE/2/445 - RE/7/445 - 3/493 - 8/493 - 9/493 - 10/493 - 36/494 - 39/494 - 43/494 - RE/9/494 - RE/26/494 - 23/509 - RE/42/509
Local Municipality	Mkhondo Local Municipality
District Municipality	Gert Sibande District Municipality
Province	Mpumalanga
Current Use	Agriculture
Current Zoning	Agriculture



4. Nature of the Proposed Development

Total Surface Area	Approximately 20km
Depth of excavation (m)	TBA
Height of development (m)	NA

5. Category of Development

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

None. The infrastructure is the pump station and the pipeline

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

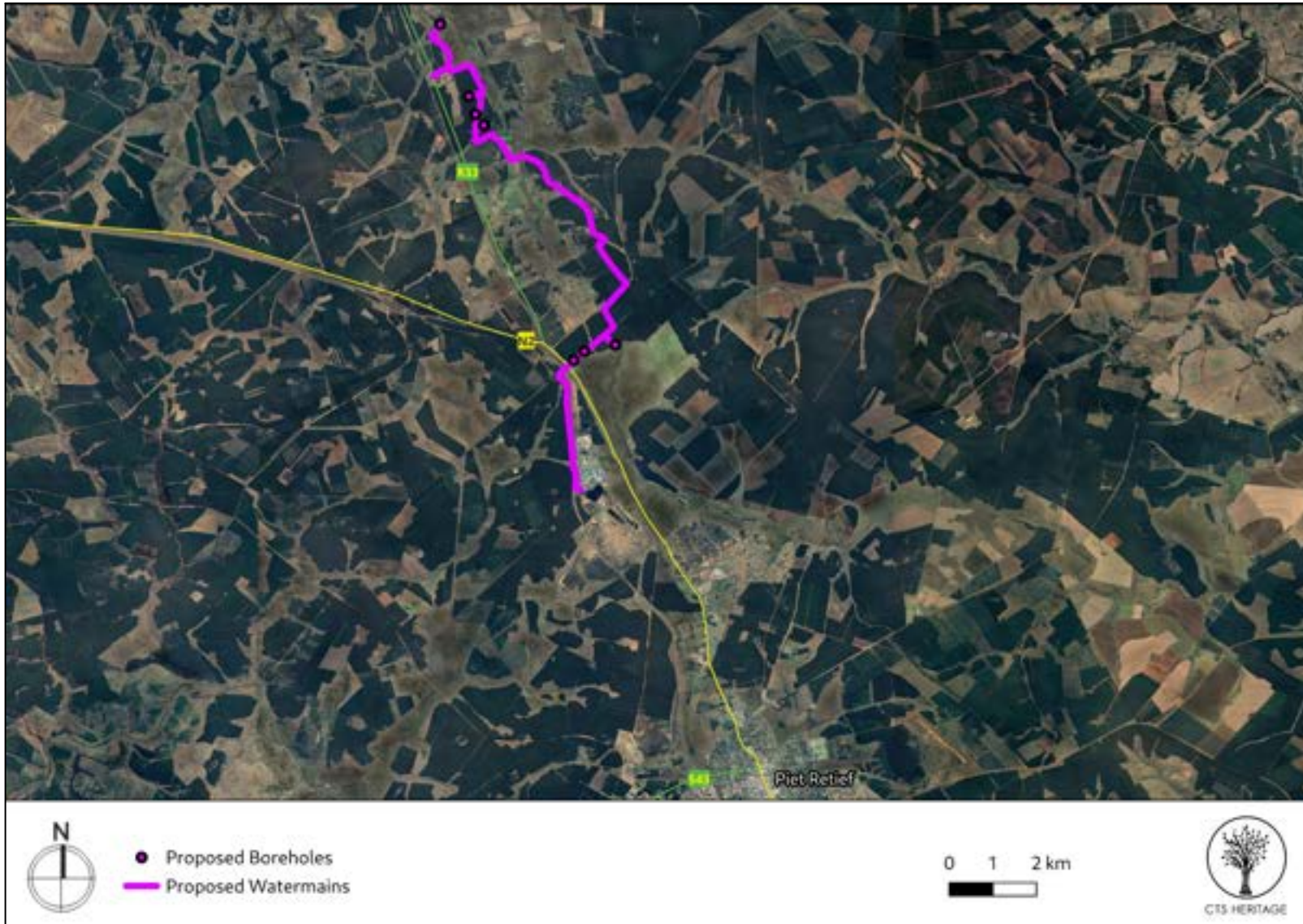


Figure 1b Overview Map. Satellite image (2023) indicating the proposed development area in relation to Mkhondo (formerly known as Piet Retief).



