

Phase 1 Archaeological/Heritage Impact Assessment for proposed Amendment of the R5 pipeline Environmental Authorization for pipeline route re- alignment of approximately 2km at Woodhill Golf Estate in City of Tshwane Municipality of Gauteng Province

AIA/Heritage Study

INTEGRATED SPECIALIST SERVICES (PTY) LTD

February 6, 2020

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DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)

Item	Description
Proposed development and location	R5 bulk water pipeline for a 2km section of pipe at Woodhill Estate in City of Tshwane Municipality of Gauteng Province
Purpose of the study	Phase 1 Archaeological Impact Assessment to determine the presence of cultural heritage sites and the impact of the proposed project on these resources within the area demarcated for the proposed road upgrade.
1:50 000 Topographic Map	2528 CA
Coordinates	25°34'02.95"S 028°03'21.94"E.
Municipalities	City of Tshwane Metropolitan Municipality.
Predominant land use of surrounding area	Residential, Golf course, road and transport
Applicant	Rand Water
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Date of Report	2 February 2020

This report serves to inform and guide the developer and contractors about the possible impacts that the proposed R5 bulk water pipeline may have on heritage resources (if any) located in the study area. In the same light, the document must also inform South African heritage authorities (SAHRA/PHRA-G) about the presence, absence and significance of heritage resources located in the study area. As required by South African heritage legislation, linear development exceeding 300m such as this require pre-development assessment by a competent heritage practitioner in order to identify, record and if necessary, salvage the irreplaceable heritage resources that may be impacted upon by the proposed development. In compliance with these laws Taktho Environmental Strategy (Pty) Ltd on behalf of City of Rand Water appointed Integrated Specialist Services (Pty) Ltd (ISS) to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) of the proposed R5 bulk water pipeline in the City of Tshwane Metropolitan Municipality of Gauteng Province. Desktop studies, drive-throughs and fieldwalking were conducted in order to identify heritage landmarks on and around the proposed development site. The study site is not on pristine ground, having seen significant transformations owing to infrastructure developments, agriculture, powerlines, road networks and residential developments. The general project area is known for historical and LIA occurrences such as the Medunsa Late Iron Age complex. The sites were extensively researched by a number of archaeologists such Kusel (2003), Pelser (2007) and several others. In terms of the built environment of the project area, structures older than 60 years of age may occur in the surrounding areas. In addition, sub-surface archaeological material and unmarked graves may still exist and when encountered during construction, work must be stopped forth-with and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must also be submitted to the SAHRA or PHRA-G for review.

NATIONAL LEGISLATION AND REGULATIONS GOVERNING THIS REPORT

This is a specialist report' and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

DECLARATION OF INDEPENDENCE

In terms of Chapter 5 of the National Environmental Management Act of 1998 specialists involved in Impact Assessment processes must declare their independence.

I, **Trust Mlilo**, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own, notwithstanding the fact that I have received fair remuneration from the client for preparation of this report.

Expertise:

Trust Mlilo, MA. (Archaeology), BA Hons, PDGE and BA & (Univ. of Pretoria) ASAPA (affiliation member) and more than 15 years of experience in archaeological and heritage impact assessment and management. Mlilo is an accredited member of the Association for Southern African Professional Archaeologists (ASAPA), Amafa akwaZulu Natali and Eastern Cape Heritage Resources Agency (ECPHRA). He has conducted more than hundred AIA/HIA Studies, heritage mitigation work and heritage development projects over the past 15 years of service. The completed projects vary from Phase 1 and Phase 2 as well as heritage management work for government, parastatals (Eskom) and several private companies such as BHP Billiton and Rhino Minerals.

Independence

The views expressed in this document are the objective, independent views of Mr Trust Mlilo and the survey was carried out under Taktho Environmental Strategy (Pty) Ltd. Integrated Specialist Services (Pty) Ltd has no any business, personal, financial or other interest in the proposed development apart from fair remuneration for the work performed.

Conditions relating to this report

The content of this report is based on the author's best scientific and professional knowledge as well as available information. Integrated Specialist Services (Pty) Ltd reserves the right to modify the report in any

way deemed fit should new, relevant or previously unavailable or undisclosed information become known to the author from on-going research or further work in this field, or pertaining to this investigation.

This report must not be altered or added to without the prior written consent of the author and Taktho Environmental Strategy (Pty) Ltd and the author. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Authorship: This AIA/HIA Report has been prepared by Mr Trust Mlilo (Professional Archaeologist). The report is for the review of the Heritage Resources Agency (PHRA-G).

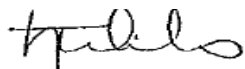
Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer: The Authors are not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation of proposed R5 bulk water pipeline being proposed by Rand Water.

Signed by



06/ 02/ 2020

Acknowledgements

The authors acknowledge Taktho Environmental Strategy (Pty) Ltd for their assistance with project information, and the associated project BID as well as responding to technical queries related to the project.

