

ARCHAEOLOGICAL IMPACT ASSESSMENT

FOR THE PROPOSED RAYTON CEMETERY DEVELOPMENT, GAUTENG PROVINCE

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EXECUTIVE SUMMARY

Site name and location: The Proposed Rayton Cemetery Development is located on the Remaining Extent of Portion 136 of the Farm Elandshoek 337 JR, Gauteng Province.

1: 50 000 Topographic Map: 2528 DA.

EIA Consultant: Leap

Developer Vox Terra (Pty) Ltd

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

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Date of Report: 30 November 2015

Findings of the Assessment:

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA. During the survey no surface indicators of archaeological (Stone or Iron Age) material were identified in the study area. No standing structures over 60 years old, sites of cultural significance associated with burial grounds and graves, and significant cultural landscapes or viewsapes were recorded. An informal church was recorded and is classified as living heritage and will require some mitigation as outlined under Section 7 of this report.

Based on the results of the field survey of the proposed Rayton cemetery there are no significant archaeological risks associated with the development and HCAC is of the opinion that from an archaeological point of view there is no reason why the development should not proceed if the recommendations as made in the report area adhered to and based on approval from SAHRA.

General

Due to the subsurface nature of archaeological material and unmarked graves, the possibility of the occurrence of such finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find/s.

Disclaimer: *Although all possible care is taken to identify 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. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1 BACKGROUND INFORMATION

Heritage Contracts and Archaeological Consulting CC (**HCAC**) was appointed to conduct an Archaeological Impact Assessment for the proposed Rayton Cemetery Development.

The aim of the study is to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the study area on foot and by vehicle; Phase 3, reporting the outcome of the study.

General site conditions were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to the SAHRA for review.

1.1. Terms of Reference

Desktop study

Conduct a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

Field study

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

1.2. Archaeological Legislation and Best Practice

Phase 1, an AIA or a HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- » Identify any heritage resources, which may be affected;
- » Assess the nature and degree of significance of such resources;
- » Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- » Assess the negative and positive impact of the development on these resources;
- » Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the EIA, is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 23(2) (b) of the NEMA and section S. 39 (3) (b) (iii) of the MPRDA.

The AIA should be submitted, as part of the EIA, BIA or EMP, to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the EIA, BIA/EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for from SAHRA by the client before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation.

If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare.

Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

1.3. Description of Study Area

1.3.1 Location Data

The proposed project is located on the Remaining Extent of Portion 136 of the Farm Elandshoek 337 JR, Gauteng Province. The site is located at 25° 44' 17.8692" S, 28° 31' 24.3829" E and is accessible from a dirt road. The site is located approximately 550 meters West from Rayton city centre, directly next to the existing Rayton cemetery. The site is bordered on the north by a railroad.

