

Phase 1 Archaeological and Heritage Impact Assessment on the Remaining Extent of the farm
Doornhoek 451 KT in respect of proposed agricultural development, Mpumalanga Province.

Compiled for:



For **Eco-8 Environmental Planners**

8 February, 2022

I, Jean-Pierre Celliers as authorized representative of Kudzala Antiquity CC , hereby confirm my independence as a specialist and declare that neither I or the Kudzala Antiquity CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which I was appointed as Heritage Consultant, other than fair remuneration for work performed on this project.

SIGNATURE: 

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Executive summary

Site name and location: An area of approximately 70 ha of farm land located on the farm Doornhoek 451 KT, Limpopo, in respect of agricultural development.

Purpose of the study: An archaeological and heritage study in order to identify cultural heritage resources in respect of the proposed development.

Topographical Maps: 1:50 000 2430 DA (1965, 1975, 1996) 2531 CA (1968, 1984).

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Description and findings:

An Archaeological and Heritage Impact Assessment was undertaken by Kudzala Antiquity CC in respect of proposed agricultural development on an area of approximately 70 hectares on the Remaining Extent of the farm Doornhoek 451 KT, Limpopo Province. The study was done with the aim of identifying sites which are of heritage significance on the identified project area and assess their current preservation condition, significance and possible impact of the proposed action. This forms part of legislative requirements as appears in section 38 of the National Heritage Resources Act (Act No. 25 of 1999). This report can be submitted in support of the National Environmental Management Act (Act 25 of 1998).

The survey was conducted on foot and with the aid of a motor vehicle in an effort to locate archaeological remains and historic sites, structures and features. An historic overview and archival information, including scrutiny of previous heritage surveys of the area formed the baseline information against which the survey was conducted. Nine sites were documented (sites DH 1-9) and they are of low heritage significance. They mainly consist of either linear or rectangular stone structures which are often dry-packed. They are mostly in very poor condition and often associated with scattered iron utilitarian household remains such as paraffin containers, remains of a bed, enamel crockery and more. It is probable that these were dwellings either used by farm workers or seasonal dwellings for pioneer settlers/ livestock farmers of the area (Coetzee & Schoeman, 2011:7). Although they are considered to be of low heritage significance, there is the possibility that unmarked graves may be in the near vicinity. An effort was made to locate possible grave sites but none could be found. This may be partly due to the very dense vegetation growth at most of these sites – they are often located very close to the River in the Riparian zone. Care should be taken when clearing these areas for agricultural expansion, preferably under supervision of the EAP or an Archaeologist. Some of the documented sites (DH 4-6) are located outside of the proposed development footprint. Recommendations are summarized in section five of this report.

A total of twenty five survey orientation locations were documented (sites SO 1-25) which includes a GPS location and photographs of the landscape at that particular location.

In terms of section 34 of the National Heritage Resources Act (NHRA, 25 of 1999), nine sites were documented they are considered to be of low heritage significance. Recommendations are summarized in section five of this report.

In terms of section 35 of the NHRA, no significant archaeological sites were located.

In terms of section 36 of the NHRA, no graves or gravesites and burial grounds were located. Due to certain areas being densely overgrown with vegetation it is possible that some unmarked graves may have been overlooked during the survey.

It is not within the expertise of this report or the surveyor to comment on possible palaeontological remains which may be located in the study area.

Disclaimer: *Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Kudzala Antiquity CC will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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- The results of the project;
- The technology described in any report; and
- Recommendations delivered to the client.

Introduction

1.1. Terms of reference

Kudzala Antiquity CC was commissioned to conduct an archaeological and heritage resources survey in respect of proposed agricultural development/ expansion on an area of approximately 70 hectares of natural Ohrigstad Mountain Bushveld belonging to the Savanna Biome and located on the farm Doornhoek 451 KT, Limpopo Province. The survey was conducted in order to assess the potential impact that the proposed activity may have on archaeological and heritage resources. The survey was conducted for Eco-8 Environmental Planners.

1.1.1 Project overview

The client is in the process of obtaining environmental authorization to commence with agricultural development. Suitable areas within the identified project area are earmarked for this activity pending environmental authorization.

1.1.2. Constraints and limitations

The archaeological survey consisted of non-intrusive methods which exclusively rely on surface observations. Some sections of the project footprint area were relatively easy of access but most areas were difficult to access due to **very dense vegetation** growth which resulted in archaeological visibility being low.

1.2. Legislative Framework

The National Heritage Resources Act (NHRA) (Act No. 25, 1999) require that individuals or institutions have specialist heritage impact assessment studies undertaken whenever development activities are planned and such activities trigger activities listed in the legislation. This report is the result of an archaeological and heritage study in accordance with the requirements as set out in Section 38 (3) of the NHRA in an effort to ensure that heritage features or sites that qualify as part of the national estate are properly managed and not damaged or destroyed.

The study aims to address the following objectives:

- Analysis of heritage issues;
- Assess the cultural significance of identified places including archaeological sites and features, buildings and structures, graves and burial grounds within a specific historic context;
- Identifying the need for more research;
- Surveying and mapping of identified places including archaeological sites and features, buildings and structures, graves and burial grounds;
- A preliminary assessment of the feasibility of the proposed development or construction from a heritage perspective;
- Identifying the need for alternatives when necessary; and

- Recommending mitigation measures to address any negative impacts on archaeological and heritage resources.

Heritage resources considered to be part of the national estate include those that are of archaeological, cultural or historical significance or have other special value to the present community or future generations.

The national estate may include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and paleontological sites;
- graves and burial grounds including:
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
 - (v) historical graves and cemeteries; and other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to slavery in South Africa;
- movable objects including:
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage
 - (iii) ethnographic art and objects;
 - (iv) military objects
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Cultural resources are unique and non-renewable physical phenomena (of natural occurrence or made by humans) that can be associated with human (cultural) activities (Van Vollenhoven 1995:3). These would be any man-made structure, tool, object of art or waste that was left behind on or beneath the soil surface by historic or pre-historic communities. These remains, when studied in their original context by archaeologists, are interpreted in an attempt to understand, identify and reconstruct the activities and lifestyles of past communities. When these items are removed from their original context, any meaningful information they possess is lost, therefore it is important to locate and identify such remains before construction or development activities commence.

1.3. Approach and statutory requirements

The SAHRA Minimum standards of 2007 and 2016 guideline document, forms the background against which the survey was planned and the report compiled. An Archaeological Impact Assessment (AIA) consists of three phases. This document deals with the first phase. This (phase 1) investigation is aimed at getting an overview of cultural resources in the project area, assigning significance to these resources, assessing the possible impact that the proposed activity may have on these resources, making recommendations pertaining to the management of heritage resources and putting forward mitigation measures where applicable.

When the archaeologist or heritage specialist encounters a situation where the planned project will lead to the destruction or alteration of an archaeological/ heritage site or feature, a second phase investigation is normally recommended. During a phase two investigation mitigation measures are put in place and detailed investigation into the nature of the cultural material is undertaken. Often at this stage, archaeological excavation and detailed mapping of a site is carried out in order to document and preserve the cultural heritage.

Phase three consists of the compiling of a management plan for the safeguarding, conservation, interpretation and utilization of cultural resources (Van Vollenhoven, 2002).

Continuous communication between the developer and heritage specialist after the initial assessment has been carried out may result in the modification of a planned route or development to incorporate or protect existing or newly found archaeological and heritage sites.

2. Description of surveyed area

The study area is located on the border of Limpopo and Mpumalanga Provinces and falls within the boundaries of Limpopo. The farm Doornhoek is located in the Kaspersnek Valley which is a very productive citrus farming area. Current land use of the project area is a game encampment which is fenced. The remaining infrastructure of previous cattle farming such as cattle pens, drinking troughs and old fencing posts are visible. This suggests that the area was previously used for cattle grazing. Topographical maps dated 1965, 1975 and 1996 also show that a small portion of the project area used to be cultivated lands. The survey was conducted on foot and with the use of a motor vehicle in an effort to locate cultural remains.

Landscape: The project landscape has been slightly modified in the past due to agricultural use. It is located on gentle to fairly steep sloping land surface at the foot of a large mountain. It is very rocky underfoot and vegetation growth very dense. The Kgwete River is located to the North-east of the project area. The natural vegetation is known as Ohrigstad Mountain Bushveld.

Visibility: Fair-Poor in certain areas due to very dense vegetation cover.

Veld type: The vegetation is classed as Ohrigstad Mountain Bushveld comprising open to dense woods with associated shrubs and a closed to open grass layer. Moderate to steep slopes on mountainside and sometimes deeply incised valleys. There is also fairly flat terrain in a few places (Mucina and Rutherford, 2009).

Geology and soils: Primarily on quartzite and shale with some sediments of the Chuniespoort Group. It is also characterized by shallow rocky soils. It is a summer rainfall region with very dry winters. Annual rainfall 500-800mm (Mucina and Rutherford, 2009).

3. Methodology

This study consists of a detailed archival study in order to understand the study area in a historical timeframe, an archaeological background study which include scrutiny of previous archaeological reports of the area, obtained through the SAHRIS database, and published as well as unpublished written sources on the archaeology of the area, social consultation with people who live nearby and a lastly a physical survey of the affected and immediate area.

The South African Heritage Resources Agency (SAHRA) and the relevant legislation (NHRA) require that the following components be included in an archaeological impact assessment:

- Archaeology;
- Shipwrecks;
- Battlefields;
- Graves;
- Structures older than 60 years;
- Living heritage;
- Historical settlements;
- Landscapes;
- Geological sites; and
- Paleontological sites and objects.

All the above-mentioned heritage components are addressed in this report, except shipwrecks, geological sites and paleontological sites and objects.

The **purpose** of the archaeological, archival and heritage study is to establish the whereabouts and nature of cultural heritage sites should they occur on project area. This includes settlements, structures and artefacts which have value for an individual or group of people in terms of historical, archaeological, architectural and human (cultural) development.

The **aim** of this study is to locate and identify such objects or places in order to assess and rate their significance and establish if further investigation is needed. Mitigation measures can then be suggested and put in place when necessary.

3.1. Archaeological and Archival background studies

The purpose of the desktop study is to compile as much information as possible on the heritage resources of the area. This helps to provide an historical context for located sites. Sources used for this study include published and unpublished documents, archival material and maps. Information obtained from the following institutions or individuals were consulted:

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- Published and unpublished archaeological reports and articles;
- Published and unpublished historical reports and articles;
- Archival documents from the National Archives in Pretoria;
- Historical maps; and
- South African Heritage Resource Information System (SAHRIS) database.

3.1.1. Previous archaeological studies in the area

In a recent survey (2018) Christine van Wyk-Rowe conducted an archaeological impact assessment on Portion 1 of the farm Haakdongdraai 439 KT which is located in the Kaspersnek Valley. She identified recent settlement foundations, a possible Late Iron Age site and a possible grave site (Van Wyk-Rowe, 2018 at SAHRIS on file as Case 13763).

3.1.2. Historic maps

Historical maps were scrutinized and features that were regarded as important in terms of heritage value were identified and if they were located within the boundaries of the project area they were physically visited in an effort to determine:

- (i) whether they still exist;
- (ii) their current condition; and
- (iii) Significance.