Figure 1c Overview Map. Satellite image (2023) indicating the proposed development area.

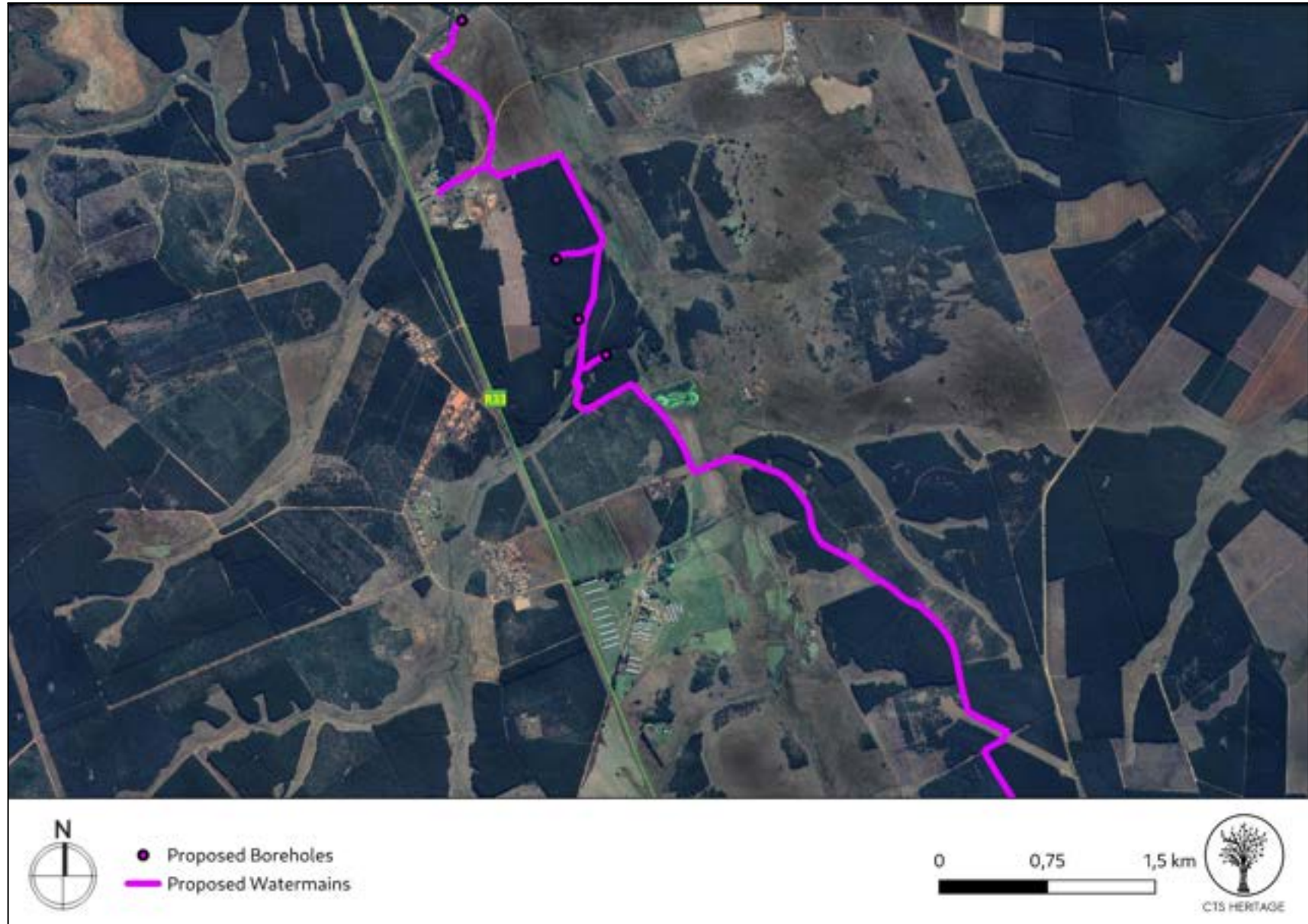


Figure 1d Overview Inset Map A. Satellite image (2023) indicating the northern part of the proposed development area.