1.3.2. Location Map

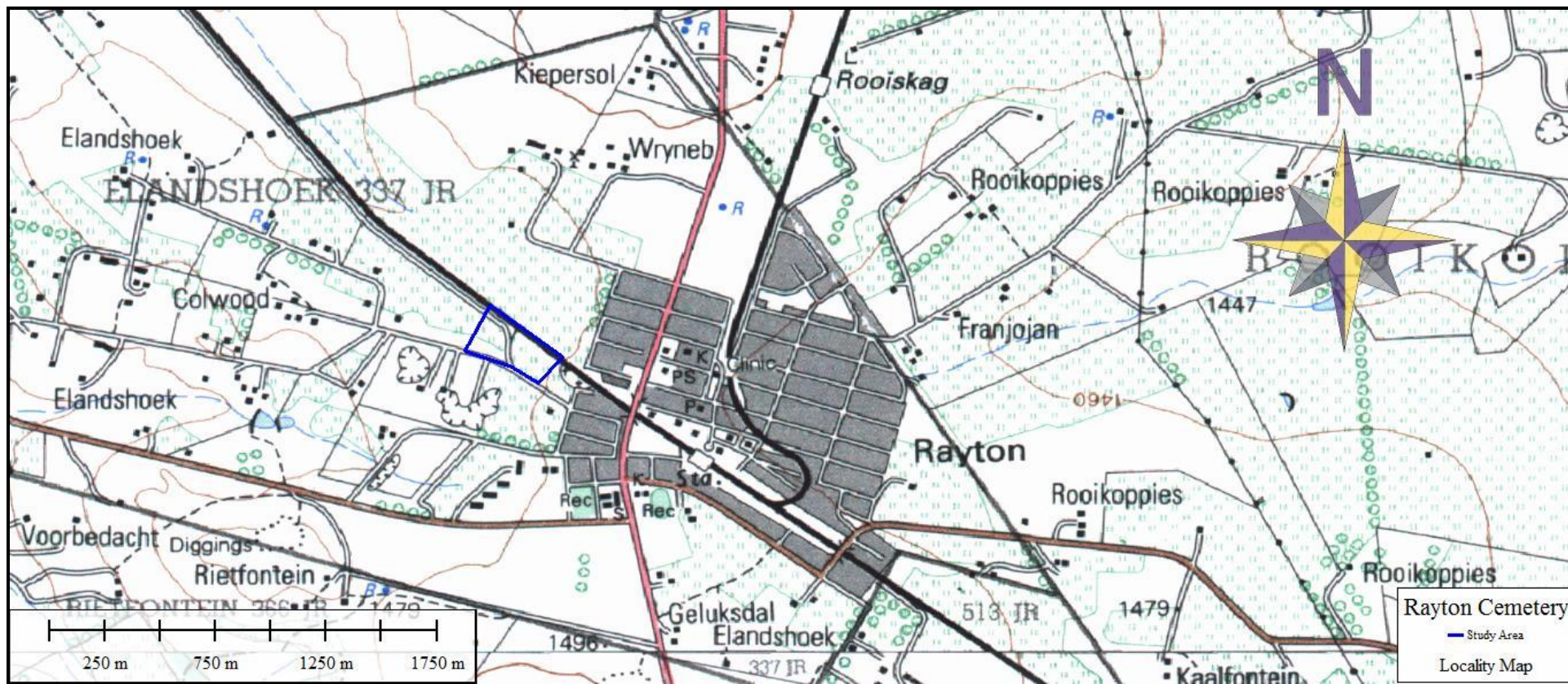


Figure 1: Location map

2. APPROACH AND METHODOLOGY

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

2.1 Phase 1 - Desktop Study

The first phase comprised desktop, scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area. The following approach was followed:

2.1.1 Literature Search

Utilising data for information gathering stored in the national archives and published reports relevant to the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

SAHRIS was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

2.1.3 Consultation

No public consultation was done by the author as this was done independently as part of the BA.

2.1.4 Google Earth and Mapping Survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

2.1.5 Genealogical Society of South Africa

The database of the Genealogical Society was consulted to collect data on any known graves in the area.

2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the proposed development was conducted. The study area was surveyed by means of vehicle and extensive pedestrian surveys on 25 November 2015. The survey was aimed at covering the proposed development footprint, focussing on specific areas on the landscape that would be more likely to contain archaeological and/or other heritage remains like drainage lines, rocky outcrops as well as slight elevations in the natural topography. These areas were searched more intensively, but many other areas were walked in order to confirm expectations in those areas. Track logs of the areas covered were taken (Figure 2).



Figure 2: Track logs of the areas surveyed indicated in black with the infrastructure indicated in blue.

2.3. Restrictions

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed cemetery development as indicated in the location map.

Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as graves, stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

The Applicant intends to develop a cemetery including related uses such as a chapel, crematorium and wall of remembrance.

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

SAHRA Report Mapping Project and SAHRIS

Few CRM projects were conducted in the general vicinity of the study area. The projects include studies by Van der Walt (2008) that identified historical, Iron Age and burial sites. Van Schalkwyk (1995) recorded a single Iron Age Site to the west of the study area and in 2007 he conducted a study to the north east and recorded no heritage sites or features.

Genealogical Society and Google Earth Monuments

Neither the Genealogical Society nor the monuments database at Google Earth (Google Earth also include some archaeological sites and historical battlefields) have any recorded sites in the study area. The battle of Donkerhoek did occur to the south east of the study area.

4.2. A Brief History of Human Settlement And Black And White Interaction In The Greater Study area

J. S. Bergh's historical atlas of the four northern provinces of South Africa is a very useful source for the writing of local and regional history. The Difaqane (Sotho), or Mfekane ("the crushing" in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820's until the late 1830's (Bergh 1999: 10). 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. (Bergh 1999: 14; 116-119) It seems that, in 1827, Mzilikazi's Ndebele started moving through the area where Johannesburg is located today. This group went on raids to various other areas in order to expand their area of influence. (Bergh 1999: 11)

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa, some already as early as the 1720's.