3.1.3. Physical survey

- The survey of the proposed project area was conducted on 3 and 9 March 2021 and also on 21 January 2022
- The survey took three days to complete.
- The documented sites were numbered sequentially.
- Sites were recorded by using a handheld Garmin Oregon 450 GPS unit and the unit was given time to reach an accuracy of at least 5 metres.
- Sites were plotted on 1:50 000 topographical maps which are geo-referenced (WGS 84) and also on Google Earth.
- Nine sites consisting of linear and rectangular packed stone walls were located. It is however of low significance. Some survey orientation sites were mapped for survey purposes.

3.2. Heritage site significance

The South African Heritage Resources Agency (SAHRA) formulated guidelines for the conservation of all cultural resources (sections 6 and 7 of the NHRA, 1999) and therefore also divided such sites into three main categories. These categories might be seen as guidelines that suggest the extent of protection a given site might receive. They include sites or features of local (Grade 3) provincial (Grade 2) national (Grade 1) significance, grades of *local significance* and *generally protected* sites with a variety of degrees of significance.

For practical purposes the surveyor uses his own classification for sites or features and divides them into three groups, those of low or no significance, those of medium significance and those of high significance (***Also see table 5.2. Significance rating guidelines for sites.***)

Values used to assign significance and impact characteristics to a site include:

- **Types of significance**

The site's scientific, aesthetic and historic significance or a combination of these is established.

- **Degrees of significance**

The archaeological or historic site's rarity and representative value is considered. The condition of the site is also an important consideration.

- **Spheres of significance**

Sites are categorized as being significant in the international, national, provincial, regional or local context. Significance of a site for a specific community is also taken into consideration.

To arrive at the specific allocation of significance of a site or feature, the specialist considers the following:

- Historic context;
- Archaeological context or scientific value;
- Social value;
- Aesthetic value; and
- Research value.

More specific criteria used by the specialist in order to allocate value or significance to a site include:

- The unique nature of a site;
- The integrity of the archaeological deposit;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined or is known);
- The preservation condition of the site;
- Quality of the archaeological or historic material of the site; and
- Quantity of sites and site features.

Archaeological and historic sites containing data, which may significantly enhance the knowledge that archaeologists currently have about our cultural heritage, should be considered highly valuable. In all

instances these sites should be preserved and not damaged during construction activities. However, when development activities jeopardize the future of such a site, a second and third phase in the Cultural Resource Management (CRM) process is normally advised. This entails the excavation or rescue excavation of cultural material, along with a management plan to be drafted for the preservation of the site or sites.

Graves are considered very sensitive sites and should never under any circumstances be jeopardized by development activities. Graves and burial grounds are incorporated in the NHRA under section 36 and in all instances where graves are found by the surveyor, the recommendation would be to steer clear of these areas. If this is not possible or if construction activities have for some reason damaged graves, specialized consultants are normally contacted to aid in the process of exhumation and re-interment of the human remains.

4. History and Archaeology

4.1. Historic period

4.1.1. Early History

The first inhabitants of the eastern Lowveld were probably the San or Bushmen. They were a nomadic people who lived together in small family groups and relied on hunting and gathering of food for survival. Evidence of their existence is to be found in numerous rock shelters throughout the Lowveld where some of their rock paintings are still visible. A number of these shelters have been documented in the Nelspruit area (Bornman, 1995; Schoonraad in Barnard, 1975). It has been argued that the red ochre source for these paintings is to be found at Dumaneni, near Malelane (Bornman, 1995).

Two Late-Holocene (Later Stone Age/ LSA) sites near Hazyview in the Kruger National Park date to the last 2500 years and are associated with pottery and microlith stone tools (Bergh, 1998: 95). This is contemporary to typical hunter-gatherer lifestyle and may also have been sites frequented by San. Two additional LSA and Middle Stone Age (MSA) shelters known as Heuningnestkrans and Bushman Rock Shelter are located a few kilometres north of Ohrigstad. These are deep sequence MSA and LSA stratified living spaces of hunter-gatherer communities believed to have been present since 45k BP (Beaumont, 1981; Eloff, 1969; Louw, 1969). Recent and ongoing archaeological investigation of both sites has resulted in even earlier dates of occupation (Porraz, G & Val, A, 2019).

It was only later that Bantu-speaking tribes moved into this area from the northern parts of Southern Africa and settled here. This period is referred to as the Early Iron Age (AD 200-1500 approx.). 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. (Barnard, 1975; Bergh, 1998; Bornman, 2002; Herbst, 1985; Myburgh, 1949).

Old 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 (Bergh, 1998:103). The earliest signs of iron mining and working in the old Transvaal dates to approximately 300 AD and copper mining and working in Southern Africa may have been practiced as early as 620 AD (Bergh, 1998:103).

These people were responsible for the establishment of large centrums like Monomtapa the Zimbabwe Complex and also the famed Mapungubwe in the Limpopo valley. At around 900 AD Arab merchants established a trade post at Sofala (Beira). Since the start of the 11th century, these Arabs had trade relations with the people of Zimbabwe. Textiles, porcelain and glass beads were traded for gold, ivory and other minerals.

An ancient trade route passed close-by the current Nelspruit and started from Delagoabay in a westward direction through the Lowveld towards the gold fields of Lydenburg, by passing through Malalapoort, the Nkhomati and Crocodile Rivers to Skipberg in the current Kruger National Park close-by the place where Pretoriuskop Rest Camp is located. From here onwards there were two possible routes up the mountains to reach the goldfields. The first one passed by Spitskop (Sabie) and from there on to Lydenburg. The second passed south of the "Devils Knuckles" to Lydenburg. The Voortrekkers used this route in 1845 when making the wagon route between Ohrigstad and Delagoabay (Berg, 1998: 104). There were also several linking routes to existing main routes, one of which started from Sabie or Lydenburg to the route which linked Delagoabay to the Soutpansberg via Pilgrim's Rest. It is also believed that a footpath existed at the foothills of the (Transvaal) Drakensberg which led around the mountain to link again with a major route alongside the Olifants River (Bergh, 1998:104).

In 1721 Dutch sailors reached Delagoa Bay and settled there for nine years, during this time they launched a number of expeditions inland. During August 1723 lieutenant Jan Steffler and 17 men launched the first of these expeditions but they were ambushed by natives shortly after crossing the Lebombo Mountains. Exactly where they crossed the mountains is uncertain but it is possible that they were actually in northern Swaziland when they were attacked. Steffler succumbed as a result of this ambush and his followers returned to Delagoa Bay (Bergh, 1998:116).

A second attempt to create an inland route took place two years later in June 1725 when Francois de Cuiper and 34 men departed from Delagoa Bay and travelled in a north-western direction. They reached Gomondwano in the current Kruger National Park where they were also attacked by a local tribe. This resulted in them also having to return to Delagoa Bay. Although this attempt was also not successful, it is seen as the first European intrusion into this northern area (Bergh, 1998:116).

In the (Eastern Transvaal) Lowveld a sub-group of the Northern Sotho, known as the eastern Sotho, were present nearby the eastern escarpment. They are known as the Pulana, Pai (emaMbayi) and Kutswe, these people moved from northern Swaziland further northwards when Swazi expanded into this area during the mfecane (Bergh, 1998:107-108). One of the recorded events relates to the attack of the Ndwande under Zwide on the Pedi in 1825 (Bergh, 1998:114-115). This seems to have started from the Lowveld in the region of the Pretoriuskop area towards Steelpoort.

During the nineteenth century the Lowveld area of Mpumalanga was extensively settled by both Bantu and European groups that migrated into this area. Bantu migration was mainly as a result of political upheaval during the mfecane ("the crushing" in Nguni). This was a period of bloody tribal and faction struggles in present-day KwaZulu Natal and on the Highveld area, which occurred around the early 1820's until the late 1830's (Bergh, 1998). It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka's Zulus to attack other tribes (Giliomee, 2003). During this period, a movement of Swazi people took place to the areas north and northwest of Swaziland. As a result reports indicate that the Swazi were living in the Lowveld area by the 1840's (Bergh, 1998).

Before the mfecane period (1820's) small farmer groups including the Pai and Pulana resided in the mountainous area surrounding Barberton and Nelspruit. The conflict during the mfecane, when the Swazi under Mswati II raided these smaller groups, resulted in scattered settlement of those who managed to escape the Swazi onslaught. Evidence of these scattered settlements are sometimes found in the form of small stone walled enclosures in and around Barberton, Nelspruit and onwards to the Schoemanskloof.

According to Bornman:

“Mswati continued his attacks on the emaMbayi (Sotho) tribes living south of the Ngwenya (Crocodile) and the Mlambongwane (Kaap) Rivers, who fled into the present day Kruger National Park and into the mountainous area of Mphakeni (Crocodile Gorge) and the Three Sisters Mountains. But as soon as the Swazi army had retreated, the emaMbayi returned to their old haunts and reoccupied them.

Again the Swazi regiments drove the emaMbayi from this area. The battle, which took place near the creek, today known as Low's Creek, west of the Three Sisters Mountain, was so fierce that the creek ran red with the blood of the slain. After the battle the Swazi named the creek: the red (or blood) river (Mantibovu) and the Three Sisters they named Mbayiyane, meaning the 'mountain of the emaMbayi'.

Mswati proceeded systematically to settle this area with members of his own family and trusted commoners after they killed Tsibeni and evicted the remnants of his people who fled to an area near Legogote, where they are still living today” (Bornman, 1995). This is very near the town of White River.

Archaeological evidence recorded in Prehistory of the Transvaal: a record of human activity does however refer to the presence of terraced settlement and a set of “unusual group of walls” that most likely indicates the presence of a small Iron Age agricultural village in the vicinity of the area in which the farm is located in Mpumalanga (Mason, 1962). Information cited in the Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies confirms the presence of Late Iron Age settlements in the area between ca 1000 and 1800 (Bergh, 1998).

4.1.2. Colonial period history

The Groot Trek of the Voortrekkers started with the Tregardt- van Rensburg trek in 1835. The two men met where Tregardt and his followers crossed the Orange River at Buffelsvlei (Aliwal North). Here van Rensburg joined the trek northwards. On August 23, 1837 the Tregardt trek left for Delagoabay from the Soutpansberg. They travelled eastwards alongside the Olifants River to the eastern foothills of the Drakensberg. From here they travelled through the Lowveld and the current Kruger National Park where they eventually crossed the Lebombo mountains in March 1838. They reached the Fortification at Lourenço Marques on 13 April 1838 (Bergh, 1998:124-125).

Permanent European (Voortrekker) settlement of the eastern areas of Mpumalanga can be traced back to a commission under the leadership of A.H. (Hendrik) Potgieter who negotiated with the Portuguese Governor at Delagoabaai in 1844 for land. It was agreed that these settlers could settle in an area that was four days journey from the east coast of Africa between the 10° and 26° south latitudes. Voortrekkers started migrating into the area in 1845. The Voortrekkers settled in the area largely due to the profitable trade with Delagoa Bay. However, the existing trade paths were not suitable for wagon transport. In 1843 A.H. (Hendrik) Potgieter followed a route through Schoemanskloof and along the Crocodile River to Delagoa Bay and this became the first surveyed route. In 1844 a second route was established along the Ohrigstad and

Casper rivers and through the mountain at Caspersnek. This route was not ideal as water was not readily available during winter months, when it was the best time to travel due to the reduced incidence of Tsetse fly (Coetzee and Schoeman, 2011: 7).

