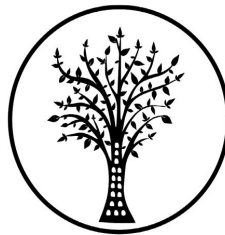


ARCHAEOLOGICAL SPECIALIST STUDY

In terms of Section 38(8) of the NHRA for a
PROPOSED KAMIESKROON BULK WATER SUPPLY

Prepared by



CTS HERITAGE

In Association with

EnviroAfrica

And

ACRM

August 2018



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THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I Jenna Lavin, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Jenna Lavin

Signature of the specialist

CTS Heritage

Name of company

16 August 2018

Date



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EXECUTIVE SUMMARY

The proposed Kamieskroon Bulk Water Supply System includes equipment for existing boreholes, equipment for additional boreholes, construction of a 600K clean water storage reservoir, installation of pipelines, construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine). The proposed development will be located on a portion of open ground between the eastern and western extents of Kamieskroon (Figure 1). The development area comprises open veld that has been disturbed by foot traffic, with several informal paths crisscrossing the area.

Overall, there were no constraints or limitations associated with the study. Access to all the location sites was unrestricted and mobility unhindered.

Dense natural vegetation in Kamieskroon (Site 1), however, resulted in poor archaeological visibility, but indications are that the proposed site is not a sensitive archaeological or heritage landscape.

No archaeological resources were identified in Site 1 or in the area proposed for the desalination plant. Two sites of low local significance were identified in Site 2.

In summary;

- The proposed development will not negatively impact on any significant archaeological resources
- There is no objection to the proposed development and there is no preferred alternative in terms of impacts to heritage resources.



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1. INTRODUCTION

1.1 Background Information on Project

The proposed Kamieskroon Bulk Water Supply System includes equipment for existing boreholes, equipment for additional boreholes, construction of a 600K clean water storage reservoir, installation of pipelines, construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine). At present, the layout of these components has not yet been determined and the applicant has only provided estimated locations for the proposed water treatment works and evaporation ponds, and not the position of boreholes and pipelines. The proposed development will be located on a portion of open ground between the eastern and western extents of Kamieskroon (Figure 1). The development area comprises open veld that has been disturbed by foot traffic, with several informal paths crisscrossing the area.

The proposed Kamieskroon Bulk Water Supply System includes the following:

- equipment for existing boreholes,
- equipment for additional boreholes,
- construction of a 600K clean water storage reservoir,
- installation of pipelines,
- construction of a Water Treatment Works (desalination plant) and associated evaporation ponds (waste brine).