Figure 1e Overview Inset Map B. Satellite image (2023) indicating the southern part of the proposed development area.

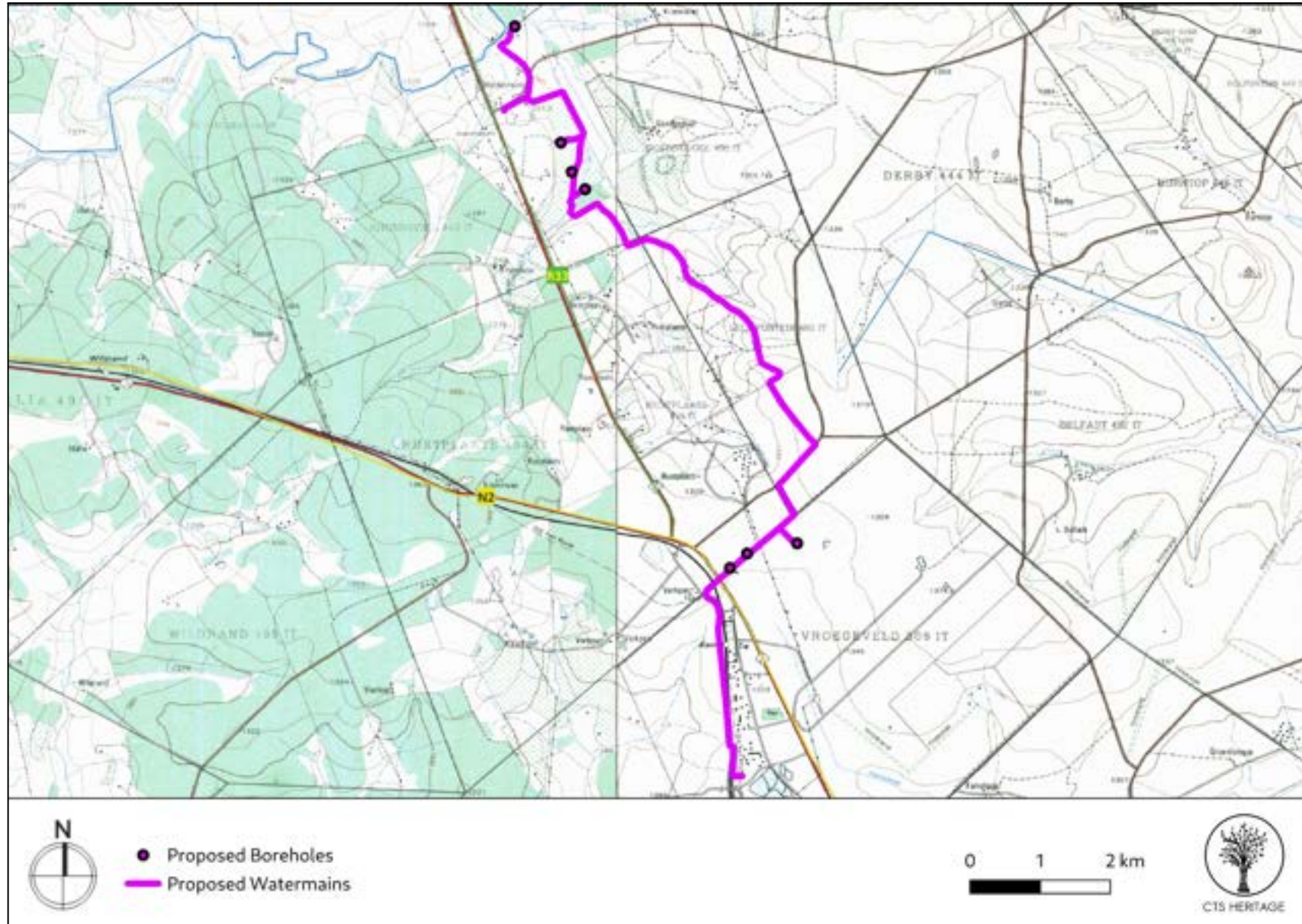


Figure 1f. Overview Map. Extract from the 1:50 000 Topo map indicating the proposed development area