Andries-Ohrigstad was the first town established in this area in July 1845 after the Voortrekkers successfully negotiated for land with the Pedi Chief Sekwati. Farms were given out as far west as the Olifants River. The western boundary was not officially defined but at a Volksraad meeting in 1849 it was decided that the Elands River would be the boundary between the districts of Potchefstroom and Lydenburg as this eastern portion of the Transvaal was then known (Bergh, 1998).

Due to internal strife and differences between the various Voortrekker groups that settled in the broader Transvaal region, the settlers in the Ohrigstad area now governed from the town of Lydenburg decided to secede from the Transvaal Republic in 1856. The Republic of Lydenburg laid claim to a large area that included not only the land originally obtained from the Pedi Chief Sekwati in 1849 but also other areas of land negotiated for from the Swazis. The Republic of Lydenburg was a vast area and stretched from the northern Strydpoort mountains to Wakkerstroom in the south and Bronkhortsspruit in the west to the Swazi border and the Lebombo mountains east.

As can be expected, the migration of Europeans into the north would have a significant impact on the indigenous people who populated the land. This was also the case in Mpumalanga. In 1839 Mswati succeeded Sobhuza (also known as Somhlomo) as king of the Swazi. Threatened by the ambitions of his half-brothers, including Malambule, who had support from the Zulu king Mpande, he turned to the Ohrigstad Boers for protection. He claimed that the land that the Boers had settled on was Swazi property. The Commandant General of the Ohrigstad settlement, Andries Hendrik Potgieter, responded that the land was ceded to him by the Pedi leader Sekwati, in return for protection of the Pedi from Swazi attacks (Giliomee, 2003).

However, in reaction to the increasingly authoritarian way in which Potgieter conducted affairs at Ohrigstad, the Volksraad of Ohrigstad saw Mswati's offer as a means to obtain more respectable title deeds for the property (Bonner, 1978). According to a sales contract set up between the Afrikaners and the Swazi people on 25 July 1846, the whites were the rightful owners of the land that had its southern border at the Crocodile River, which stretched out in a westerly direction up to Elandspruit; of which the eastern border was where the Crocodile and Komati rivers joined and then extended up to Delagoa bay in the north (Van Rooyen, 1951). The Europeans bought the land for a 100 heads of cattle (Huysler).

4.1.3. Railway history in the Eastern Lowveld

By June 1892, the new railway constructed from Lourenco Marques to Pretoria, reached Nelspruit. In November 1891 the Hall family opened a new hotel, mainly to accommodate railway construction workers. This hotel was moved to the centre of the town in June 1892 and was named the Fig Tree Hotel.

Railway expansion continued up until the Anglo-Boer War (1899-1902) and thereafter (Bergh, 1999). After the establishment of the Union of South Africa on 31 May 1910 the Transvaal had the most railway track in terms of distance. Some 2 730km of railway connected the economic centres of this province. Railways

made a huge contribution towards economic development especially in the Witwatersrand area where it served as important platform for mining and industrial development (Bergh, 1999).

The decade after establishment of the Union is characterised by a sharp increase in railway development especially between 1911-1916, after which a period of inactivity followed due to the First World War (Bergh, 1999). Most of the development took place in the Eastern Transvaal and five railway lines were constructed in order to promote the growing agricultural industry.



Fig. 4.1. Railway development in the Transvaal, 1889-1980 (Bergh, 1999: 79).

Ermelo was linked with Piet Retief and further to the south with Comondale and Vryheid in Natal The Komatipoort – Newington line was extended and passed over Acornhoek, Hoedspruit, Letsitele, Tzaneen and Soekmekaar (Fig. 4.1.) where it connects with the northern line from Pietersburg towards Louis Trichardt and Schoemansdal (Bergh, 1999).

4.1.4. Historic maps of the study area

Since the mid-1800s up until the present, South Africa has been divided and re-divided into various districts. Since 1845, the property under investigation formed part of the Lydenburg district. By 1902 it formed part of the Ohrigstad ward of the Lydenburg district. In 1924 the Pilgrimsrest district was proclaimed, and the farm Doornhoek 451 KT remained in the Lydenburg district (Bergh,1999: 17, 20-27). From 1861 to 1958, Doornhoek 451 KT was known as Doornhoek 450, Lydenburg district. Thereafter, it was known as Doornhoek 335 and currently it is known as Doornhoek 451 KT and it falls in the Limpopo Province.



Fig. 4.2. A map of the Lebombo Flats between the Olifants and Crocodile Rivers dated 1891. The approximate study area is indicated with a yellow border. The light brown lines represent roads and Caspar's Nek is shown southeast of the study area (NARSSA Maps: 1/148).

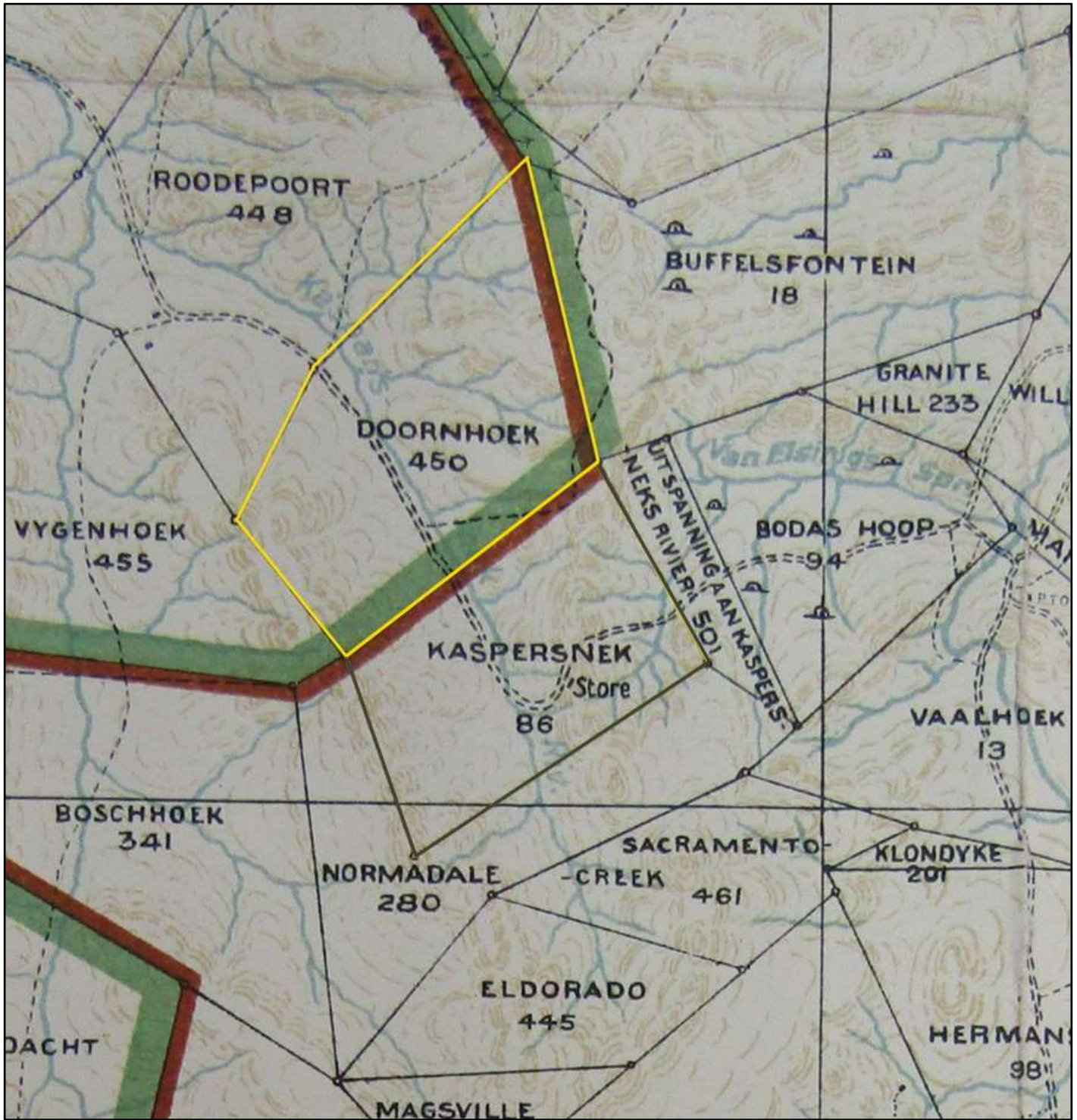


Fig. 4.5. A Map of the Ohrigstad district in 1924. The farm Kaspersnek 481 KT is still known as Doornhoek 450. The district boundary between Lydenburg and Pilgrim's Rest can be seen between the farms Kaspersnek and Doornhoek. The main road can still be seen on both properties, as can a branch road to the east of the main road (Surveyor-General, 1924).



Fig. 4.6. A Topographical map dated 1942. The approximate location of the farm Doornhoek 451 KT is indicated within the yellow border. No developments can be seen within the study area, other than a secondary road (Topographical Map, 1942).

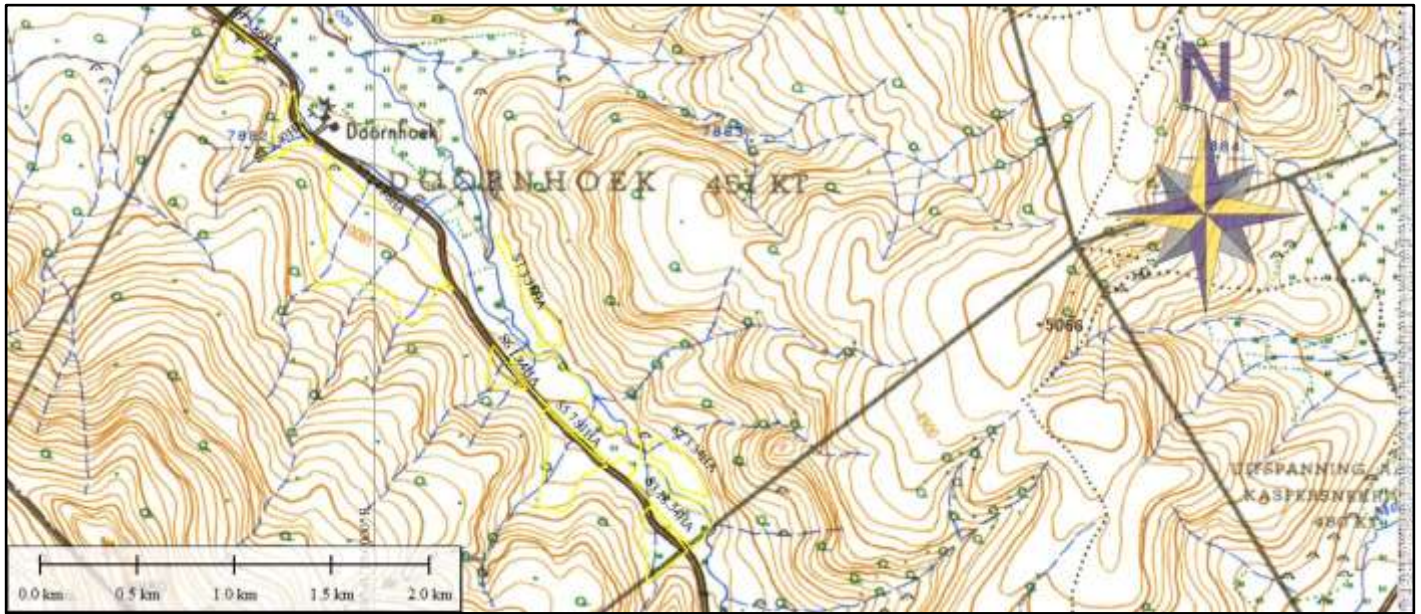


Fig. 4.7. A topographical map of Doornhoek 451 KT dated 1965. The study areas are shown with a yellow border. A secondary road, in brown, can be seen to the north-east of the study area. A hut can be seen just outside the study area to the south-east of the farm. Cultivated lands can be seen close to the hut (Topographical Maps, 1965).