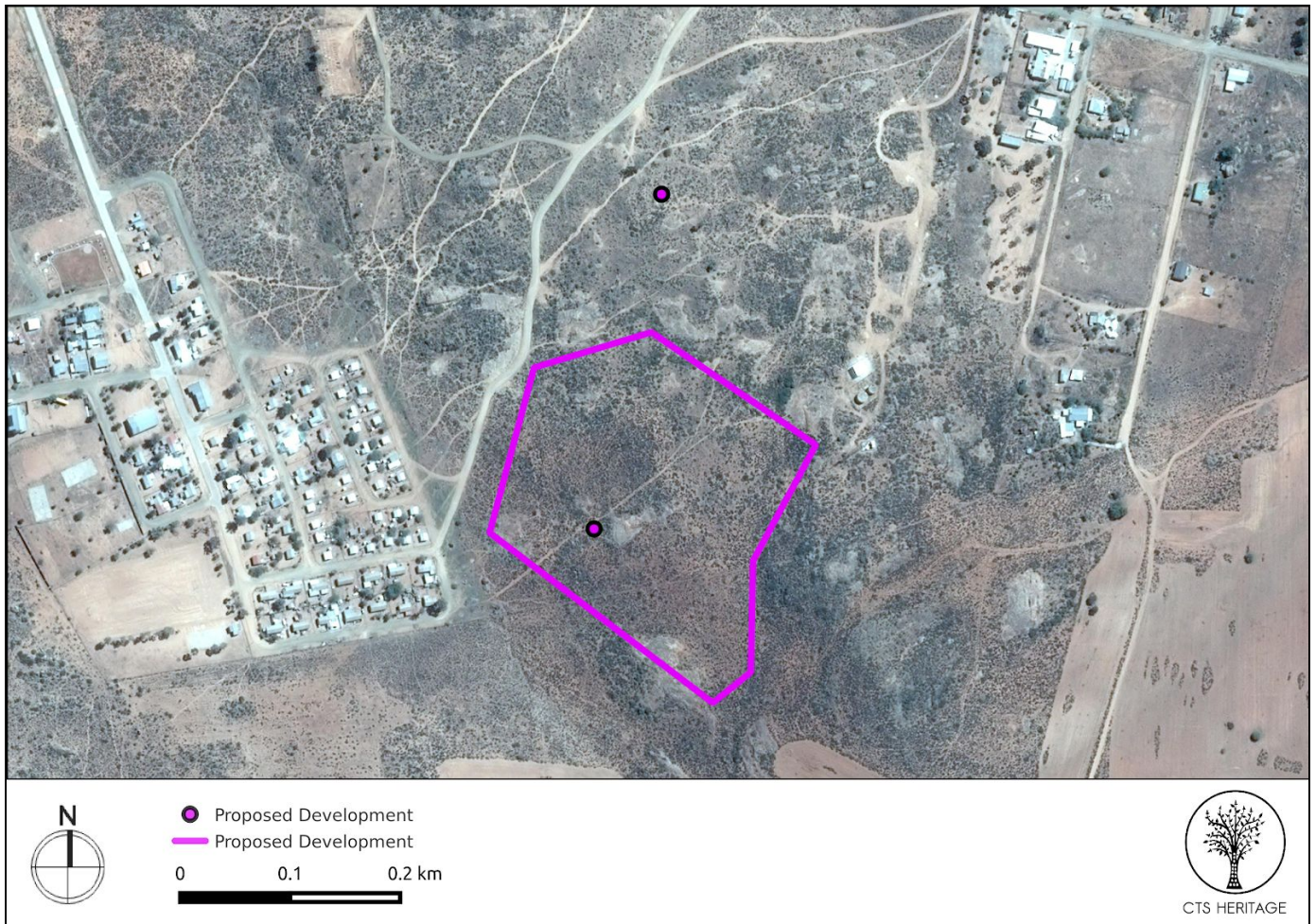
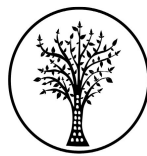


Figure 1: Close up satellite image indicating proposed location of development



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1.2 Description of Property and Affected Environment

Site 1 is located alongside the gravel road leading to the Kamieskroon township. The site slopes to the south, and is covered in dense natural veld. Outcroppings of granite occur across the northern portion, while several large domed outcroppings occur on the lower slopes of the site, and in the southeastern corner. Several pedestrian footpaths cross the site. There is evidence of squatting. Some litter also occurs, but overall the site is relatively undisturbed.

Site 2 is located alongside the gravel road leading to the Kamieskroon Township. The site slopes from north to south, and is quite severely degraded. There are a few patches of undisturbed veld. An outcropping of granite occurs on the southern boundary, and to the east of the proposed development site close to the existing water reservoir. The ruins of several buildings/structures and a stock enclosure/kraal occur on the upper, flatter, northern portion of the site. According to a resident, the house (now ruined) was previously occupied by an 'ou tannie' (old auntie)¹. Numerous pedestrian footpaths and gravel tracks cross the site. Litter and dumping of domestic waste is widespread. Large amounts of broken bottles, shattered glass, plastic, broken ceramic, asbestos, rusted metal items cover the site. The site has also been used as an open air toilet.

2. METHODOLOGY

2.1 Purpose of Archaeological Study

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

2.2 Summary of steps followed

- An archaeologist conducted a survey of the site and its environs on 9 and 10 August 2018 to determine what archaeological resources are likely to be impacted by the proposed development.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.