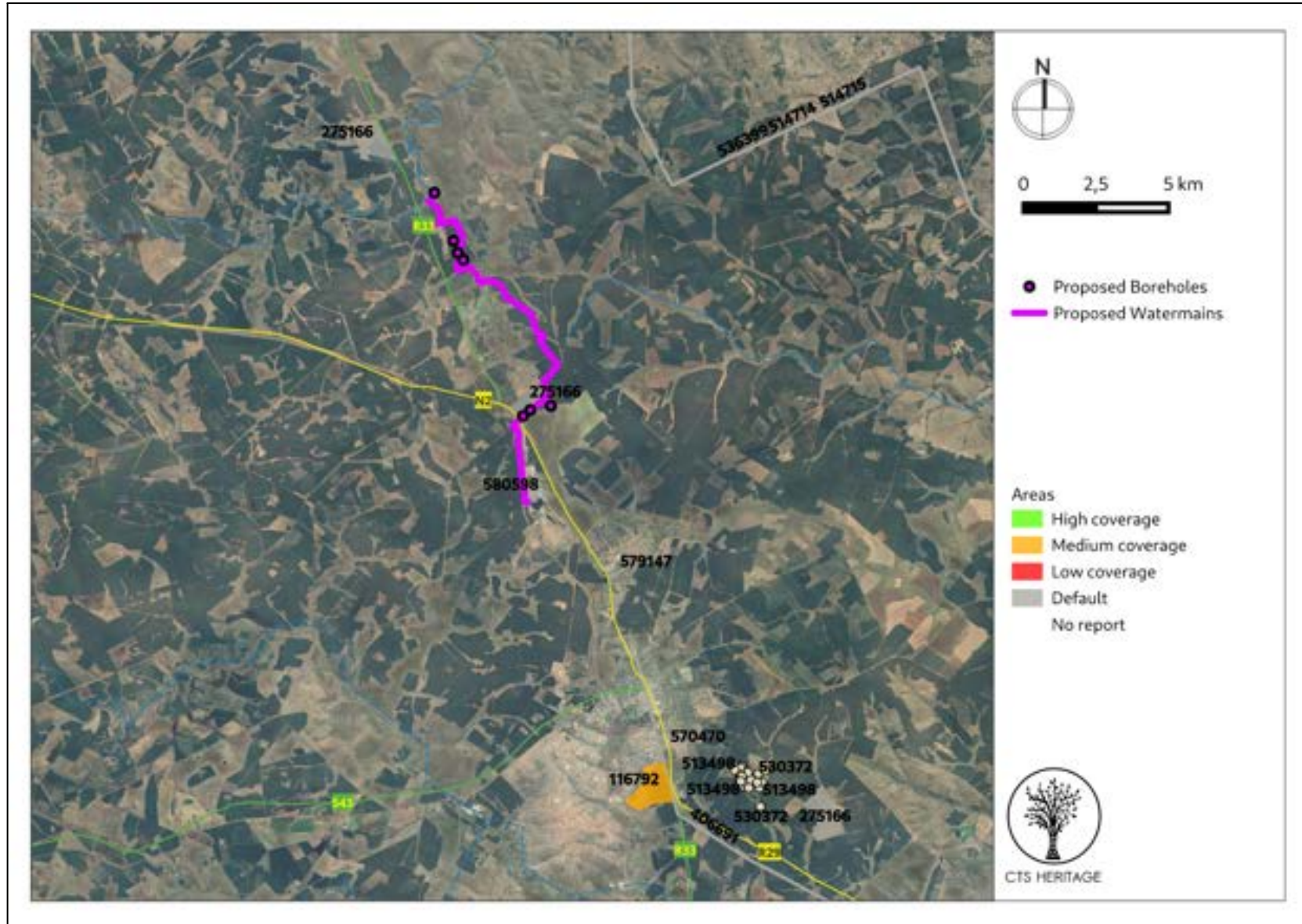


Figure 2a. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