Fig. 4.8. A topographical map of Doornhoek 451 KT in 1975. The study area is shown with a yellow border. A secondary road is still visible. The hut on the 1965 map can no longer be seen. Cultivated lands are still visible on the northern parts of the farm (Topographical Maps, 1975).

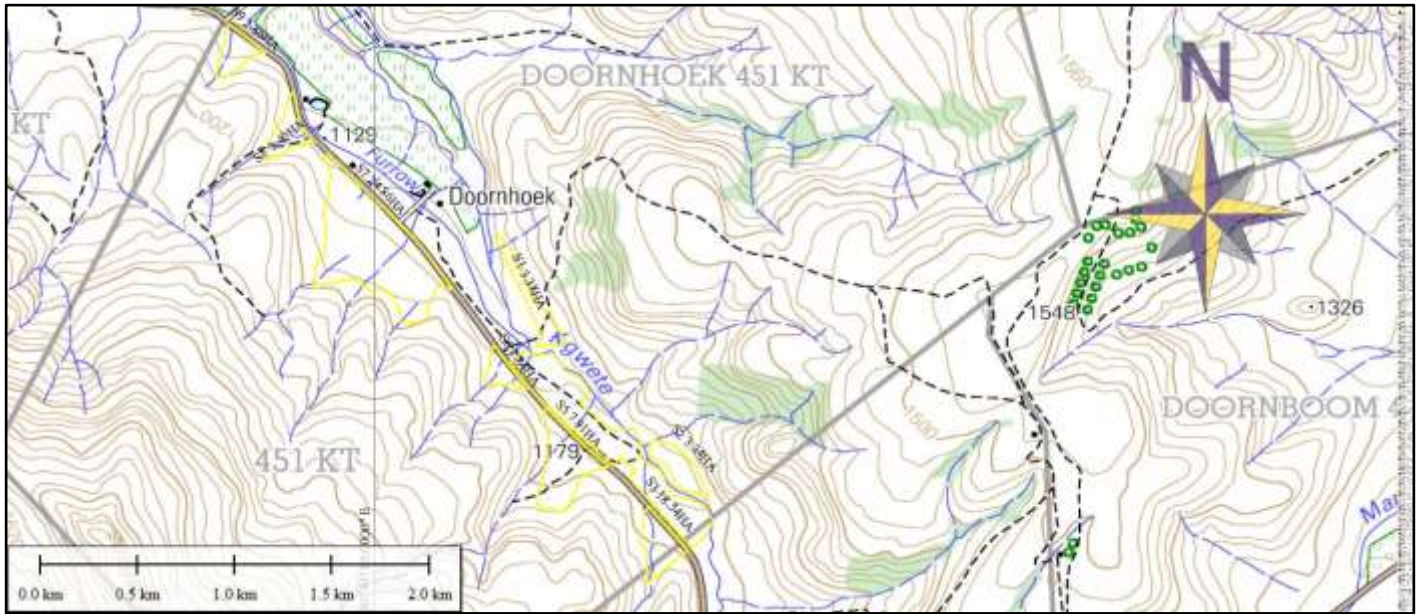


Fig. 4.9. A topographical map of Kaspersnek 481 KT in 1996. The study area is shown with a yellow border. The secondary road is still visible, as well as several footpaths which traverse the farm. No other developments can be seen within the study area (Topographical Maps, 1996).

4.1.5. Historical overview of the ownership and development of Doornhoek 451 KT

A number of sources regarding the history of the study area were consulted in the National Archives of South Africa. The record of historical landowners, as well as the general use of the property will be discussed in this section.

Record of historical landowners

The farm Doornhoek 451 KT (formerly No. 450 Lydenburg), ward Ohrigstad River, was first inspected in July 1861 by F. van Niekerk and it measured 2169 morgen 248 square roods. The original title deed to the property was awarded to Andries Johannes Joubert (NARSSA TAB, RAK: 2900).

The following information was found regarding historical landowners of Doornhoek 451 KT:

Entry	Date of transfer	Portion	Transported from	Transported to	Sale Price
1	18[?62?]	Farm	A.J. Joubert	Ockert Tobias van Niekerk	£7.10
2	1862	Farm	O.T. v. Niekerk	Schalk Willem Neethling	£3.15
3	1894	½ Share	S.W. Neethling	Willem [Illegible] van der Wal	£5.00
4	1897	Farm	W.R. van der Wal	Jan van der Wal	£350
5	1903	Farm	J. van der Wal	W.R. van der Wal	£500
6	1923	Ptn A	W.R. van der Wal	Louis Abraham Francois Slabbert	£770
7	1937	Rem. Ext.	Est. late W.R. van der Wal	Sara Suzanna van der Wal	Inher.

(NARSSA TAB, RAK: 2900; NARSSA TAB, RAK 2907)

No ownership records could be found for the period from 1937 to 1976, other than reference to a J.J.J.M. Slabbert, who owned Portion 1 of Doornhoek 335 in 1957 (NARSSA SAB, LDE: 2308 113/34).

The following information could be found regarding the recent ownership of the Remaining Extent of Doornhoek 451 KT:

Date of purchase	Owner
1977	Sophia Magdalena Schulze
1986	Brian Estment Schulze
1996	Bar S Farm CC
2001	PtyProps 10 (Pty) Ltd
2006	Tiptol Inv CC
2018	Nendicure Pty Ltd

(Windeed Search Engine, 2021)

History of land use

On 18 September 1957, J.J.J.M. Slabbert, the owner of Portion 1 of Doornhoek 335, wrote to the Department of Lands in which he, as well as several other landowners, offered their lands for sale to the Native Lands Trust. According to Mr. Slabbert, the properties (including his own) are ideally suited for this purpose and further, that stock theft in the area makes it impossible for them to continue to farm (NARSSA SAB, LDE: 2308 113/34).

On 2 January 1958 the Department of Lands wrote to Mr. Slabbert informing him that, regretfully, the properties in question fall outside of the demarcated areas and therefore the Department is not interested in purchasing the properties (NARSSA SAB, LDE: 2308 113/34).

4.2. Archaeology

4.2.1. Stone Age

In Mpumalanga Province the Drakensberg separates the interior plateau also known as the Highveld from the low-lying subtropical Lowveld, which stretches to the Indian Ocean. A number of rivers amalgamate into two main river systems, the Olifants River and the Komati River. This fertile landscape has provided resources for humans and their predecessors for more than 1.7 million years (Esterhuizen & Smith in Delius, 2007).

The initial attraction of abundant foods in the form of animals and plants eventually also led to the discovery of and utilisation of various minerals including ochre, iron and copper. People also obtained foreign resources by means of trade from the coast. From 900 AD this included objects brought across the ocean from foreign shores.

The Early Stone Age (ESA)

In South Africa the ESA dates from about 2 million to 250 000 years ago, in other words from the early to middle Pleistocene. The archaeological record shows that as the early ancestors progressed physically, mentally and socially, bone and stone tools were developed. One of the most influential advances was their control of fire and diversifying their diet by exploitation of the natural environment (Esterhuizen & Smith in Delius, 2007).

The earliest tools date to around 2.5 million years ago from the site of Gona in Ethiopia. Stone tools from this site shows that early hominids had to cognitive ability to select raw material and shape it for a specific application. Many bones found in association with stone tools like these have cut marks which lead scientists to believe that early hominids purposefully chipped cobblestones to produce flakes with a sharp edge capable of cutting and butchering animal carcasses. This supplementary diet of higher protein quantities ensured that brain development of hominids took place more rapidly.

Mary Leaky discovered stone tools like these in the Olduvai Gorge in Tanzania during the 1960s. The stone tools are named after this gorge and are known as relics from the Oldowan industry. These tools, only found in Africa, are mainly simple flakes, which were struck from cobbles. This method of manufacture remained for about 1.5 million years. Although there is continuing debate about who made these tools, two hominids may have been responsible. The first of these was an early form of *Homo* and the second was *Paranthropus robustus*, which became extinct about 1 million years ago (Esterhuizen & Smith in Delius, 2007).

Around 1.7 million years ago, more specialised tools known as Acheulean tools, appeared. These are named after tools from a site in France by the name of Saint Acheul, where they were first discovered in the 1800s. It is argued that these tools had their origin in Africa and then spread towards Europe and Asia with the movement of hominids out of Africa. These tools had longer and sharper edges and shapes, which suggest that they could be used for a larger range of activities, including the butchering of animals, chopping of wood, digging roots and cracking bone. *Homo ergaster* was probably responsible for the manufacture of Acheulean tools in South Africa. This physical type was arguably physically similar to modern humans, had a larger brain and modern face, body height and proportion very similar to modern humans. *Homo ergaster* was able to flourish in a variety of habitats in part because they were dependent on tools. They adapted to drier, more open grassland settings. Because these early people were often associated with water sources such as rivers and lakes, sites where they left evidence of their occupation are very rare. Most tools of these people have been washed into caves, eroded out of riverbanks and washed downriver. An example in Mpumalanga is Maleoskop on the farm Rietkloof where Early Stone Age (ESA) tools have been found. This is one of only a handful such sites in Mpumalanga.

Middle Stone Age (MSA)

A greater variety of tools with diverse sizes and shapes appeared by 250 000 before present (BP). These replaced the large hand axes and cleavers of the ESA. This technological advancement introduces the Middle Stone Age (MSA). This period is characterised by tools that are smaller in size but different in manufacturing technique (Esterhuizen & Smith in Delius, 2007).