1. TABLE OF CONTENTS

1.	ABBREVIATIONS	7
2.	KEY CONCEPTS AND TERMS	9
3.	TERMS OF REFERENCE (TOR)	12
4.	PROJECT LOCATION	- 14 -
5.	LEGISLATIVE CONTEXT	- 17 -
6.	METHODOLOGY	- 20 -
6.3	VISIBILITY AND CONSTRAINTS	- 20 -
7.3	SAHRIS DATA BASE AND IMPACT ASSESSMENT REPORTS IN THE PROJECT AREA	- 31 -
8	RESULTS OF THE FIELD STUDY	- 32 -
8.6	<i>Cumulative Impacts</i>	- 33 -
8.7	<i>Mitigation</i>	- 35 -
	<i>Table 2: Summary of findings</i>	36
9	ASSESSING SIGNIFICANCE	36
10	RECOMMENDATIONS	38
11	CHANCE FINDS PROCEDURES	ERROR! BOOKMARK NOT DEFINED.
12	CONCLUSION.....	39
13	REFERENCES	40
14	APPENDIX 1: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED PIPELINE PROJECT EMP	- 52 -
15	APPENDIX 2: HERITAGE MITIGATION MEASURE TABLE	- 53 -

TABLE OF PLATES [PHOTOGRAPHS]

Plate 1: Photo A. showing proposed pipeline route cutting through a golf course	- 22 -
Plate 2: Photo B. showing proposed pipeline route cutting through a golf course within Woodhill estate.	- 22 -
Plate 3: Photo C. showing the proposed pipeline route.	- 23 -
Plate 4: Photo D showing proposed pipeline route.Note that some of the properties will be affected.	- 23 -
Plate 5: Photo E. showing proposed pipeline route.	- 24 -
Plate 6: Photo F showing propoposed pipeline route cutting through Woodhill golf course.	- 24 -
Plate 7: Photo G, showing proposed pipeline route.	- 25 -

Plate 8: Photo H , showing proposed powerline route.	- 25 -
Plate 9: Photo I , showing proposed powerline route cutting through Woodhill golf course	- 26 -
Plate 10: Photo J , showing proposed pipeline route cutting through Woodhill golf course.	- 26 -
Plate 11: Photo K , showing proposed pipeline route.	- 27 -
Plate 11: Photo K , showing proposed powerline route.	- 27 -

TABLE OF FIGURES

Figure 1: Location of the proposed project site	15
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LIST OF TABLES

Table 1: <i>Evaluation of the proposed development as guided by the criteria in NHRA and NEMA</i>	- 19 -
Table 2: Summary of findings	36

1. Abbreviations

AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
EIA	Environmental Impact Assessment
EIA	Early Iron Age (<i>EIA refers to both Environmental Impact Assessment and the Early Iron Age but in both cases the acronym is internationally accepted. This means that it must be read and interpreted within the context in which it is used.</i>)
EIAR	Environmental Impact Assessment Report
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
ICOMOS	International Council of Monuments and Sites
LIA	Late Iron Age
LFC	Late Farming Community
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NHRA	National Heritage Resources Act 25 of 1999
PHRA	Provincial Heritage Resource Agency
SAHRA	South African Heritage Resources Agency
ISS	Integrated Specialist Services

ToR

Terms of Reference

2. Key concepts and terms

2.1 Periodization

Periodization Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below;

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)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

2.2 Definitions

Definitions Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best-practice. The following aspects have a direct bearing on the investigation and the resulting report:

Cultural (heritage) resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture or archaeology of human development.

Cultural significance is determined by means of aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

In-situ refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

Historic material are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project

which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Impact is the positive or negative effects on human well-being and / or on the environment.

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the prehistorical, historical or the relatively recent past.

Study area or '**project area**' refers to the area where the developer wants to focus its development activities (refer to plan).

Phase I studies refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

2.3 Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that archaeological deposits (including graves and traces of mining heritage) usually occur below the ground level. Should artefacts or skeletal material be revealed at the site during construction, such activities should be halted immediately, and a competent heritage practitioner, SAHRA or PHRA-G must be notified in order for an investigation and evaluation of the find(s) to take place (see NHRA (Act No. 25 of 1999), Section 36 (6)). Recommendations contained in this document do not exempt the developer from complying with any national, provincial, and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. ISS assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

3. Terms of Reference (ToR)

The author was requested by Taktho Environmental Strategy (Pty) Ltd on behalf of Rand Water to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed R5 bulk water pipeline including any known data on affected areas;
- Provide details on methods of study; potential and recommendations to guide the PHRA-G/ SAHRA to make an informed decision in respect of authorisation of the proposed R5 bulk water pipeline.
- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located along the proposed development site;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the proposed R5 bulk water pipeline on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
- Review applicable legislative requirements;