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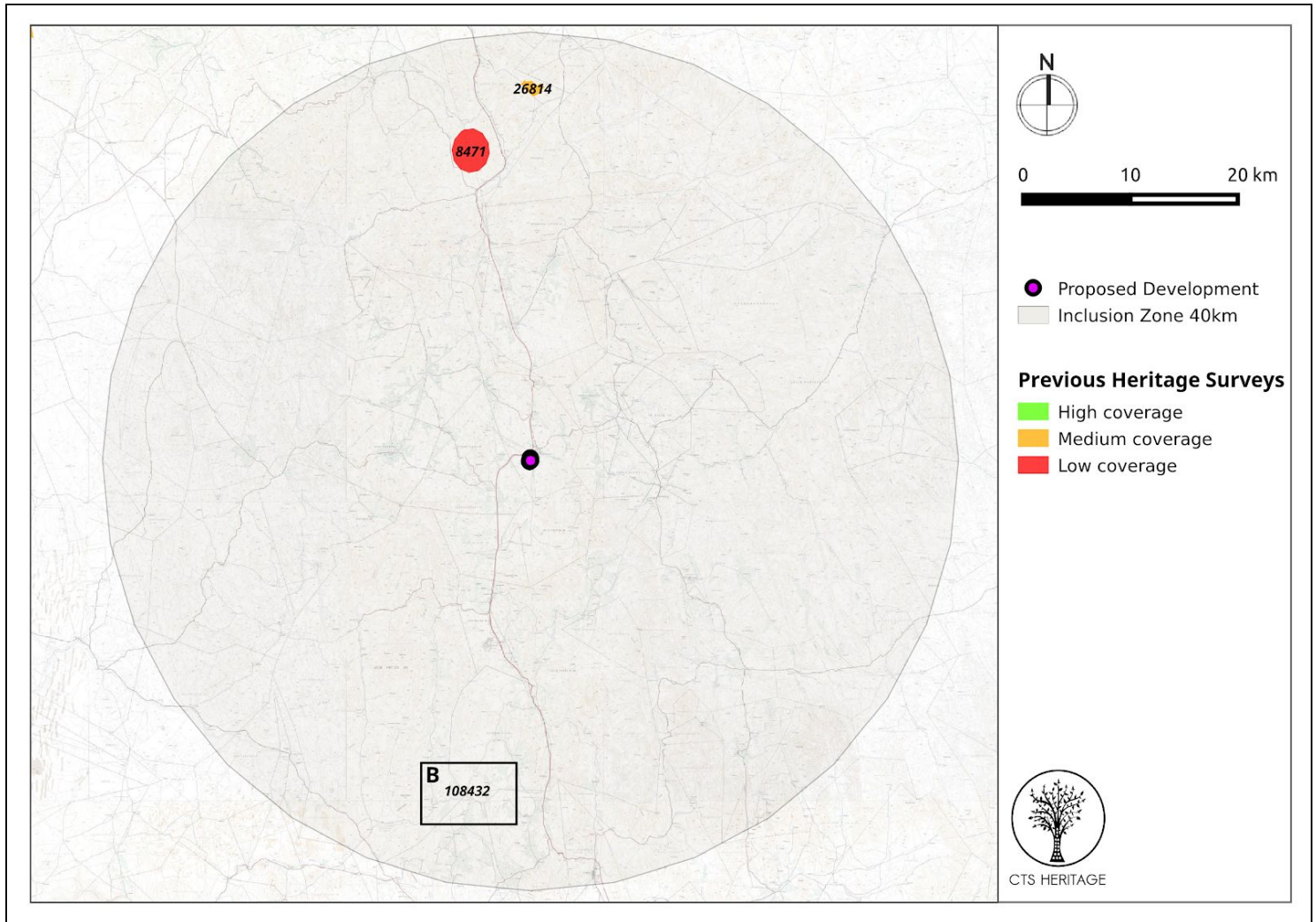


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

The central Namaqualand region has been inhabited since the Early Stone Age (ESA) and was increasingly exploited throughout the Middle and Later Stone Ages (MSA and LSA, respectively). In the period of recent prehistory, the area was home to Khoekhoen who moved seasonally through the landscape with their flocks, a pattern of transhumance that was repeated by the early European settlers in the region. In the early 1800s several Mission Stations were established in the area, and these became settled towns through time. Kamieskroon itself was settled in 1924 after a water shortage forced residents of a nearby village to relocate. Historically, the mining of copper was important to the economy of this region, having been discovered and mined for European trade since the 17th century.