It was however only by the late 1820's that a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek. This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39) By 1939 to 1940, farm boundaries were drawn up in an area that includes the present-day Johannesburg and Krugersdorp (Bergh 1999: 15).

4.2.1. The Battle of Diamond Hill

The Battle of Diamond Hill (or the Battle of Donkerhoek) was fought close to the proposed development area on 11 June 1900. The Boers under leadership of General Louis Botha suffered a loss of around 30 men, of whom 11 were killed in this battle. The battle took place after Lord Roberts occupied Pretoria and the Boers moved their capital to Machadodorp. General Botha established a line of defence about 30 kilometres east of Pretoria on both sides of the railway line to prevent the British army moving east towards Machadodorp. The frontline stretched over 40 km Figure 3 (Bergh 1999). The British advanced against the Boers to clear the Boers from the areas close to Pretoria. The British suffered 180 casualties in the battle and on the 12th of June Botha led his men into the cover of darkness with a sense of victory. This battle boosted the Boers morale and the war continued for two more years (Von der Heyde 2013).

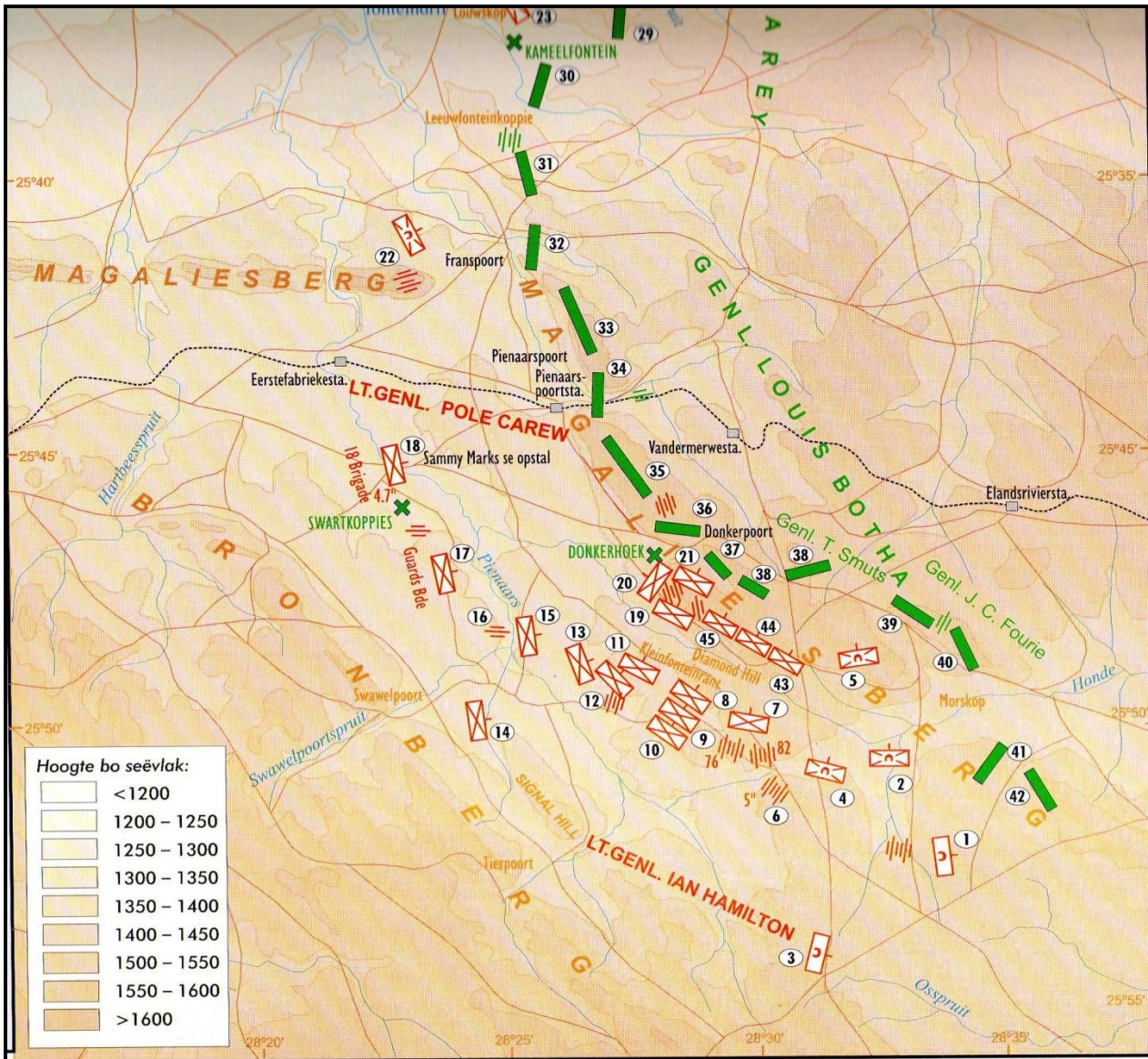


Figure 3: The battle of Donkerhoek, 12 June 1900 from Bergh 1999.

4.2.2. Cullinan and Rayton

The village of Cullinan was named after Sir Thomas Cullinan. The village is known as of being the site of discovery of the world's largest diamond.

Premier Mine was originally part of the farm owned by Cornelis Minnaar, namely Elandsfontein no. 85. It was registered on the 7th of November 1859. A portion of the farm was sold to his brother Roelof Minnaar in 1861, who in turn sold the northern part of the farm to Willem Prinsloo for £570 on the 7th December 1896 (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

Thomas Major Cullinan, a building contractor wanted to obtain an option on the Prinsloo farm but could not. When Willem Prinsloo died in 1898, Maria Prinsloo became the new owner just before the Anglo Boer War (1898-1902) broke out. After the war Maria Prinsloo's brothers returned to the farm. The Prinsloo family were in need of money. When Thomas Cullinan started new negotiations with the family, they agreed to the sale of the farm for the sum £52,000 .

'Rayton Junction', as it was first known, started out as a tin shack mining town on the farm Elandshoek. During its boom days the town served the needs of thousands of diggers and prospectors working for the Schiller, Montrose and Dunmore mining companies. The original Rayton Junction was laid out along a spur of the main NZASM railway line, which was completed in 1895 to connect the Republic of Transvaal's capital, Pretoria to the port in Delagoabay, Mozambique. Officials in the Montrose Diamond Mining Company did the town planning and named the hamlet after Lady Rachel Ray Williston, wife of the company's first manager, Colonel Balliston.