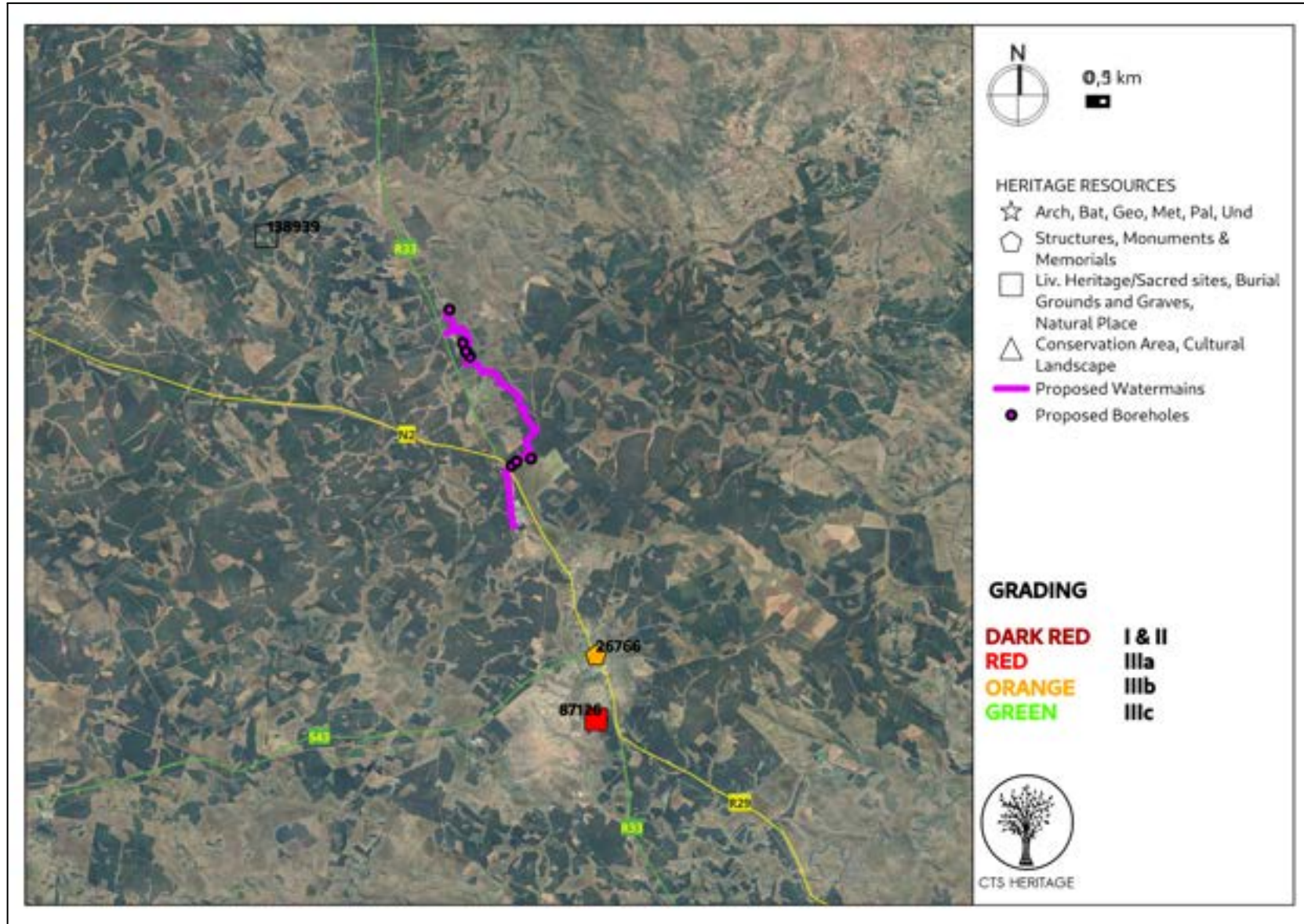


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for a full description of heritage resource types.