3.1 Introduction

Integrated Specialist Services (Pty) Ltd was commissioned by Taktho Environmental Strategy (Pty) Ltd to carry out a Phase 1 AIA/ HIA of the proposed R5 bulk water pipeline within Woodhill estate in City of Tshwane Metropolitan Municipality in Gauteng Province. The proposed R5 bulk water pipeline is gazetted in terms of section 38 of the NHRA (see Figure 1). As prescribed by SAHRA and stipulated by legislation, an AIA/HIA is a pre-requisite for a R5 bulk water pipeline. The overall purpose of this heritage report is to identify, assess any heritage resources that may be located in the study area and evaluate the positive and negative impacts of the proposed development on these resources in order to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps and databases (desktop studies) which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies revealed that the general project area is rich in LIA and historical sites such as the Medunsa LIA, Makau LIA complex and Sjambok LIA. It should be noted that while heritage resources may have been located in the entire study area, subsequent developments such as agriculture and infrastructure development work have either obliterated these materials or reduced them to isolated finds

that can only be identifiable as chance finds during construction. The proposed R5 bulk water pipeline may be permitted subject to adopting recommendations and mitigation measures proposed in this report. There is no archaeological reason why the R5 bulk water pipeline cannot proceed, taking full cognizance of clear procedures to follow in the event of chance findings.

4. Project Location

The proposed pipe line development is located within Woodhill golf estate in the City of Tswane Metropolitan Municipality of Gauteng. The coordinates are as follows: 25°34'02.95"S 028°03'21.94"E.