The town's first—and then only—brick building was the original magistrate's office, which dates from this early time. Between 1900 and 1910 a railroad was constructed between Rayton and Cullinan.

Thomas Cullinan's company was initially registered as the Premier Syndicate on November 6, 1902. They reregistered on 1 December 1902 as The Premier (Transvaal) Diamond Mining Company LTD (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

Prospecting started immediately. In April 1903 William McHardy became the first general manager. Production began on 24th April 1903. By 1904 the mine already employed more than 2000 people. On the 25th January 1905 a diamond with the mass of 3,106 carats in its uncut state was found in the side-wall of the open pit. The Cullinan Diamond is still the largest gemstone ever found. Two of the stones cut from the Cullinan Diamond are now found in the British Crown Jewels; the 530-carat "Star of Africa", which is set in the septre and the 317-carat "Lesser Star of Africa" which is set in the Imperial State Crown (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

1914 proved to be the start of difficult times. Three hundred and eighty one European employees were discharged for provoking industrial disturbances at the mine. During the outbreak of World War 1 in Europe in August 1914, diamond prices tumbled and subsequently all operations at the Premier mine were suspended.

Premier Mine resumed production on the 16th January 1916. The De Beers Consolidated Mines acquired a controlling interest in the mine in 1917. In 1918 almost every family in the Cullinan community lost a member to the flu epidemic (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

The great depression in 1929 affected the rest of the world and in 1932 operations at the Premier mine were suspended again.

By 1933 deprivation and hunger were experienced not only in Cullinan in the entire country. The retrenched employees were permitted to remain in occupation of the company's houses rent free. They were also provided with water, lights, sanitary and medical services free of charge. The nearby Zonderwater farm came to the rescue by providing soup kitchens for the hungry children. By the time World War 2 started in 1939, the village was nearly deserted.

From 1941 to 1945 the biggest concentration of Italian Prisoners of War (over 90 000), who were captured in North Africa, were housed in South Africa at Zonderwater Prison. During this period the army took over the village, even the golf course was used to pitch tents on.