In contrast to the ESA technology of removing flakes from a core, MSA tools were flakes to start with. They were of a predetermined size and shape and were made by preparing a core of suitable material and striking off the flake so that it was flaked according to a shape which the toolmaker desired. Elongated,

parallel-sided blades, as well as triangular flakes are common finds in these assemblages. Mounting of stone tools onto wood or bone to produce spears, knives and axes became popular during the MSA. These early humans not only settled close to water sources but also occupied caves and shelters. The MSA represents the transition of more archaic physical type (*Homo*) to anatomically modern humans, *Homo sapiens*.

The MSA has not been extensively studied in Mpumalanga but evidence of this period has been excavated at Bushman Rock Shelter, a well-known site on the farm Klipfonteinhoek in the Ohrigstad district. This cave was excavated twice in the 1960s by Louw and later by Eloff. The MSA layers show that the cave was repeatedly visited over a long period. Lower layers have been dated to over 40 000 BP while the top layers date to approximately 27 000 BP (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Later Stone Age (LSA)

Early hunter gatherer societies were responsible for a number of technological innovations and social transformations during this period starting at around 20 000 years BP. Hunting of animals proved more successful with the innovation of the bow and link-shaft arrow. These arrows were made up of a bone tip which was poisoned and loosely linked to the main shaft of the arrow. Upon impact, the tip and shaft separated leaving the poisoned arrow-tip imbedded in the prey animal. Additional innovations include bored stones used as digging stick weights to uproot tubers and roots; small stone tools, mostly less than 25mm long, used for cutting of meat and scraping of hides; polished bone tools such as needles; twine made from plant fibres and leather; tortoiseshell bowls; ostrich eggshell beads; as well as other ornaments and artwork (Esterhuizen & Smith in Delius, 2007).

At Bushman Rock Shelter the MSA is also represented and starts at around 12 000 BP but only lasted for some 3 000 years. The LSA is of importance in geological terms as it marks the transition from the Pleistocene to the Holocene, which was accompanied by a gradual shift from cooler to warmer temperatures. This change had its greatest influence on the higher-lying areas of South Africa. Both Bushman Rock Shelter and a nearby site, Heuningneskrans, have revealed a greater use in plant foods and fruit during this period (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Faunal evidence suggests that LSA hunter-gatherers trapped and hunted zebra, warthog and bovids of various sizes. They also diversified their protein diet by gathering tortoises and land snails (*Achatina*) in large quantities.

Ostrich eggshell beads were found in most of the levels at these two sites. It appears that there is a gap of approximately 4 000 years in the Mpumalanga LSA record between 9 000 BP and 5 000 BP. This may be a result of generally little Stone Age research being conducted in the province. It is, however, also a period known for rapid warming and major climate fluctuation, which may have led people to seek out protected environments in this area. The Mpumalanga Stone Age sequence is visible again during the mid-Holocene at the farm Honingklip near Badplaas in the Carolina district (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

At this location, two LSA sites were located on opposite sides of the Nhlazatshe River, about one kilometre west of its confluence with the Teespruit. These two sites are located on the foothills of the Drakensberg,

where the climate is warmer than the Highveld but also cooler than the Lowveld (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Nearby the sites, dated to between 4 870 BP and 200 BP are four panels, which contain rock art. Colouring material is present in all the excavated layers of the site, which makes it difficult to determine whether the rock art was painted during the mid- or later Holocene. Stone walls at both sites date from the last 250 years of hunter gatherer occupation and they may have served as protection from predators and intruders (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

4.2.2. Early Iron Age

The period referred to as the Early Iron Age (AD 200-1500 approx.) started when presumably Karanga (north-east African) herder groups moved into the north eastern parts of South Africa. It is believed that these people may have been responsible for making of the famous Lydenburg Heads, ceramic masks dating to approximately 600AD.

Ludwig von Bezing was a boy of more or less 10 years of age when he first saw pieces of the now famous Lydenburg heads in 1957 while playing in the veld on his father's farm near Lydenburg. Five years later von Bezing developed an interest in archaeology and went back to where he first saw the shards. Between 1962 and 1966 he frequently visited the Sterkspruit valley to collect pieces of the seven clay heads. Von Bezing joined the archaeological club of the University of Cape Town when he studied medicine at this institution.

He took his finds to the university at the insistence of the club. He had not only found the heads, but potsherds, iron beads, copper beads, ostrich eggshell beads, pieces of bones and millstones. Archaeologists of the University of Cape Town and WITS Prof. Ray Innskeep and Dr Mike Evers excavated the site where von Bezing found the remains. This site and in particular its unique finds (heads, clay masks) instantly became internationally famous and was henceforth known as the Lydenburg Heads site.

Two of the clay masks are large enough to probably fit over the head of a child, the other five are approximately half that size. The masks have both human and animal features, a characteristic that may explain that they had symbolic use during initiation- and other religious ceremonies. Carbon dating proved that the heads date to approximately 600 AD and was made by Early Iron Age people. These people were Bantu herders and agriculturists and probably populated Southern Africa from areas north-east of the Limpopo river. Similar ceramics were later found in the Gustav Klingbiel Nature Reserve and researchers believe that they are related to the ceramic wares (pottery) of the Lydenburg Heads site in form, function and decorative motive. This sequence of pottery is formally known as the Klingbiel type pottery. No clay masks were found in a context similar to this pottery sequence.

Two larger heads and five smaller ones make up the Lydenburg find. The Lydenburg heads are made of the same clay used in making household pottery. It is also made with the same technique used in the manufacture of household pottery. The smaller heads display the modelling of a curved forehead and the back neck as it curves into the skull. Around the neck of each of the heads, two or three rings are engraved horizontally and are filled in with hatching marks to form a pattern. A ridge of clay over the forehead and above the ears indicates the hairline. On the two larger heads a few rows of small clay balls indicate hair

decorations. The mouth consists of lips – the smaller heads also have teeth. The seventh head has the snout of an animal and is the only head that represents an animal.

Some archaeological research was done during the 1970's at sites belonging to the Early Iron Age (EIA), location Plaston, a settlement close to White River (Evers, 1977). This site is located on a spur between the White River and a small tributary. It is situated on holding 119 at Plaston.

The site was discovered during house building operations when a collection of pottery sherds was excavated. The finds consisted of pottery shards both on the surface and excavated.

Some of the pottery vessels were decorated with a red ochre wash. Two major decoration motifs occurred on the pots:

- Punctuation, using a single stylus; and
- Broad line incision, the more common motif.

A number of EIA pottery collections from Mpumalanga and Limpopo may be compared to the Plaston sample. They include Silver Leaves, Eiland, Matola, Klingbiel and the Lydenburg Heads site. The Plaston sample is distinguished from samples of these sites in terms of rim morphology, the majority of rims from Plaston are rounded and very few bevelled. Rims from the other sites show more bevelled rims (Evers, 1977:176).

Early Iron Age pottery was also excavated by archaeologist, Prof. Tom Huffman during 1997 on location where the Riverside Government complex is currently situated (Huffman, 1998). This site is situated a few km north of Nelspruit next to the confluence of the Nelspruit and Crocodile River. It was discovered during the course of an environmental impact assessment for the new Mpumalanga Government complex offices. A bulldozer cutting exposed storage pits, cattle byres, a burial and midden on the crest of a gentle slope. Salvage excavations conducted during December 1997 and March 1998 recovered the burial and contents of several pits.

One of the pits contained, among other items, pottery dating to the eleventh century (AD 1070 ± 40 BP). This relates the pottery to the Mzonjani and Broederstroom phases. The early assemblage belongs to the Kwale branch of the Urewe tradition.

During the early 1970s Dr Mike Evers of the University of the Witwatersrand conducted fieldwork and excavations in the Eastern Transvaal. Two areas were studied: the first area was the Letaba area south of the Groot Letaba River, west of the Lebombo Mountains, east of the great escarpment and north of the Olifants River. The second area was the Eastern Transvaal escarpment area between Lydenburg and Machadodorp.

These two areas are referred to as the Lowveld and escarpment respectively. The earliest work on Iron Age archaeology was conducted by Trevor and Hall in 1912. This revealed prehistoric copper-, gold- and iron mines. Schwelinus (1937) reported smelting furnaces, a salt factory and terraces near Phalaborwa. In the same year D.S. van der Merwe located ruins, graves, furnaces, terraces and soapstone objects in the Letaba area.

Mason (1964, 1965, 1967, 1968) started the first scientific excavation in the Lowveld, followed by N.J. van der Merwe and Scully. M. Klapwijk (1973, 1974) also excavated an EIA site at Silverleaves and Evers and van den Berg (1974) excavated at Harmony and Eiland, both EIA sites.

Research by the National Cultural History Museum resulted in the excavation of an EIA site in Sekhukuneland, known as Mototolong (Van Schalkwyk, 2007). The site is characterized by four large cattle kraals containing ceramics, which may be attributed to the Mzonjani and Doornkop occupational phases.

4.2.3. Late Iron Age

The later phases of the Iron Age (AD 1600-1800's) are represented by various tribes including Ndebele, Swazi, BaKoni, and Pedi, marked by extensive stonewalled settlements found throughout the escarpment and particularly around Machadodorp, Lydenburg, Badfontein, Sekhukuneland, Roosenekal and Steelpoort. The BaKoni were the architects of a unique archaeological stone building complex who by the 19th century spoke seKoni which was similar to Sepedi. The core elements of this tradition are stone-walled enclosures, roads and terraces. These settlement complexes may be divided into three basic features: homesteads, terraces and cattle tracks. Researchers such as Mike Evers (1975) and David Collett (1982) identified three basic settlement layouts in this area. Basically these sites can be divided into simple and complex ruins. Simple ruins are normally small in relation to more complex sites and have smaller central cattle byres and fewer huts. Complex ruins consist of a central cattle byre, which has two opposing entrances and a number of semi-circular enclosures surrounding it. The perimeter wall of these sites is sometimes poorly visible. Huts are built between the central enclosure and the perimeter wall. These are all connected by track-ways referred to as cattle tracks. These tracks are made by building stone walls, which forms a walkway for cattle to the centrally located cattle byres.

5.Site descriptions, locations and impact significance assessment

Nine sites were documented (sites DH 1-9) and they are of low heritage significance. They mainly consist of either linear or rectangular stone structures which are often dry-packed. They are mostly in very poor condition and often associated with scattered iron utilitarian household remains. A total of twenty five (25) survey orientation locations were documented (SO 1-25) which includes a GPS location and photographs of the landscape at that particular location. The documented sites and survey orientations are tabled in Appendix B and their photos in Appendix D. A map of all site locations is also provided in Appendix C.

Tables indicate the **site significance rating scales and status** in terms of possible impacts of the proposed actions on any located or identified heritage sites (**Table 5.5 & 5.6**).