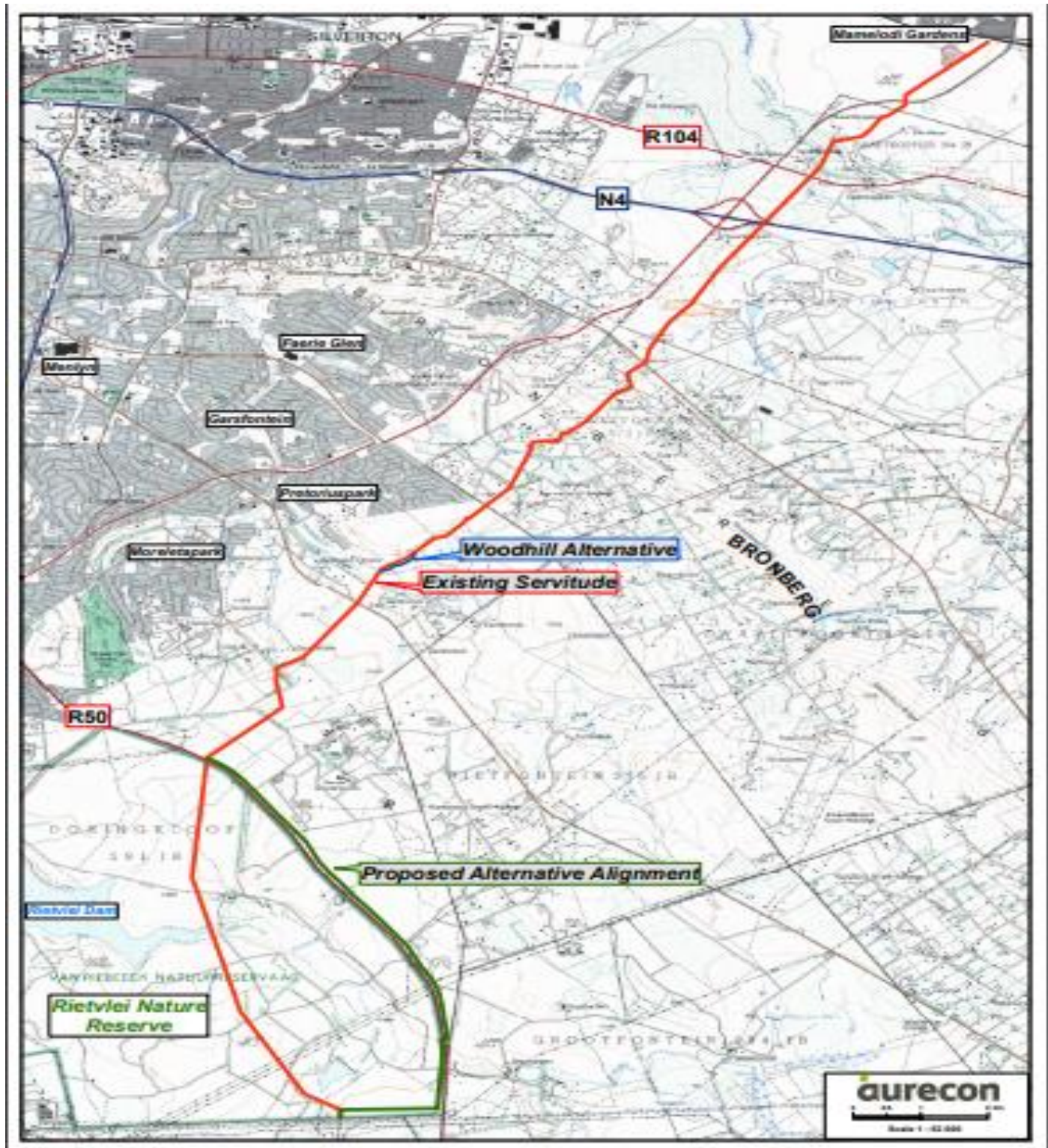


Figure 1: Location of the proposed project site

4.1 Project background and descriptions

The Environmental Authorisation approved a deviation of the pipeline route (C, as per– Figure 1) at Woodhill Estate (outside of Rand Water's registered servitude). An amendment of the EA is crucial in order to align the pipeline within Rand Water's servitude at Woodhill Estate. The Authorised preferred alignment will deviate from the proposal in the Woodhill Golf Estate by being aligned around the golf fairways and greens since these have been developed on top of the existing servitude." The approved route as per the current approved deviation at Woodhill Golf Estate is depicted in Figure 1 as the pink line. The proposed amended alignment into the Rand Water servitude is depicted by the redline.

The environmental authorization of 12 June 2013, which Rand Water obtained from GDARD, to lay the proposed R5 pipeline is subject to some approved deviations outside of Rand Water's servitude, one being at Woodhill Golf Estate. Rand Water seeks to lay the full length of pipeline (except for the 9km section at Rietvlei Nature Reserve) within its servitude area without any deviations. Therefore, an application to the Department of Environment Affairs (Competent Authority for Rand Water) needs to be lodged for the approximate 2km section at Woodhill Golf estate for the proposed re-alignment of the pipeline into Rand Water existing registered servitude. Rand Water did not receive the approval from City of Tshwane when trying to register the new servitudes that was Authorised by this Environmental Authorisation, thus has led into Rand Water having to go back to the existing Servitudes. R5 bulk water pipeline for a 2km section of pipe at Woodhill Estate. The expected impacts shall be limited to the Rand Water servitude for both construction of the R5 pipeline and future maintenance works for both the R5 pipeline and R1 pipeline. The R5 steel pipeline will be underground next to the existing pipeline, within the existing servitude. The top cover will be rehabilitated concurrent with the backfilling of the trenches.

5. Legislative context

Two main pieces of legislations are relevant to the present study and there are presented here. Under the National Heritage Resources Act (Act 25 of 1999) (NHRA) and the National Environmental Management Act (NEMA), an AIA or HIA is required as a specialist sub-section of the EIA.

Heritage management and conservation in South Africa is governed by the NHRA and falls under the overall jurisdiction of the SAHRA and its PHRAs. There are different sections of the NHRA that are relevant to this study. The present proposed development is a listed activity in terms of Section 38 of the NHRA which stipulates that the following development categories require an HIA to be conducted by an independent heritage management consultant:

- Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length
- Construction of bridge or similar structure exceeding 50m in length
- Development or other activity that will change the character of a site -
 - ❖ Exceeding 5000 sq m
 - ❖ Involving three or more existing erven or subdivisions
 - ❖ Involving three or more erven or divisions that have been consolidated within past five years
 - ❖ Rezoning of site exceeding 10 000 sq m
 - ❖ The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority
- Any other development category, public open space, squares, parks, recreation grounds

Thus any person undertaking any development in the above categories, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. Section 38 (2) (a) of the same act also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because, the proposed development will change the character of a site exceeding 5000 sq m, then an HIA is required according to this section of act.

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may **alter damage, destroy and relocate any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority**. This section may not apply to present study since none were identified. Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered before or during construction. This means that any chance find must be reported to the heritage practitioner or SAHRA/PHRA-G,

who will assist in investigating the extent and significance of the finds and inform about further actions. Such actions may entail the removal of material after documenting the find site or mapping of larger sections before destruction. Section 36 (3) of the NHRA also stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority. This section may apply in case of the discovery of chance burials, which is unlikely. The procedure for reporting chance finds also applies to the unlikely discovery of burials or graves by the developer or his contractors. Section 37 of the NHRA deals with public monuments and memorials but this may not apply to this study because no protected monument will be physically affected by the proposed project.