Among these prisoners of war were musicians, craftsman and artists who painted eight murals in 1942 in the old Recreation Club Hall. The 3 m x 4 m mural paintings depicted historical scenes from South Africa and Britain. The paintings were probably copied from photographs or post cards, as most are copies of well-known artists like Erich Mayer and W.H. Coetzer (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

During 1948 the Recreational Hall was converted into a cinema. Unfortunately most of the murals were damaged when boards were placed over them to improve the acoustics. The pressed steel ceiling, which dated back from 1912 - when the Recreational Hall was rebuilt after a fire - was also covered by a false acoustic ceiling. Nearly fifty years later in 1993 the hidden murals were again uncovered. Great effort was made to restore the murals and this was completed in 1998.

After the end of the war in 1945, numerous prisoners chose to remain in South Africa. Only 30,000 were permitted to remain. Around 264 prisoners were buried in the Italian military cemetery just outside Cullinan. Many descendants of the Italian POW's have been making an annual pilgrimage to the Italian War Cemetery ever since.

In 1945 all the rain water that accumulated during the twelve years the mine had been closed, was pumped out of the big hole and the mine resumed production. The mine is still producing some of the world's finest diamonds today (<http://www.cullinan-conservancy.org/cultural-heritage.php>).

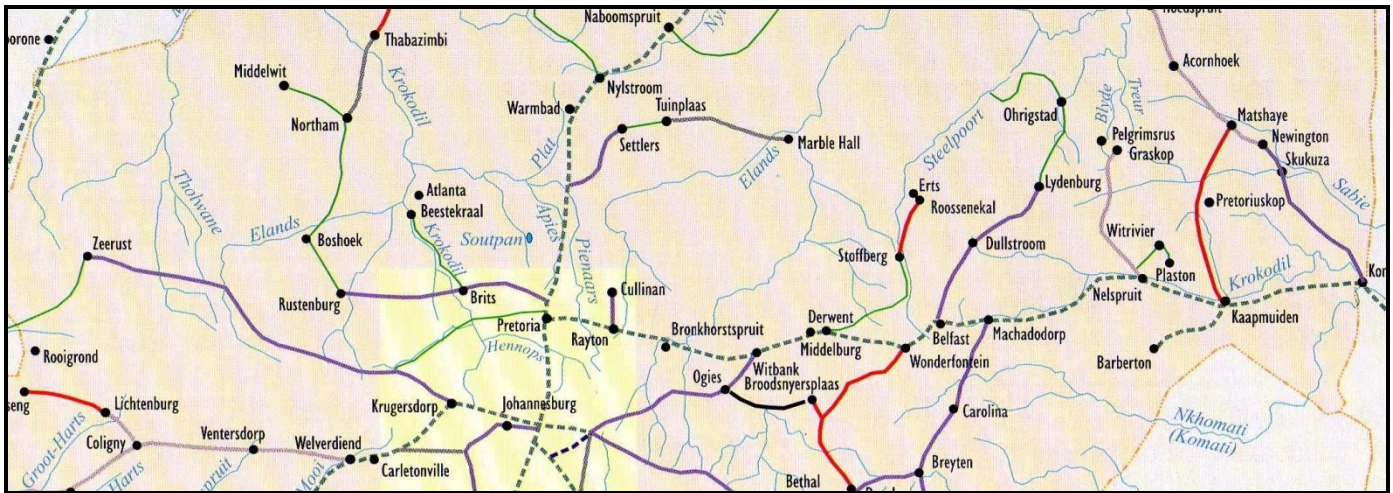


Figure 4: Enlarged section of the railroad development map from Bergh 1999.

4.2.3. Archaeology of the area

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contain sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. For Cultural Resources Management (CRM) purposes it is often only expected/ possible to identify the presence of the three main phases.

Yet sometimes the recognition of cultural groups, affinities or trends in technology and/or subsistence practices, as represented by the sub-phases or industrial complexes, is achievable. The three main phases can be divided as follows;

- Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

A single Late Stone Age site is on record in the greater study area (called Ford Troye) (Bergh 1999).

According to Bergh (1999) there are also 125 Late Iron sites on record in the greater study area. Several Stone Walled Settlements is found in the general study area associated with the Manala Ndebele. These Southern Ndebele speaking people occupied the area between the 1600's up to the 1800's.

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposits;
- » 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/is known);
- » The preservation condition of the sites;
- » Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

- » Its importance in/to the community, or pattern of South Africa's history;
- » Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- » Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- » Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- » Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- » Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- » Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- » Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- » Sites of significance relating to the history of slavery in South Africa.