Table 5.1. Summary of located sites and their heritage significance

Type of site	Identified sites	Significance
Graves and graveyards	None	N/A
Late Iron Age	None	N/A
Early Iron Age	None	N/A
Historical buildings or structures	None	N/A
Historical features and ruins	DH1-9	Low
Stone Age sites	None	N/A

Table 5.2. Significance rating guidelines for sites

Field Rating	Grade	Significance	Recommended Mitigation
National Significance (NS)	Grade 1	High Significance	Conservation, nomination as national site
Provincial Significance (PS)	Grade 2	High Significance	Conservation; Provincial site nomination
Local significance (LS 3A)	Grade 3A	High Significance	Conservation, No mitigation advised
Local Significance (LS 3B)	Grade 3B	High Significance	Mitigation but at least part of site should be retained
Generally Protected A (GPA)	GPA	High/ Medium Significance	Mitigation before destruction
Generally Protected B (GPB)	GPB	Medium Significance	Recording before destruction
Generally Protected C (GPC)	GPC	Low Significance	Destruction

5.1. Description of located sites

Located sites

5.1.1. Site DH 1

Location: See Appendix B and D (fig.1)

Description: A nondescript low and rectangular stone wall approximately 5 x 4 meters. A lot of similar flat stones on the inside indicating that the structure has collapsed. It is located very close to and south of the River. Either a seasonal temporary dwelling or farm workers quarters.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material or human remains may be exposed.



Photo view east

5.1.2. Site DH 2

Location: See Appendix B and D (fig. 2)

Description: A nondescript low and rectangular stone wall approximately 5 x 3 meters. It is located some 10 meters east of site DH 1. It is located very close to and south of the River. Either a seasonal temporary dwelling or farm workers quarters. Evidence of baked bricks were also found here.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material or human remains may be exposed.



Photo view east

5.1.3. Site DH 3

Location: See Appendix B and D (fig. 3)

Description: A dry-packed low and rectangular stone wall approximately 5 x 5 meters and attached thereto south, another 5 x 5 meters walls. A lot of similar flat stones on the inside indicating that the structure has collapsed. It is located very close to and south of the River. Either a seasonal temporary dwelling or farm workers quarters.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material or human remains may be exposed.



Photo view west

5.1.4. Site DH 4

Location: See Appendix B and D (fig. 4)

Description: A nondescript low and linear stone terrace wall approximately 5 meters long. It looks like a offload point for livestock. This camp was evidently used for livestock/ cattle.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. It is located outside of the proposed development area therefore no recommendations.



Photo view south

5.1.5. Site DH 5

Location: See Appendix B and D (fig. 5)

Description: A dry-packed stone wall L-shaped, orientation east-west. Height ranges between 0,5 – 1,2 meters. Flat stones used. It may be the ruins of a temporary dwelling.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. It is located outside of the proposed development area therefore no recommendations.



Photo view east

5.1.6. Site DH 6

Location: See Appendix B and D (fig. 6)

Description: A stone-built platform located at the base of a large false marula tree and boulder. Located close to and south-west of site DH 5.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. It is located outside of the proposed development area therefore no recommendations.



Photo view north

5.1.7. Site DH 7

Location: See Appendix B and D (fig. 7)

Description: A low and linear stone wall approximately 7 meters long and 0,4 meters wide. It is oriented south-east and north-west. An upper grinding stone and some old metal paraffin containers were found here.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material may be exposed.



Photo view west

5.1.8. Site DH 8

Location: See Appendix B and D (fig. 8)

Description: A packed stone wall which used to be rectangular. Only the south-eastern corner remained intact. It measures roughly 5m (north/ south) by 3m (east/ west). The camp was evidently used for livestock so this may be associated with that activity.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material or human remains may be exposed.



Photo view south-west

5.1.9. Site DH 9

Location: See Appendix B and D (fig. 9)

Description: A small rectangular stone-packed feature approximately 4 x 4 meters. Constructed of flat stones vertically inserted in the soil. It is associated with the remains of an old metal bed frame and other metal remains.

Impact of the proposed development/ activity: The proposed agricultural development will possibly impact on the feature.

Recommendation: The feature is regarded as being of low significance. Monitoring by an archaeologist during development activity is recommended in the event that archaeological material may be exposed.



Photo view north

Survey orientations:

5.1.10. Site SO 1.

Location: See Appendix B and D (fig. 10).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view south-east

5.1.11. Site SO 2.

Location: See Appendix B and D (fig. 11).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.12. Site SO 3.

Location: See Appendix B and D (fig. 12).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.13. Site SO 4.

Location: See Appendix B and D (fig. 13).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.14. Site SO 5.

Location: See Appendix B and D (fig. 14).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.15. Site SO 6

Location: See Appendix B and D (fig. 15).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.16. Site SO 7.

Location: See Appendix B and D (fig. 16).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north-east

5.1.17. Site SO 8.

Location: See Appendix B and D (fig. 17).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.18. Site SO 9.

Location: See Appendix B and D (fig. 18).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north-east

5.1.19. Site SO 10.

Location: See Appendix B and D (fig. 19).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.20. Site SO 11.

Location: See Appendix B and D (fig. 20).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.21. Site SO 12.

Location: See Appendix B and D (fig. 21).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view south

5.1.22. Site SO 13.

Location: See Appendix B and D (fig. 22).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view west

5.1.23. Site SO 14.

Location: See Appendix B and D (fig. 23).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view west

5.1.24. Site SO 15.

Location: See Appendix B and D (fig. 24).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view south-west

5.1.25. Site SO 16.

Location: See Appendix B and D (fig. 25).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.26. Site SO 17.

Location: See Appendix B and D (fig. 26).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view south

5.1.27. Site SO 18.

Location: See Appendix B and D (fig. 27).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo north-west

5.1.28. Site SO 19.

Location: See Appendix B and D (fig. 28).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view west

5.1.29. Site SO 20.

Location: See Appendix B and D (fig. 29).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.30. Site SO 21.

Location: See Appendix B and D (fig. 30).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north-east

5.1.31. Site SO 22.

Location: See Appendix B and D (fig. 31).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.32. Site SO 23.

Location: See Appendix B and D (fig. 32).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north

5.1.33. Site SO 24.

Location: See Appendix B and D (fig. 33).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view east

5.1.34. Site SO 25.

Location: See Appendix B and D (fig. 34).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A



Photo view north-west

TABLE 5.3. General description of located sites and field rating.

Site No.	Description	Type of significance	Degree of significance	NHRA heritage resource & rating
DH 1	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 2	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 3	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 4	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 5	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 6	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 7	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 8	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
DH 9	Stone walling/ ruins	Buildings & structures	Archaeological: Low Historic: Low	Section 34: Buildings and structures. Low GP C
SO1	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO2	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO3	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO4	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None

SO5	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO6	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO7	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO8	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO9	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO10	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO11	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO12	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO13	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO14	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO15	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO16	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO17	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO18	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO19	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO20	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO21	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None

SO22	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO23	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO24	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO25	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None

TABLE 5.4. Site condition assessment and management recommendations.

Site no.	Type of Heritage resource	Integrity of cultural material	Preservation condition of site	Relative location	Quality of archaeological/historic material	Quantity of site features	Recommended conservation management
DH 1	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	1	Monitor during project
DH 2	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	1	Monitor during project
DH 3	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	2	Monitor during project
DH 4	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	1	None
DH 5	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	1	None
DH 6	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor	1	None
DH 7	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor		Monitor during project
DH 8	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor		Monitor during project
DH 9	Buildings and Structures	Poor	Poor	Doornhoek 451 KT	Poor		Monitor during project
SO 1	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 2	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 3	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A

SO 4	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A		N/A
SO 5	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 6	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 7	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 8	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	N/A
SO 9	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 10	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 11	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 12	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 13	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 14	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 15	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 16	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	
SO 17	N/A	N/A	N/A	Doornhoek 451 KT	Archaeology: N/A Historically: N/A	N/A	

SO 18	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 19	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 20	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 21	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 22	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 23	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 24	N/A	N/A	N/A	Doornhoek 451 KT		N/A	
SO 25	N/A	N/A	N/A	Doornhoek 451 KT		N/A	

TABLE 5.5. Significance Rating Scales of Impact

Site No.	Nature of impact	Type of site	Extent	Duration	Intensity	Probability	Score total
DH 1	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
DH 2	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
DH 3	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
DH 4	Agricultural development	Ruin/ wall	Site(see description)	Short term	Low	Improbable	2
DH 5	Agricultural development	Ruin/ wall	Site(see description)	Short term	Low	Improbable	2
DH 6	Agricultural development	Ruin/ wall	Site(see description)	Short term	Low	Improbable	2
DH 7	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
DH 8	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
DH 9	Agricultural development	Ruin/ wall	Site(see description)	Short term	High	High	6
SO 1	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 2	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 3	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 4	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 5	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 6	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 7	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 8	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 9	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 10	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 11	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 12	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 13	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 14	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 15	Agricultural development	N/A	N/A	Short term	Low	Improbable	2

SO 16	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 17	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 18	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 19	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 20	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 21	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 22	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 23	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 24	Agricultural development	N/A	N/A	Short term	Low	Improbable	2
SO 25	Agricultural development	N/A	N/A	Short term	Low	Improbable	2

***Notes:** Short term \geq 5 years, Medium term 5-15 years, Long term 15-30 years, Permanent 30+ years

Intensity: Very High (4), High (3), Moderate (2), Low (1)

Probability: Improbable (1), Possible (2), Highly probable (3), Definite (4)

TABLE 5.6. Site current status and future impact scores

Site No.	Current Status	Low impact (4-6 points)	Medium impact (7-9 points)	High impact (10-12 points)	Very high impact (13-16 points)	Score Total
DH 1	Neutral	-	-	10	-	10
DH 2		-	-	10	-	10
DH 3		-	-	10	-	10
DH 4		4	-	10	-	4
DH 5		4	-	10	-	4
DH 6		4	-	10	-	4
DH 7		-	-	10	-	10
DH 8		-	-	10	-	10
DH 9		-	-	10	-	10
SO 1	Neutral	-	-	-	-	-
SO 2	Neutral	-	-	-	-	-
SO 3	Neutral	-	-	-	-	-
SO 4	Neutral	-	-	-	-	-
SO 5	Neutral	-	-	-	-	-
SO 6	Neutral	-	-	-	-	-
SO 7	Neutral	-	-	-	-	-
SO 8	Neutral	-	-	-	-	-
SO 9	Neutral	-	-	-	-	-
SO 10	Neutral	-	-	-	-	-
SO 11	Neutral	-	-	-	-	-
SO 12	Neutral	-	-	-	-	-

SO 13	Neutral	-	-	-	-	-
SO 14	Neutral	-	-	-	-	-
SO 15	Neutral	-	-	-	-	-
SO 16	Neutral	-	-	-	-	-
SO 17	Neutral	-	-	-	-	-
SO 18	Neutral	-	-	-	-	-
SO 19	Neutral	-	-	-	-	-
SO 20	Neutral	-	-	-	-	-
SO 21	Neutral	-	-	-	-	-
SO 22	Neutral	-	-	-	-	-
SO 23	Neutral	-	-	-	-	-
SO 24	Neutral	-	-	-	-	-
SO 25	Neutral	-	-	-	-	-

5.2. Cumulative impacts on the heritage landscape

Cumulative impacts can occur when a range of impacts which result from several concurrent processes have impact on heritage resources. The importance of addressing cumulative impacts is that the total impact of several factors together is often greater than one single process or activity that may impact on heritage resources.

There are no other impacts than those described in the project overview, therefore no additional developments which will have additional impacts. Also see section 6.1. Recommended management measures.