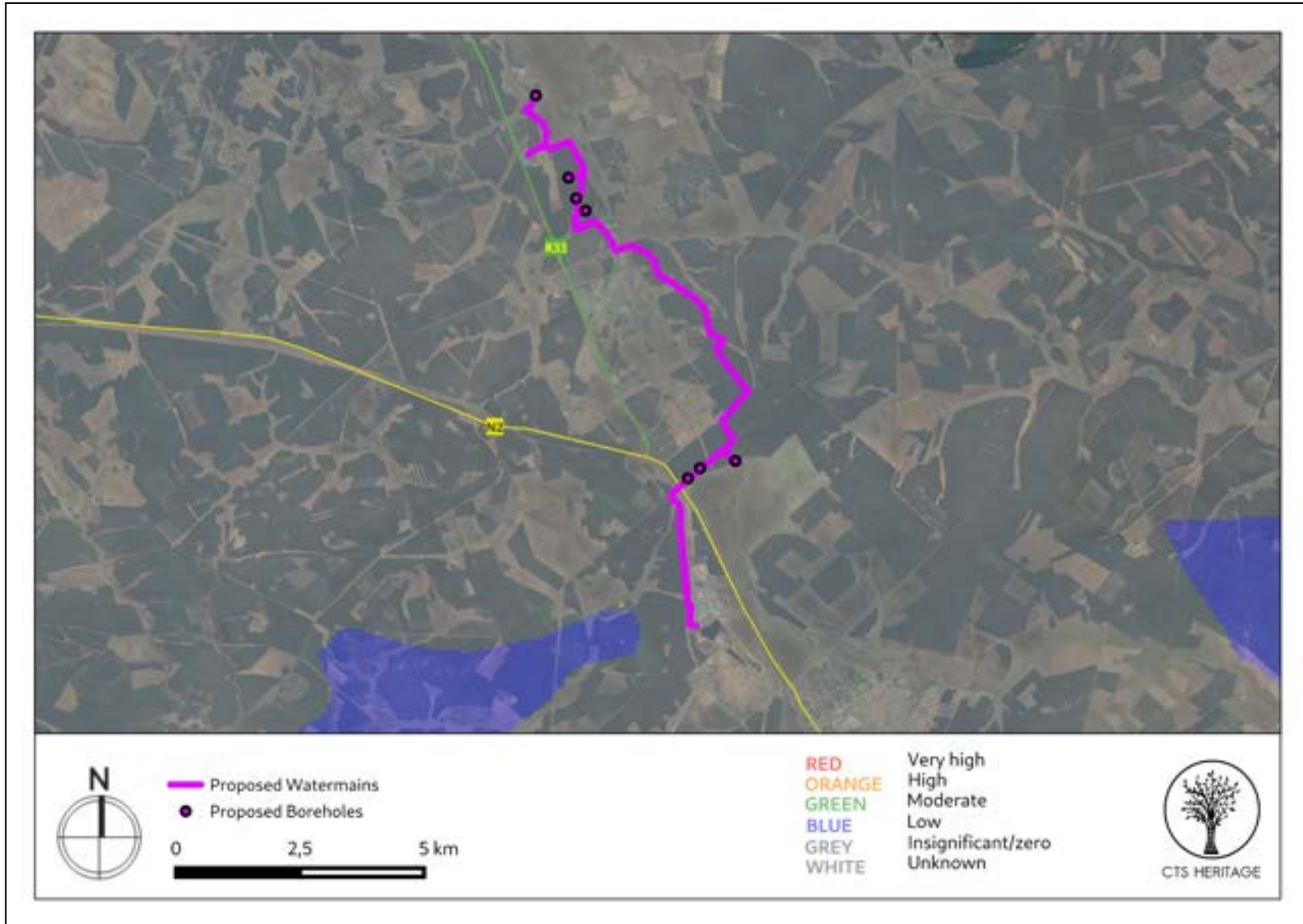


Figure 4a. Palaeosensitivity Map. Indicating low fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