Very few heritage surveys have been conducted in this region, with only three previous archaeological surveys completed within a 40km radius (Figures 2a and 2b). These reports indicate that at least parts of the area are of low archaeological heritage significance (Webley 2012, SAHRIS NID 26814; Gaigher 2012, SAHRIS NID 108432), with recorded finds restricted to a low-density diffuse background scatters of glass and ceramic shards at one location that represents displaced historic domestic refuse (Deacon 2003, SAHRIS NID 8471). This pattern is more likely a consequence of the lack of reconnaissance and research in the area rather than a real lack of archaeological material.

Known heritage sites in the area include two Provincial Heritage Sites, being the Letterklip at Garies (SAHRIS SID 281269) and the Methodist Church and Manse at nearby Leliefontein (SAHRIS SID 28127) (Figure 3). In addition to these declared



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sites, three rock art sites have been identified within a 40km radius of the development area, two to the northwest (SAHRIS SIDs 93812 and 93813), and one to the southeast (SAHRIS SID 93814); all three are located on rocky ridges or outcrops.

Table 1: Table of known heritage resources within the development footprint (Figure 3a and 3b)

Site ID	Site No	Site Name	Site type	Grading
28126	9/2/066/0011	Letterklip, Garies, Namaqualand District	Building	Grade II
28127	9/2/066/0012	Methodist Church and Manse, Leliefontein, Namaqualand District	Building	Grade II
93812	Kookfontein 6	Kookfontein 6 Rock Art Site	Rock Art	NA
93813	Canariefontein 1	Canariefontein 1 Rock Art Site	Rock Art	NA
93814	Twee Rivieren	Twee Rivieren Rock Art Site	Rock Art	NA