In addition, the new EIA Regulations (04 December 2014) promulgated in terms of NEMA (Act 107 of 1998) determine that any environmental reports will include cultural (heritage) issues. The new regulations in terms of Chapter 5 of the NEMA provide for an assessment of development impacts on the cultural (heritage) and social environment and for Specialist Studies in this regard. The end purpose of such a report is to alert the developer, the environmental consultant (Taktho Environmental Strategy (Pty) Ltd, SAHRA and interested and affected parties about existing heritage resources that may be affected by the proposed development, and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

Table 1: Evaluation of the proposed development as guided by the criteria in NHRA and NEMA

ACT	Stipulation for developments	Requirement details
NHRA Section 38	Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
	Construction of bridge or similar structure exceeding 50m in length	No
	Development exceeding 5000 sq m	No
	Development involving three or more existing erven or subdivisions	No
	Development involving three or more erven or divisions that have been consolidated within past five years	No
	Rezoning of site exceeding 10 000 sq m	Not available
	Any other development category, public open space, squares, parks, recreation grounds	No
NHRA Section 34	Impacts on buildings and structures older than 60 years	Subject to identification during Phase 1
NHRA Section 35	Impacts on archaeological and palaeontological heritage resources	Subject to identification during Phase 1
NHRA Section 36	Impacts on graves	Subject to identification during Phase 1
NHRA Section 37	Impacts on public monuments	Subject to identification during Phase 1
Chapter 5 (21/04/2006) NEMA	HIA is required as part of an EIA	Yes

6. Methodology

This document falls under the Basic assessment phase of the AIA/HIA and therefore aims at providing an informed heritage-related opinion about the proposed R5 bulk water pipeline deviation within the Woodhill estate. This is usually achieved through a combination of a review of any existing literature and a basic site inspection. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history and archaeology of the area were studied. The desktop study was followed by field surveys. The field assessment was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites and features of cultural significance on the development footprint. Initially a drive-through was undertaken around the proposed development as a way of acquiring the archaeological impression of the general area. This was then followed by a walk down survey in the study area, with a hand held Global Positioning System (GPS) for recording the location/position of each possible site. Detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the proposed development in order to suggest further action. The result of this investigation is a report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development.

6.2 The Fieldwork survey

The fieldwork survey was undertaken in January 2020. The main focus of the survey involved a pedestrian survey which was conducted along the proposed pipeline route. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example bald spots in the grass veld; stands of grass which are taller than the surrounding grass veld; the presence of exotic trees; evidence for building rubble, and ecological indicators such as invader weeds. Apparently, the entire pipeline cuts through Woodhill golf course.

The literature survey suggests that prior to the 20th century modern residential and on-going infrastructure developments; the general area where the proposed development is located would have been a rewarding region to locate heritage resources related to Stone Age and particularly Iron Age and historical sites (Bergh 1999: 4). However, the situation today is completely different. The study area now lies on a clearly modified landscape that has previously been cleared of vegetation but is now dominated by a continuous sweep of tall grass and shrubs that limit ground visibility (Plates 1-9).

6.3 Visibility and Constraints

The project site is accessible and cleared making it easier to identify archaeological resources in their original places. In addition, due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area.

6.4 Consultations

The EIA Public Participation process is conducted by the EAP and specialists. The study team consulted residents and Estate workers regarding the heritage character of the project route. The EIA Public Participation Process will also invite and address comments from affected communities and any registered heritage bodies on any matter related to the proposed project including heritage concerns that may arise as a result of the project. The issues raised by the public with respect to the proposed R5 bulk water pipeline will also be included in the Final Basic Assessment Report.

The following photographs illuminate the nature and character of the Project Area.



Plate 1: Photo **A**. showing proposed pipeline route cutting through a golf course



Plate 2: Photo **B**. showing proposed pipeline route cutting through a golf course within Woodhill estate.



Plate 3: Photo **C**. showing the proposed pipeline route.



Plate 4: Photo **D** showing proposed pipeline route. Note that some of the properties will be affected.



Plate 5: Photo **E**. showing proposed pipeline route.



Plate 6: Photo **F** showing proposed pipeline route cutting through Woodhill golf course.



Plate 7: Photo **G**, showing proposed pipeline route.



Plate 8: Photo **H**, showing proposed powerline route.



Plate 9: Photo I, showing proposed powerline route cutting through Woodhill golf course



Plate 10: Photo J, showing proposed pipeline route cutting through Woodhill golf course.



Plate 11: Photo **K**, showing proposed pipeline route.



Plate 12: Photo **K**, showing proposed powerline route.

7 Archaeological Context

Stone Age Archaeology

In the larger geographical area, there is material manifestation of Stone Age people but generally, Highveld area did not attract much of habitation in these early times due to lack of rock-shelters and domination of exposed environments. Thus, it is mostly in the vicinity of large watercourses and lower parts of mountains that some ESA (~ 2.6 million to 250 000 years ago) materials (crude chopper and other unifacial tools of the Oldowan industry and the characteristic Acheulian hand axes and cleavers) and MSA (~ 250 000 to 40-25 000 years ago) materials are generally found. The MSA is a flake-technological stage characterized by faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. More technological and behavioural changes than those witnessed in the MSA, occurred during the LSA (~ 40-25 000, to recently, 100 years ago), which is also associated with *Homo Sapiens* (Barham and Mitchell 2008). For the first time we get evidence of people's activities derived from material other than stone tools (ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments) (Deacon and Deacon 1999). The LSA people are also credited with the production of rock art (engravings and paintings), which is an expression of their complex social and spiritual beliefs (Parkington *et al.* 2008). However, it is important to note that no Stone Age material was recorded during the limited field walking, perhaps due to the presence of tall grass. Nonetheless, it is possible to encounter isolated finds of these objects in the study area, even though these would most likely be out of context due to the modern disturbances.