5.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 7 of this report.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the footprint of the proposed cemetery that was surveyed on foot and by vehicle (Figure 1 & 2). The area identified for the development measures less than 9 ha.

The study area is characterised by typical Highveld grass veld with some infrastructure like dirt roads, and a soccer field with illegal dumping on the western portion of the site (Figure 6 – 7). The study area is flat with no major landscape features that would have been focal points in antiquity and lack locally available raw material suitable for the manufacture of stone artefacts, as the geology is made up mostly of shale. From the second edition topographic map (Figure 1) it is clear the study area was extensively ploughed in the past and this would have impacted on surface indicators of heritage sites.

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and no surface indicators of archaeological (Stone or Iron Age) sites were identified in the study area. In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur in the areas visited. The demolished remains of a rectangular brick structure (Figure 10) measuring 16 x 8 meters was however recorded at 25° 44' 17.6423" S, 28° 31' 21.7632" E. This building is not indicated on the second edition topographic maps and is assumed therefore not to be older than 60 years. This feature is completely demolished and is not any significance apart from noting its presence, which has been done so in this report.

An informal church (Figure 11 and 12) is recorded at 25° 44' 14.9639" S, 28° 31' 20.4889" E and is classified as living heritage. The church is located under a cluster of trees in the western portion of the study area.

No burial grounds or graves were recorded and no significant cultural landscapes or viewsapes were noted during the fieldwork. As graves can be expected anywhere on the landscape and the fact that the area has been disturbed it is recommended that a chance find procedure is incorporated for this project.



Figure 5. General site conditions in the northern portion of the study area.



Figure 6. Illegal dumping in the study area.



Figure 7. Illegal dumping in the study area.



Figure 8. Soccer field in the study area.



Figure 9: Site distribution map.



Figure 10: Demolished remains of a rectangular structure



Figure 11 and 12: Informal church

7. CONCLUSIONS AND RECOMMENDATIONS

Heritage Contracts and Archaeological Consulting CC (HCAC) has been contracted by Leap Environmental to conduct an Archaeological Impact Assessment for the proposed Rayton Cemetery development that is located on the Remaining Extent of Portion 136 of the Farm Elandshoek 337 JR, Gauteng Province. The proposed area is adjacent (to the west) of the existing cemetery and measures less than 9 ha. It is important to note that the entire farm Elandshoek 337 JR was not surveyed but only the footprint of the proposed cemetery development that was surveyed on foot and by vehicle.

The study area is characterised by typical Highveld grass veld with some infrastructure like dirt roads, and a soccer field with illegal dumping on the western portion of the site. The study area is flat with no major landscape features that would have been focal points in antiquity and lack locally available raw material suitable for the manufacture of stone artefacts, as the geology is made up mostly of shale. From the second edition topographic map it is clear the study area was extensively ploughed in the past and this would have impacted on surface indicators of heritage sites.

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and no surface indicators of archaeological (Stone or Iron Age) sites were identified in the study area. In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur in the study area. The demolished remains of a rectangular brick structure were however recorded. This building is not indicated on the second edition topographic maps and is assumed therefore not to be older than 60 years. This feature is completely demolished and is not of any significance apart from noting its presence, which has been done so in this report and no further action is necessary for this feature.

An informal church was recorded and is classified as living heritage. The church is located under a cluster of trees in the western portion of the study area. It is recommended that during the public participation process the church members and leaders should be involved in the process and informed of the proposed development, giving them adequate time to find a suitable replacement site.

Based on the results of the study there are no significant archaeological risks associated with the proposed cemetery. However graves can be expected anywhere on the landscape and due to previous agricultural activities in the study area that would have impacted on surface indicators of graves and heritage sites it is recommended that a chance find procedure is incorporated into the EMP for this project as detailed below.

Chance find procedure

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or rock engraving, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

7.1 Reasoned Opinion

From a heritage perspective the proposed project area is acceptable. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of Gauteng. If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

8. PROJECT TEAM

Jaco van der Walt, Project Manager

9. STATEMENT OF COMPETENCY

I (Jaco van der Walt) am a member of ASAPA (no 159), and accredited in the following fields of the CRM Section of the association: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. This accreditation is also acknowledged by SAHRA and AMAFA.

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIA's since 2000.

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