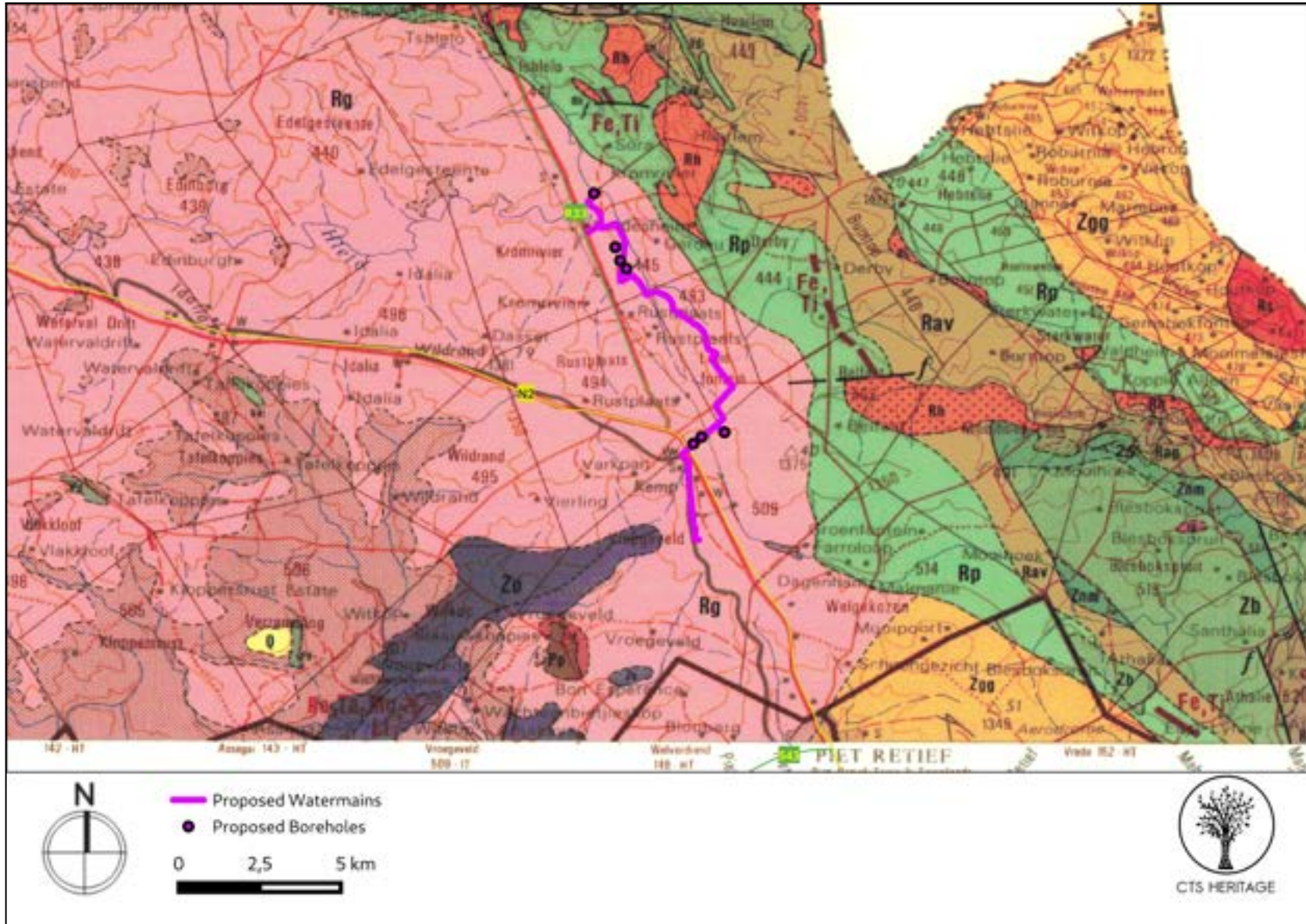


Figure 4b. Geology Map. Extract from the CGS 2630 Mbabane Map indicating that the development area for the proposed development is underlain by the Rg: Granite sediments. Please See Appendix 3 for a full guide to the legend.



8. Heritage statement and character of the area

This application is for the proposed expansion of industrial activities at the existing PG Bison plant in eMkhondo (previously Piet Retief). The project is located near the town of Mkhondo (formerly Piet Retief) that is situated within the Mkhondo Local Municipal area in the Mpumalanga Province. The PG Bison facility is located about 8km north of Mkhondo along the N2 towards Ermelo. The proposed project involves the provision of water to the PG Bison facility near eMkhondo, Mpumalanga. Water will be abstracted from seven new boreholes and conveyed to the facility via two new rising mains where it will be treated and used for domestic and process purposes.

The area proposed for development is located approximately 7km north west of Mkhondo and is located in an area that has been extensively previously disturbed through industrial activities (Figure 1d). Mkhondo (previously Piet Retief) was founded by the Voortrekkers in 1883 and named after the Voortrekker leader, Piet Retief. In 1886, the inhabitants of the town declared the Klein Vrystaat (Little Free State), which contained a population of only 72, as an independent republic. This republic existed until 1891, when it was incorporated into the South African Republic. The town became a municipality in 1932. Based on the information available, and due to the limited nature of the proposed development, it is unlikely that this proposed development will negatively impact on any significant cultural landscape or on the historic core of Mkhondo.