Iron Age Archaeology

Metal using communities entered southern Africa from West and East Africa around AD 200 and brought with them settled agriculture, metal working, animal husbandry, pottery making and social stratification (Huffman 2007). The movement and spread of these EIA (~ AD200-1000) people within southern Africa seem to have been restricted to the summer rainfall (because of sorghum and millet farming) and they did not occupy much of the central interior Highveld area in South Africa. Ecologically, they preferred to settle on the alluvial soils near rivers for agricultural purposes and access to water. Thus, it was not until the mid-second millennium AD that serious Iron Age occupation began in the larger geographical area (including the study area) of the South African Highveld. The study area falls within the known distribution of LIA (~ AD1100-1840) people who made Uitkomst facies (AD1650-1820 and associated with a mixture of the Ntsuanatsatsi facies (ancestral Nguni speakers) and Olifantspoort facies (ancestral Sotho-Tswana speakers) (Huffman 2007: 173). Olifantspoort facies (AD1500-1700) represents the second phase of the Moloko sequence and settlements with people that made this type of ceramics are known in the area between the Vaal River and Pretoria. The people, just like the markers of Buispoort facies (third phase of the Moloko sequence AD1700-1840), settled in aggregated clusters where space was also demarcated by extensive stone walling. The distribution of Buispoort facies also covers the Tshwane area.

The post 1600s coincided with dry spells that saw an incursion of the Tshwane area by Nguni-speaking groups such as the Manala and Ndzundza Ndebeles from KwaZulu Natal (Huffman 2007: 448).

The early 19th century also saw another invasion of the Tshwane area by Nguni-speakers who were running away from the widespread upheaval perpetuated by the reign of the Zulu king, Shaka. One of the fleers was Mzilikazi, the Ndebele king briefly settled north west of Pretoria, extensively raided the plateau between 1825 and 1837 and displaced various Sotho-Tswana groups (Bergh 1999: 109-119). Mzilikazi was the cause of much of the destruction of the smaller tribes in the area across the Vaal. Mzilikazi decimated the Bakwena tribe, who had peacefully occupied the area. He also wiped out the Ba-Hurutsi for hundreds of miles around him. Mzilikazi wielded a path of destruction as far as the Orange River, annihilating all earlier inhabitants of the area. The men from these tribes were killed while the young boys and girls were incorporated into the Matabele fold. Mzilikazi made Pretoria his home by building two military kraals on the Apies River: "enDinaneni" was situated north-west of Pretoria on the road to Hartbeespoort Dam and "enKungweni" was built along the Daspoort range of hills. His main residence was on the south side of Meintjieskop, but he later moved to the north of the Magaliesberg range, to a place named "emHlahlandlela". However, in 1836 it was reported to Mzilikazi that thousands of White people were moving southwards to invade his land. Feeling threatened, Mzilikazi launched a devastating attack on the Voortrekkers, led by General Hendrik Potgieter. The Voortrekkers managed to ward off their attackers after suffering great loss of life and livestock. Shortly after this, Mzilikazi launched a second attack on the Voortrekkers, and this time his men carried off all the livestock owned by the Whites. Potgieter, determined to succeed, launched a counter-attack on the Matabele at Mosega and managed to recover a considerable number of their livestock. In December 1837, Potgieter launched another attack on Mzilikazi and his tribe. This battle, together with the one waged by Dingane a few months earlier, was enough to send Mzilikazi fleeing across the Limpopo. With Mzilikazi out of the way, it was easy for Potgieter to drive the rest of the Matabele stragglers to the north over Silkaatsnek.

Some 100 years earlier, African farmers in the Fokeng cluster built stonewalled settlements in the Tshwane area that emphasised the centre/side axis. From the air, these earlier settlements resemble a 'fried egg'; that is, a smooth outer ring about 60 metres across enclosed in a central cattle byre about 20 metres in diameter. This type has its origins among BaFokeng living near the hill Ntsuanatsatsi in the Free State (see pre- history of Bloemfontein). When these early BaFokeng people moved north across the Vaal River, they The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand in the region of Klipriviersberg and the Magaliesberg to the north (Horn 1996). Most of the LIA sites also tend to cluster around the hills and ridges as well as on the more open flatlands, especially in areas where outcrops (dolerite, etc.) occur. All the same, none of these LIA sites were identified in the study area. If any of these sites were available, they have since been destroyed by subsequent modern developments that took place since the mid-20th century.