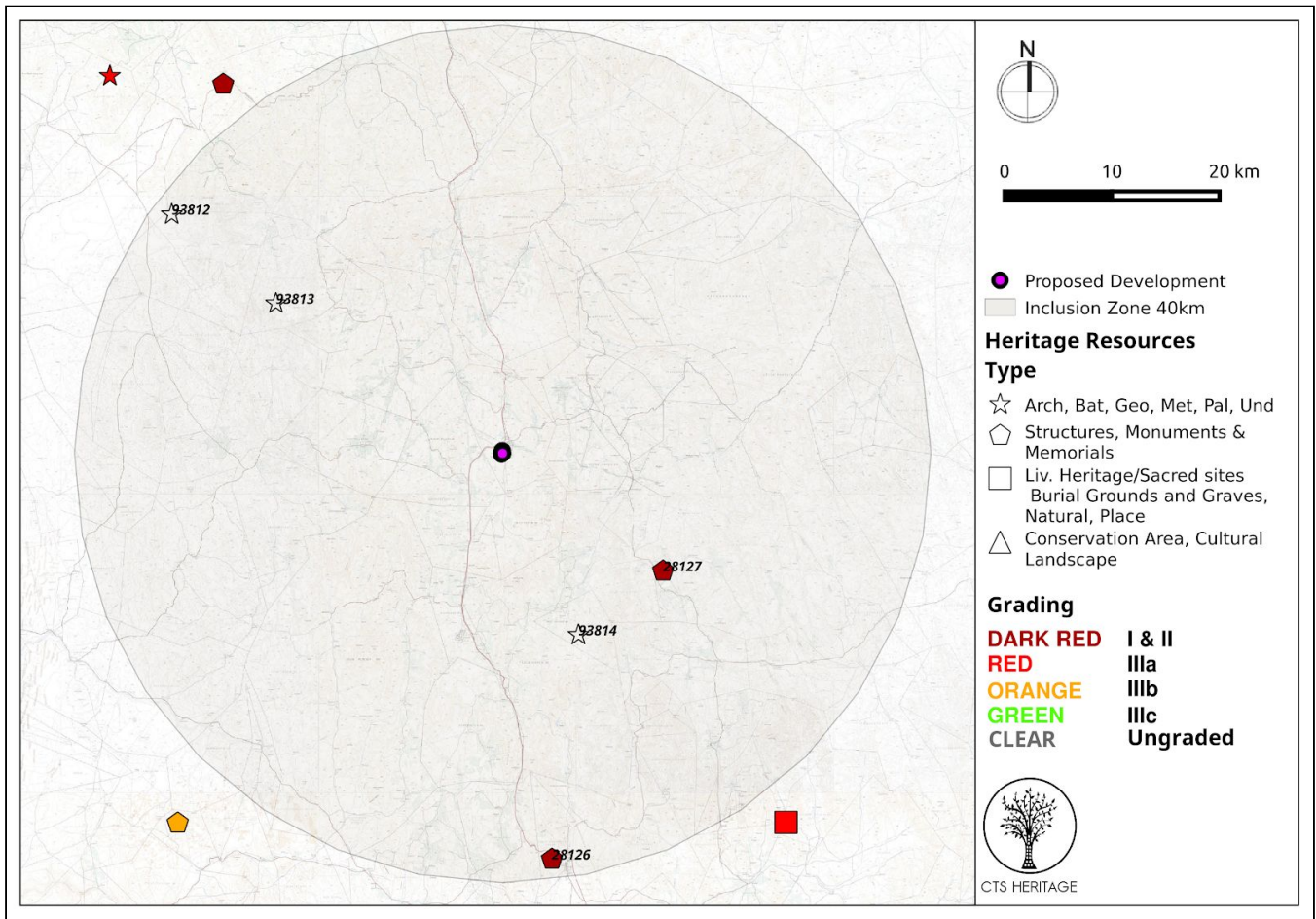


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated

4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Field Assessment

Overall, there were no constraints or limitations associated with the study. Access to all the location sites was unrestricted and mobility unhindered.

Dense natural vegetation in Kamieskroon (Site 1), however, resulted in poor archaeological visibility, but indications are that the proposed site is not a sensitive archaeological or heritage landscape.



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Figure 4.1: Contextual Images - Kamieskroon Site 1



Figure 4.2: Contextual Images - Kamieskroon Site 1

4.2 Archaeological Resources identified

No archaeological resources were identified in Site 1 or in the area proposed for the desalination plant. Two sites of low local significance were identified in Site 2.