More recently, Mkhondo was home to Saul Mkhize, a political activist who opposed the forced removals of people from Driefontein, now known as Saul Mkhizeville, during Apartheid. On 2 April 1983, Saul Mkhize was shot by police while attempting to organise a peaceful march around this issue. Subsequently, in 2015, the Mkhondo Municipality unveiled a statue of Saul Mkhize at the Mkhondo Municipal offices. The sites of significance in relation to Saul Mkhize are located within Mkhondo and Saul Mkhizeville and will not be negatively impacted by the proposed development.

Very few heritage impact assessments have been completed in proximity to the proposed development area (Figure 2) and as such, very few heritage resources have been documented within or near to development area (Figure 3). According to Kruger (2015 SAHRIS ID 275166), "*Sites, documenting Earlier, Middle and Later Stone Age habitation occur across the province, mostly in open air locales or in sediments alongside rivers or pans. In addition, a wealth of Later Stone Age rock art sites, most of which are in the form of rock engravings are to be found in the larger landscape. These sites occur on hilltops, slopes, rock outcrops and occasionally in river beds. Later, Bantu-speaking tribes moved into this area from the northern parts of Southern Africa and settled here. These were presumably Sotho-Tswana herder groups. Various historians and ethnographers describe that the Lowveld was frequented by Swazi and Sotho-Tswana groups during historic times i.e. Late Iron Age times during the period AD 1500-1800. Historical trade routes were well established before the period of Colonial expansion and these routes mainly existed as a direct consequence of metallurgy and mining for iron, tin, copper and some gold to make weapons, agricultural equipment and ornaments. During the nineteenth century the Lowveld area of Mpumalanga was extensively settled by both Bantu and European groups that migrated into this area.*" In his field assessment of areas in close proximity to this development, Kruger (2015) identified sites dating to colonial expansion in the area, and a number of burial grounds and graves. This aligns with the findings made by Celliers (2012, SARHIS ID 116792). Based on the available information regarding the archaeological sensitivity of the broader area as well as the previously disturbed nature of the area proposed for development as well as the limited interventions proposed, it is very unlikely that the proposed development will negatively impact on significant archaeological resources. However, the possibility remains that unmarked or hidden burial grounds or graves exist within the proposed development area.

According to the SAHRIS Palaeosensitivity Map, the area proposed for development is underlain by sediments of zero palaeontological sensitivity (Figure 4a). According to the extract from the Council of GeoScience Map for Mbabane 2630 (Figure 4b), the area proposed for development is underlain by leucocratic biotite granite which is known to be sterile of significant fossil material. It is therefore very unlikely that the proposed development will negatively impact on significant palaeontological heritage.

Based on the information available as well as the limited nature and scale of the proposed development, it is not anticipated that the proposed pipeline and pump station will negatively impact on any significant heritage resources and as such, no further heritage studies are recommended.



APPENDIX 1: List of heritage resources in proximity to the development area

Site ID	Site no	Full Site Name	Site Type	Grading
26766	9/2/254/0001	Dutch Reformed Church, Church Street, Piet Retief	Building	Grade IIIb
87126	PRF002	Piet Retief 002	Burial Grounds & Graves	Grade IIIa
138939	2630CD/ Roadworks/ Farm Valschvlei 352/ Site 1	Burial Site	Burial Grounds & Graves	Ungraded



APPENDIX 2: Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
116792	AIA Phase 1	Jean-Pierre Celliers	16/10/2012	Report on Phase 1 Archaeological Impact Assessment on the Remainder of Portion 1 of Piet Retief Town and Townlands 149 HT, Mpumalanga Province.
275166	AIA Phase 1	Neels Kruger	02/06/2015	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF AREAS DEMARCTED FOR THE ESTABLISHMENT OF 9 MONDI AGRI-VILLAGES, GREATER PIET RETIEF AREA, MPUMALANGA PROVINCE



APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEFF	Department of Environment, Forest and Fisheries (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.



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 PALAEOLOGICAL 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

CTS Heritage

238 Queens Road, Simons Town

Email: info@ctsheritage.com Web: www.ctsheritage.com



- 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.