The project area falls within a well-documented cultural landscape. Many Iron Age Sites around Ga Rankuwa to Zeerust have been recorded previously (Berg 1999:7-8). The general project area was previously inhabited by Twana speaking communities from around AD1600. The ceramic sequence for the Sotho Tswana is referred to as Moloko and consists of different facies with origins in either the Icon facies or a different branch associated with Nguni speakers. Several sites belonging to the Madikwe and Olifantspoort facies (from Icon) have been recorded in the projec area. These sites date to between AD 1500 and 1700 and predate stone walling ascribed to Sotho-Tswana speakers. Thousands of stone walled sites built along the bases of hills and mountain ranges in the project area (Pistorius 2012). Several LIA stone walled sites were recorded along the Swartkoppies mountain range which is located to the north of the project area. A detailed survey of the mountain range on the farm Hoekfontein recorded more than 470 individual archaeological sites (Kusel 2003) covering an area of about 1000 hectares (Pelser 2007). However, due to extensive residential and mining developments on the mountain range more than 110 of these sites were destroyed for example Mmakau LIA site was rescued after threats by mining (SAHRIS Case ID 3464 & 5686) (Kusel 2005, 2006).

Thirty-seven previously recorded sites are on record in the 2527 DB Topographic Map at Wits database (Van der Walt 2012). These include MSA, LSA, Rock Art and LIA Moloko Stone walled sites such as Swartkoppies-Hatherley site. The Medunsa LIA stone walled complex is located within the proposed project area. Mike Taylor (1979) classified the Mmakau sites and the Medunsa sites fell within the group 2, particularly group 2a dating between AD 1650 and AD 1840. Sotho Tswana stonewalled sites with Uitkomst pottery have been recorded in the project area and dates to the seventeenth to nineteenth centuries. The most important heritage site near Ga-Rankuwa and Mabopane area is the Tswaing Meteorite Crater. The crater is 1.13 kilometre in diameter and originally was 200 meter deep. The crater was formed 200 000 years ago by a meteorite. The sediments in the crater contain salt which has been utilized by Stone Age people as far back as 100 000 years.

Historical (~ AD 1840 to 1950) Archaeology

During the 17th century isolated migrations of white travellers, missionaries and adventurers from the Cape who passed through Pretoria occurred. Notable amongst them include the Scottish travellers Robert Scoon and William McLuckie, Robert Moffat, James Archbell, Andrew Smith and Captain William Cornwallis Harris (Bergh 1999: 12-13). Some of these missionaries and explorers kept diaries that today form part of invaluable history about indigenous communities which these travellers encountered during missionary and exploration journeys. However, permanent and mass-movement of white settlers occurred in the 1830s with the arrival of Voortrekkers escaping British rule in the Cape Colony (Ross 2002: 39). Because, these first white colonists who settled on the Highveld were farmers, they were also interested in water and grazing for cattle, water for crop-farming, trees, thatching grass, clay for making bricks and pots, mild climate, wildlife and the presence of the mountains as shelter and protection. This resulted in fierce clashes with African communities were also farmers and iron workers. For example, the area claimed by the Voortrekkers after the conquest of Mzilikazi was declared at a public meeting on

16 October 1840 held in Potchefstroom and initially included the Suikerbosrant (Heidelberg), Schoonspruit (Klerksdorp), Mooirivier (Potchefstroom) and Magaliesberg but by 1855 settlements had been established beyond the originally claimed area. It is within this early expansion that Pretoria was founded in 1855 and became the capital of South Africa, then known as the Zuid-Afrikaanse Republiek (ZAR), in 1860 (Theron 1984: 1-3).

In recent colonial history, the area played host to different competing local settler communities. The area was a scene of series of colonial wars. By the end of the 19th century, the region was placed under British rule and the local people displaced. This part of North West and Gauteng was scene of the most recorded colonial war, the Anglo-Boer War 1899-1902. At the end of these wars, the colonial era of the Union of South Africa and the subsequent apartheid regimes on the Republic of South Africa, some areas were reserved for African settlements often referred to as Bantu homelands such as the Bophuthatswana (Tswana Home land).

7.2 Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus intangible heritage is better defined and understood by the particular group of people that uphold it. In the present study area, very little intangible heritage remains because no historically known groups occupied the study area and most of the original settler descendants moved away from the area.

7.3 SAHRIS Data Base and Impact Assessment Reports in the project area

Several AIA/HIA studies were conducted in the project area. The studies include powerline, substation and mining projects completed by Pelser (2007), Van Sschalkwyk (2007, 2008, 2013, 2014), Pistorius, J.C.C. & Miller, S. (2011), Tomose (2015), Kusel (2005, 2006, 2008, 2011, 2012), Birkholtz (2007) and Mlilo 2018a, 2018b. The studies confirm the occurrence of several stone walled Late Iron Age sites in the project area. A search on the SAHRIS data base confirmed that several sites have been rescued or destroyed by infrastructure developments residential and agriculture. The reports also mention the existence of structures older than 60 years and traditional burial sites in the project area but none will be affected by the proposed development project.