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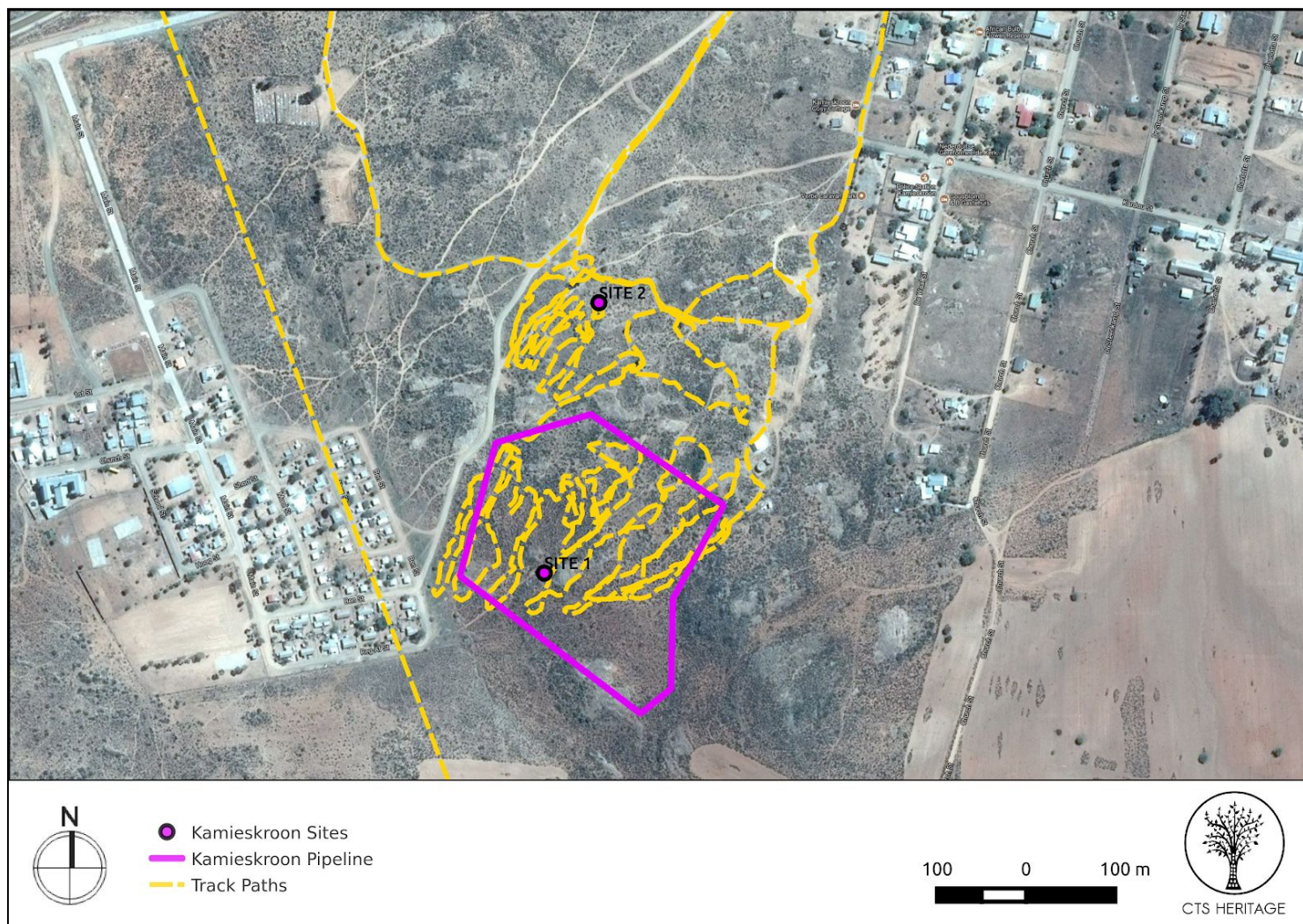


Figure 5: Overall track paths of foot survey

Table 2: Artefacts identified during the field assessment

SAHRIS ID	Site Number	Description	Latitude	Longitude	Grading
128407	KKN1	Remains/ruins of a modern, concrete building foundation, piles of poorly mixed, moulded concrete building blocks, modern glass, rusted metal. Single line of concrete blocks/ remains of a standing wall.	S30° 12.852'	E17° 55.668'	IIIC
128408	KKN2	Ruins of a kraal/ stock/pen enclosure in front of an old Brazilian Pepper tree, alongside a gravel track. Likely associated with KKN1	S30° 12.883'	E17° 55.694'	IIIC



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4.3 Selected photographic record



Figure 6.1 Site KKN1.



Figure 6.2 Site KKN1 - note the line of bricks to the left of the plate



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5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

Indications are that the proposed activities will not impact on significant archaeological heritage.

The overall impact significance, however, is rated as being low, and there are no objections to the proposed development.