6. Summary of findings and recommendations

Nine sites were documented (sites DH 1-9) and they are of low heritage significance. They mainly consist of either linear or rectangular stone structures which are often dry-packed. They are mostly in very poor condition and often associated with scattered iron utilitarian household remains such as paraffin containers, remains of a bed, enamel crockery and more. It is probable that these were dwellings either used by farm workers or seasonal dwellings for pioneer settlers/ livestock farmers of the area (Coetzee & Schoeman, 2011:7). Although they are considered to be of low heritage significance, there is the possibility that unmarked graves may be in the near vicinity. An effort was made to locate possible grave sites but none could be found. This may be partly due to the very dense vegetation growth at most of these sites – they are often located very close to the River in the Riparian zone. Care should be taken when clearing these areas for agricultural expansion, preferably under supervision of the EAP or an Archaeologist. Some of the documented sites (DH 4-6) are located outside of the proposed development footprint. Recommendations are summarized in section five of this report.

A total of twenty five survey orientation locations were documented (sites SO 1-25) which includes a GPS location and photographs of the landscape at that particular location.

The archaeological survey consisted of non-intrusive methods which rely on surface observations. Some of the project footprint area was relatively easy of access but most areas were difficult to access due to dense vegetation growth which resulted in archaeological visibility being very low. It is therefore possible that unmarked graves or poorly visible archaeological deposit may have been overlooked. Monitoring during vegetation clearing is recommended in order to identify any currently non-visible heritage resources.

In terms of the archaeological component of the Act (25 of 1999, section 35) no sites were located or recorded in the study area.

In terms of section 34 of the National Heritage Resources Act (NHRA, 25 of 1999), the built environment, nine sites were documented but they are of low significance.

In terms of burial grounds and graves (section 36 of the Act) no graves or gravesites were identified in the study area.

It is not within the expertise of this report or the surveyor to comment on possible palaeontological remains which may be located in the study area.

The bulk of archaeological remains are normally located beneath the soil surface. It is therefore possible that some significant cultural material or remains were not located during this survey and will only be

revealed when the soil is disturbed. Should excavation or large scale earth moving activities reveal any human skeletal remains, broken pieces of ceramic pottery, large quantities of sub-surface charcoal or any material that can be associated with previous occupation, a qualified archaeologist should be notified immediately. This will also temporarily halt such activities until an archaeologist has assessed the situation. It should be noted that if such a situation occurs it may have further financial implications.

6.1. Recommended management measures

Although the surveyor physically surveyed the area as thoroughly as possible, it is incumbent upon the developer to follow a chance find protocol in the instance when cultural remains be unearthed or laid bare during the process of development, as this study does not claim to have recorded every site on the landscape. The contractors and workers should be notified that archaeological sites might be exposed during the construction work.

- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999).

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8. Topographical Map. 1996. *South Africa. 1:50 000 Sheet. 2430DA Kgautswane. Third Edition.* Pretoria: Government Printer.
9. Topographical Map. 1997. *South Africa. 1:50 000 Sheet. 2430DC Ohrigstad. First Edition.* Pretoria: Government Printer.

Appendix A

Terminology

“Alter” means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means.

“Archaeological” means –

- Material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artifacts, human and hominid remains and artificial features or structures;
- Rock Art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- Wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artifacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; and
- Features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;

“Conservation”, in relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance;

“Cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance;

“Development” means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –

- construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
- constructing or putting up for display signs or hoardings;
- any change to the natural or existing condition or topography of land; and
- any removal or destruction of trees, or removal of vegetation or topsoil;

“Expropriate” means the process as determined by the terms of and according to procedures described in the Expropriation Act, 1975 (Act No. 63 of 1975);

“Foreign cultural property”, in relation to a reciprocating state, means any object that is specifically designated by that state as being of importance for archaeology, history, literature, art or science;

“Grave” means a place of internment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;

“Heritage resource” means any place or object of cultural significance;

“Heritage register” means a list of heritage resources in a province;

“Heritage resources authority” means the South African Heritage Resources Agency, established in terms of section 11, or, insofar as this Act (25 of 1999) is applicable in or in respect of a province, a provincial heritage resources authority (PHRA);

“Heritage site” means a place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority;

“Improvement” in relation to heritage resources, includes the repair, restoration and rehabilitation of a place protected in terms of this Act (25 of 1999);

“Land” includes land covered by water and the air space above the land;

“Living heritage” means the intangible aspects of inherited culture, and may include –

- cultural tradition;
- oral history;
- performance;
- ritual;
- popular memory;
- skills and techniques;
- indigenous knowledge systems; and
- the holistic approach to nature, society and social relationships;

“Management” in relation to heritage resources, includes the conservation, presentation and improvement of a place protected in terms of the Act;

“Object” means any moveable property of cultural significance which may be protected in terms of any provisions of the Act, including –

- any archaeological artifact;
- palaeontological and rare geological specimens;
- meteorites;
- other objects referred to in section 3 of the Act;

“Owner” includes the owner’s authorized agent and any person with a real interest in the property and –

- in the case of a place owned by the State or State-aided institutions, the Minister or any other person or body of persons responsible for the care, management or control of that place;
- in the case of tribal trust land, the recognized traditional authority;

“Place” includes –

- a site, area or region;

- a building or other structure which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure;
- a group of buildings or other structures which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures;
- an open space, including a public square, street or park; and
- in relation to the management of a place, includes the immediate surroundings of a place;

“Site” means any area of land, including land covered by water, and including any structures or objects thereon;

“Structure” means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Appendix B

List of sites

Nine sites were documented (sites DH 1-9) and they are of low heritage significance. They mainly consist of either linear or rectangular stone structures which are often dry-packed. A total of twenty five (25) survey orientation locations were documented (SO 1-25) which includes a GPS location and photographs of the landscape at that particular location.

Table A. Located sites.

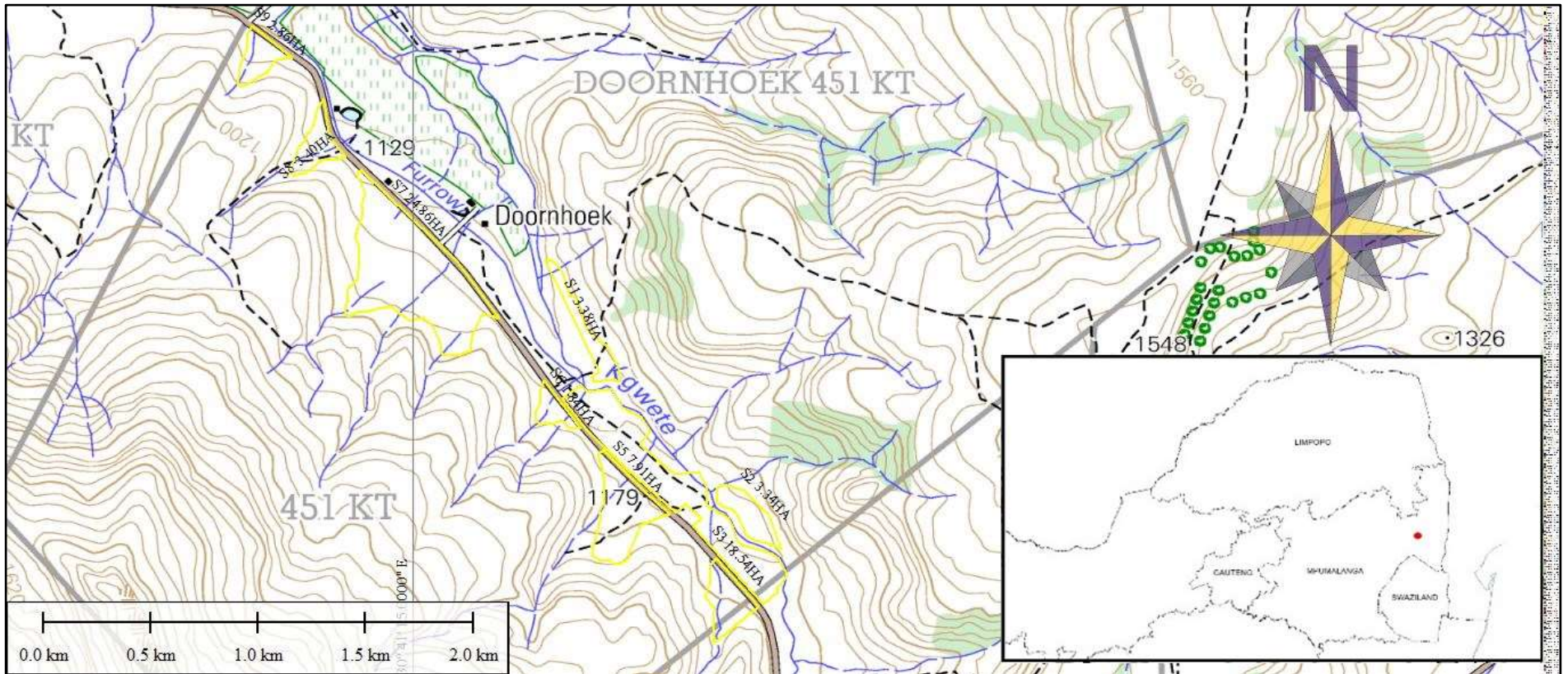
Site Name	Date of compilation	GPS Coordinates		Photo figure No.
DH 1	03/03/2021	S24°42,9127'	E030°41,8814'	1
DH 2	03/03/2021	S24°42,9116'	E030°41,8855'	2
DH 3	09/03/2021	S24°43,0478'	E030°42,0344'	3
DH 4	09/03/2021	S24°42,7786'	E030°41,6319'	4
DH 5	09/03/2021	S24°42,8012'	E030°41,6222'	5
DH 6	09/03/2021	S24°42,8077'	E030°41,5761'	6
DH 7	09/03/2021	S24°42,4863'	E030°41,2492'	7
DH 8	21/01/2022	S24°41,8161'	E030°40,8791'	8
DH 9	21/01/2022	S24°42,5983'	E030°41,7615'	9

Table B. Survey Orientation Locations.

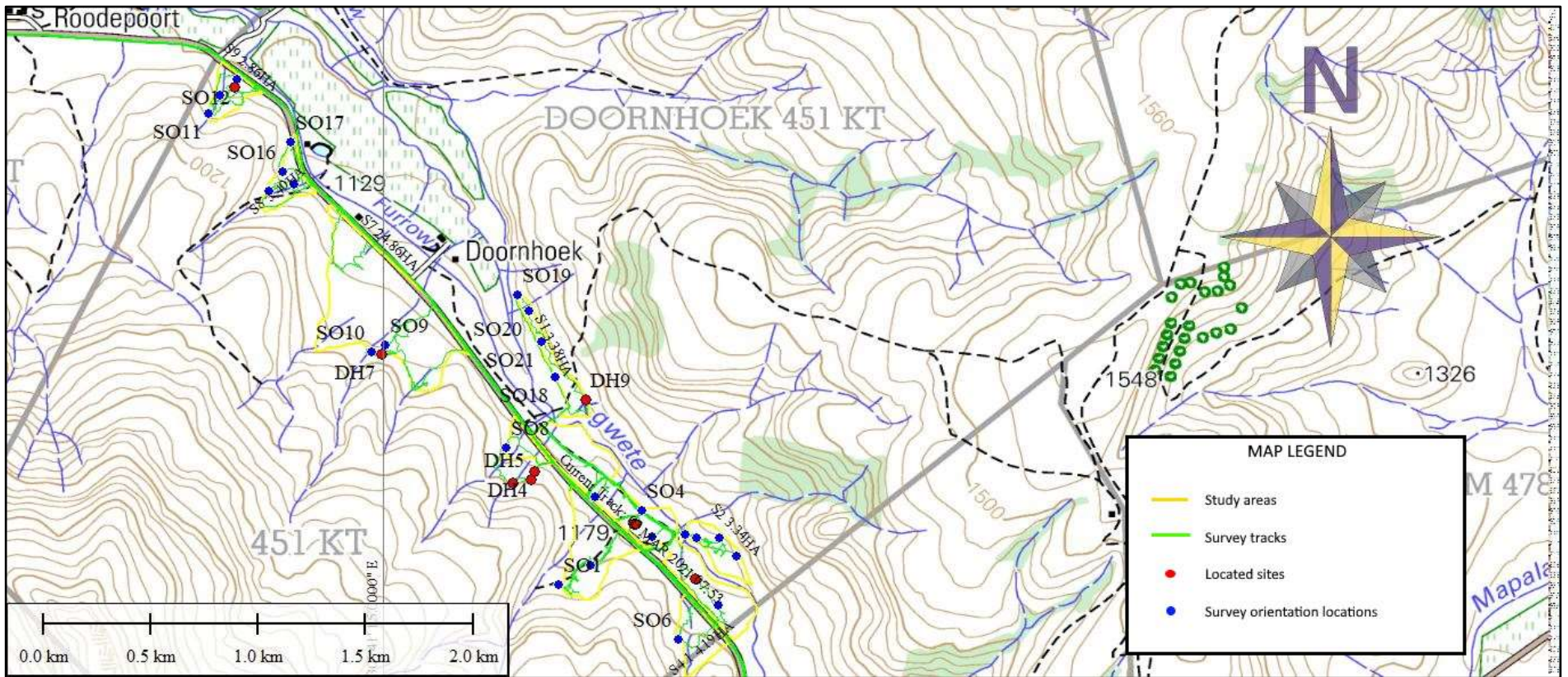
Site Name	Date of compilation	GPS Coordinates		Photo figure No.
SO 1	03/03/2021	S24°43,0625'	E030°41,6924'	10
SO 2	03/03/2021	S24°43,0150'	E030°41,7716'	11
SO 3	03/03/2021	S24°42,9445'	E030°41,9260'	12
SO 4	03/03/2021	S24°42,8768'	E030°41,9011'	13
SO 5	03/03/2021	S24°42,8422'	E030°41,7846'	14
SO 6	09/03/2021	S24°43,2004'	E030°41,9915'	15
SO 7	09/03/2021	S24°43,1162'	E030°42,0917'	16
SO 8	09/03/2021	S24°42,7185'	E030°41,5608'	17
SO 9	09/03/2021	S24°42,4620'	E030°41,2560'	18

SO 10	09/03/2021	S24°42,4798'	E030°41,2220'	19
SO 11	21/01/2022	S24°41,8822'	E030°40,8143'	20
SO 12	21/01/2022	S24°41,7948'	E030°40,8853'	21
SO 13	21/01/2022	S24°41,8347'	E030°40,8420'	22
SO 14	21/01/2022	S24°42,0775'	E030°40,9640'	23
SO 15	21/01/2022	S24°42,0602'	E030°41,0276'	24
SO 16	21/01/2022	S24°42,0287'	E030°40,9994'	25
SO 17	21/01/2022	S24°41,9536'	E030°41,0184'	26
SO 18	21/01/2022	S24°42,5417'	E030°41,6824'	27
SO 19	21/01/2022	S24°42,3355'	E030°41,5891'	28
SO 20	21/01/2022	S24°42,3773'	E030°41,6164'	29
SO 21	21/01/2022	S24°42,4534'	E030°41,6486'	30
SO 22	21/01/2022	S24°42,9456'	E030°42,0389'	31
SO 23	21/01/2022	S24°42,9448'	E030°42,0957'	32
SO 24	21/01/2022	S24°42,9911'	E030°42,1368'	33
SO 25	21/01/2022	S24°42,9367'	E030°42,0107'	34

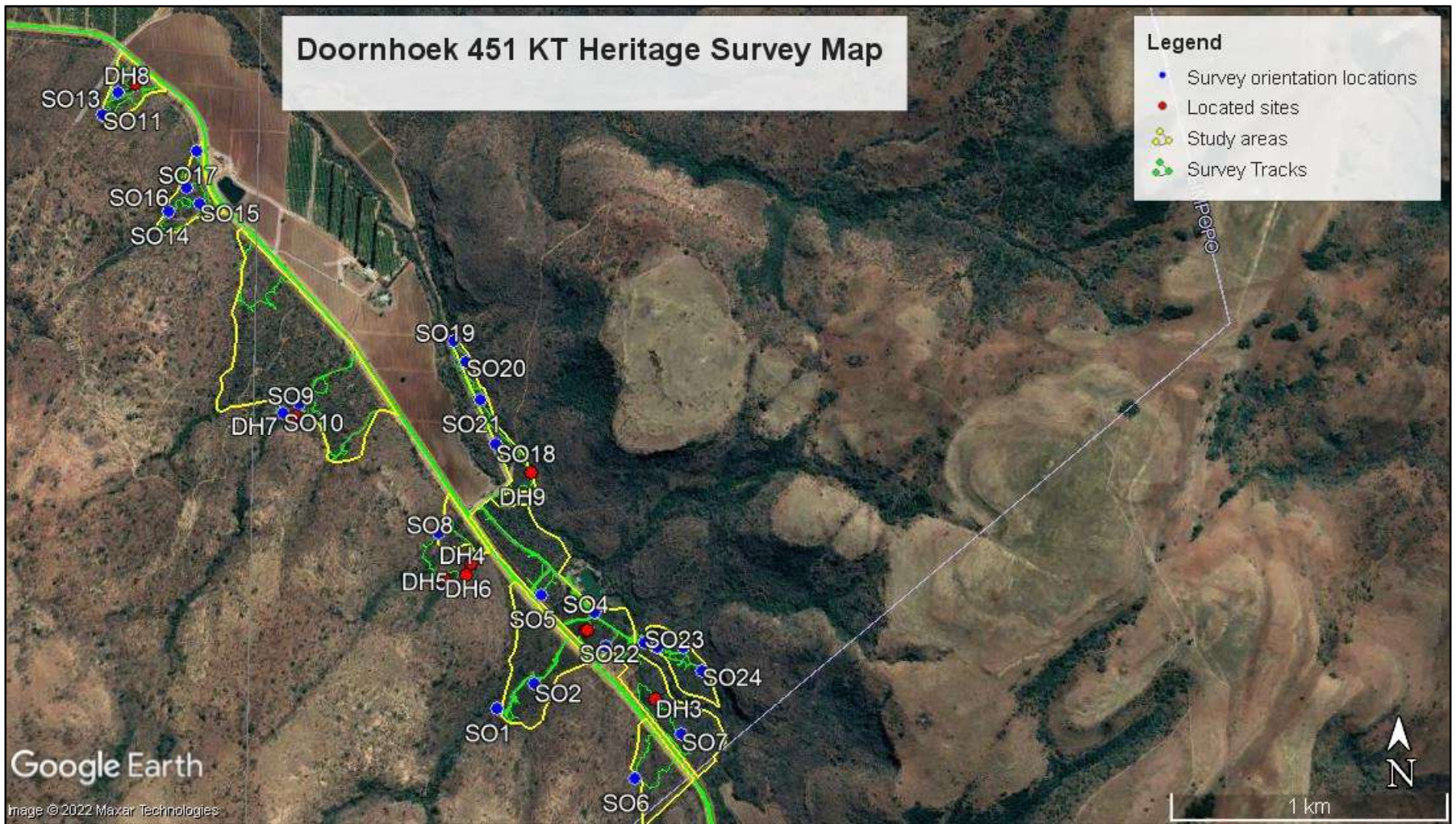
Appendix C



Regional Map. 1:50 000 Topographical Map 2430 DA (1996). The study area is indicated with a yellow border.



Study area, sites, survey tracks and survey orientation locations, 1:50 000 Topographical Map 2530 DA (1996).



Google Earth 2022. Study area, sites, survey tracks and survey orientation locations.

Appendix D

Site Photos



Fig. 1. Site DH 1. The remains of a stone wall. Photos taken in a southern and an eastern direction.



Fig. 2. Site DH 2. Rectangular stone structures. Note baked clay brick left and rectangular corner right.



Fig. 3. Site DH 3. Walling and detail thereof left and site debris right.



Fig. 4. Site DH 4. Small terraced wall.



Fig. 5. Site DH 5. Photos taken in south-eastern direction.



Fig. 6. Site DH 6. Photo taken in a south-eastern direction. Walling is visible between the boulder and the tree.



Fig. 7. Site DH 7. The arrows show the stone wall. Photo taken in an eastern direction.



Fig. 8. Site DH 8. Photo taken in a southern direction.



Fig. 9. Site DH 9. Photos of the remains of a bed and an eastern view of the stone-packed rectangle.

Survey Orientation Photos



Fig. 10. Site SO1. Photos taken in a western and south-western direction.



Fig. 11. Site SO2. Photos taken in a northern and south eastern direction.



Fig. 12. Site SO3. Photos taken in a south-western and north-western direction.



Fig. 13. Site SO 4. Photos taken in a south-eastern and north-western direction.



Fig. 14. Site SO 5. Photos taken in an eastern and south-western direction.



Fig. 15. Site SO 6. Photos taken in a north-western and south-eastern direction.



Fig. 16. Site SO 7. Photos taken north and north-east.



Fig. 17. Site SO 8. Photos taken north-west and south.



Fig. 18. Site SO 9. Photos taken north and south.



Fig. 19. Site SO 10. Photos taken north and west.



Fig. 20. Site SO 11. Photos taken north-west and east.



Fig. 21. Site SO 12. Photos taken south and west.



Fig. 22. Site SO 13. Photos taken north-east and south-east.



Fig. 23. Site SO 14. Photos taken north and south-west.



Fig. 24. Site SO 15. Photos taken north and south-west.



Fig. 25. Site SO 16. Photos taken east and south.



Fig. 26. Site SO 17. Photos taken south and south-west.



Fig. 27. Site SO 18. Photos taken north-west and south-east.



Fig. 28. Site SO 19. Photos taken north-east and south-east.



Fig. 29. Site SO 20. Photos taken south and south-west.



Fig. 30. Site SO 21. Photos taken north and south.



Fig. 31. Site SO 22. Photos taken east and south-west.



Fig. 32. Site SO 23. Photos taken north and south.



Fig. 33. Site SO 24. Photos taken south and west.



Fig. 34. Site SO 25. Photos taken north-west and east.