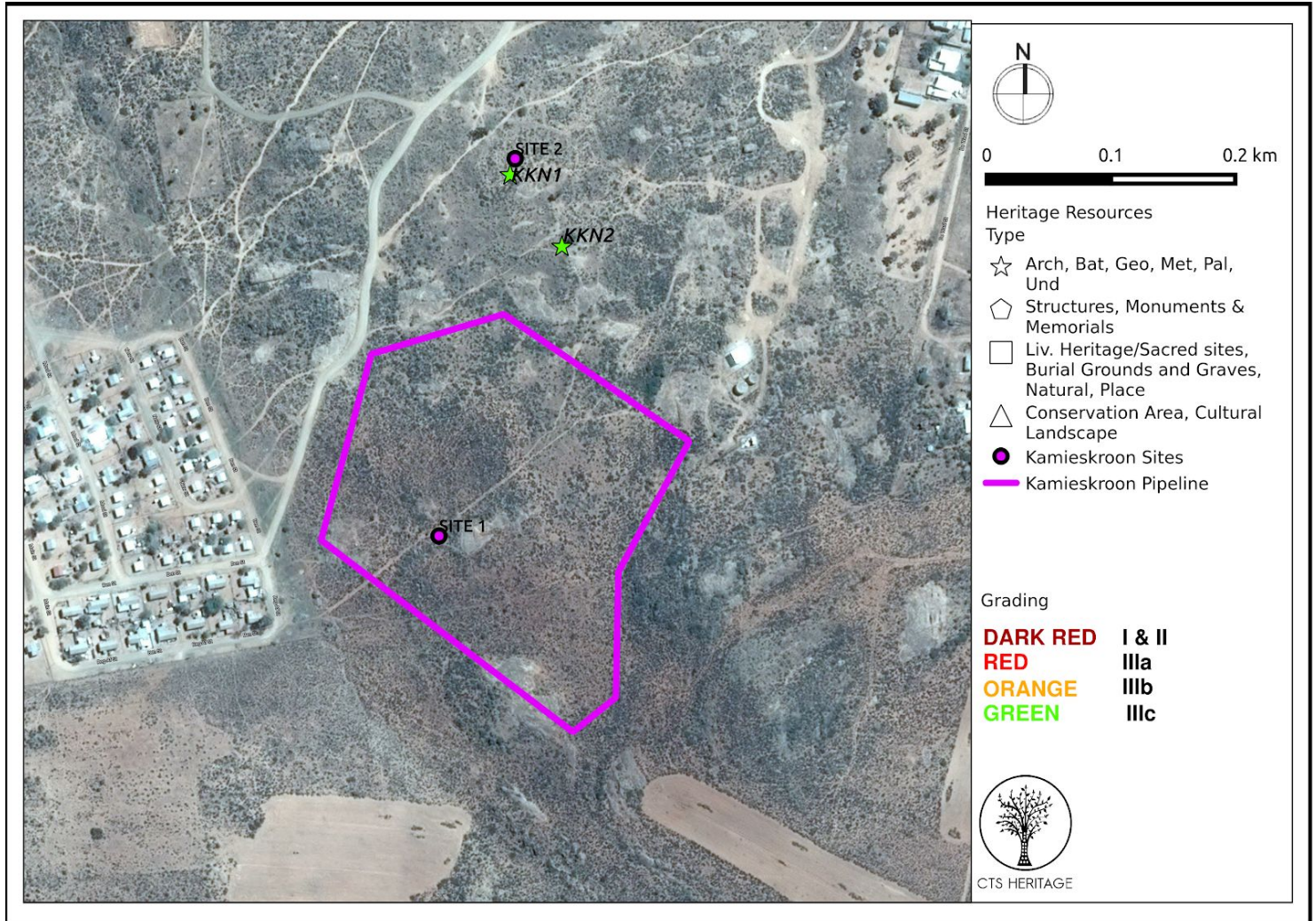


Figure 7: Map of heritage resources identified during the field assessment relative to the proposed development



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5.2 Proposed development alternatives

The developer has provided Site 1 and Site 2 as the proposed alternatives for this development. There is no preferred alternative from a heritage perspective.



Figure 8.1 Map of layout provided by client

6. CONCLUSION AND RECOMMENDATIONS

The proposed development will not negatively impact on any significant archaeological resources

In summary;

- The proposed development will not negatively impact on any significant archaeological resources
- There is no objection to the proposed development and there is no preferred alternative in terms of impacts to heritage resources.



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7. REFERENCES

Impact Assessment References				
Nid	Report Type	Author/s	Date	Title
8471	AIA	Hilary Deacon	26/05/2003	Naroeshuis Report
26814	HIA	Stephan Gaigher	02/05/2012	Heritage Impact Assessment Report Basic Assessment: Proposed Establishment of the Brax Energy Photovoltaic Solar Park on a Portion of the Farm Mesklip 259 near Springbok in the Northern Cape Province
108432	HIA	Lita Webley	06/12/2012	Desktop HIA Brakfontein 431