8 Results of the field study

8.1 Archaeological and Heritage Site

The main cause of impacts to archaeological sites is direct, physical disturbance of the archaeological remains themselves and their contexts. It is important to note that the heritage and scientific potential of an archaeological site is highly dependent on its geological and spatial context. This means that even though, for example a deep excavation may expose buried archaeological sites and artefacts, the artefacts are relatively meaningless once removed from their original position. The severe impacts are likely to occur during clearance and digging for foundations, indirect impacts may occur during movement of construction vehicles. The excavation for foundations for fuel tanks and fence line posts will result in the relocation or destruction of all existing surface heritage material. Similarly, the clearing of access roads will impact material that lies buried in the surface sand. Since heritage sites, including archaeological sites, are non-renewable, it is important that they are identified, and their significance assessed prior to construction. It is important to note, that due to the localised nature of archaeological resources, that individual archaeological sites could be missed during the survey, although the probability of this is very low within the proposed development site. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during construction. The purpose of the AIA is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of the proposed development by means of mitigation measures (see appended Chance Find Procedure). The study concludes that the impacts will be negligible since the site has previously been cleared and ploughed. The following section presents results of the field survey. The following section presents results of the archaeological and heritage survey conducted within the proposed development project site.

Several LIA stone walled settlements were previously recorded in the general project area. The area north west of Tshwane is known for its archaeological stone walled sites especially to the mountains in the south of the study area. Although the project area is heavily degraded from previous and current land use such as agriculture, bulk water pipelines, powerlines, railway lines and from residential property developments there is an increased likelihood of finding archaeological remains buried beneath the ground. It is the considered opinion of the author that the chances of recovering significant archaeological materials is low to moderate on the northern section of the project site.

Based on the field study results and field observations, the author concluded that the receiving environment for the proposed development is low to medium potential to yield previously unidentified archaeological sites during subsurface excavations and construction work associated with the proposed development. Literature review also revealed that no Stone Age sites are shown on a map contained in a historical atlas of this area. This however should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

8.2 Burial grounds and graves

Human remains and burials are commonly found close to archaeological sites; they may be found in abandoned and neglected burial sites, or occur sporadically anywhere as a result of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually identified when they are exposed through erosion. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials. If any human bones are found during the course of construction work, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500).

The field survey did not record any burial site in the vicinity of the proposed R5 bulk water pipeline route. It should however be noted that burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. In addition, graves are very critical proving footprint of communities seeking land restitution. Wherever they exist or not, they may not be tempered with or interfered with during any proposed development. It is also important to note that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low at the project site, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected.

8.3 Public Monuments and Memorials

No public memorials and monuments were recorded within the proposed project site.

8.4 Buildings and Structures

There are no buildings and structures within the project site. Existing buildings are located on the boundary of the pipeline route and the buildings and structures within Woodhill estate are younger than 60 years. As such the proposed development does not trigger Section 34 of the NHRA.

8.5 Palaeontology

The SAHRIS Palaeosensitivity map indicates the entire area to be of zero palaeontological sensitivity. This is because it is underlain by granite which is unfossiliferous. Further assessment of this aspect is thus not required.

8.6 Cumulative Impacts

The European Union Guidelines define cumulative impacts as: "Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed development is considered the total impact associated with the

proposed development when combined with other past, present, and reasonably foreseeable future developments projects. An examination of the potential for other projects to contribute cumulatively to the impacts on heritage resources from this proposed development was undertaken during the preparation of this report. The total impact arising from the proposed project (under the control of the applicant), other activities (that may be under the control of others, including other developers, local communities, government) and other background pressures and trends which may be unregulated. The impacts of the proposed development were assessed by comparing the post-project situation to a pre-existing baseline. Where projects can be considered in isolation, this provides a good method of assessing a project's impact. However, in this case there are several infrastructure developments, including residential, agricultural activities where baselines have already been affected, the proposed R5 bulk water pipeline will continue to add to the impacts in the region, it was deemed appropriate to consider the cumulative effects of proposed development. As such increased development in the project area will have a number of cumulative impacts on heritage resource whether known or covered in the ground. For example, during construction phase they will be increase in human activity and movement of heavy construction equipment and vehicles that could change, alter or destroy heritage resources within and outside the development sites given that archaeological remains occur on the surface. Cumulative impacts that could result from a combination of the proposed development and other actual or proposed future developments in the broader study area include site clearance and the removal of topsoil could result in damage to or the destruction of heritage resources that have not previously been recorded for example abandoned and unmarked graves.

Heritage resources such as burial grounds and graves and archaeological as well as historical sites are common occurrences within the greater study area. These sites are often not visible and as a result, can be easily affected or lost. Furthermore, many heritage resources in the greater study area are informal, unmarked and may not be visible, particularly during the wet season when grass cover is dense. As such, construction workers may not see these resources, which results in increased risk of resource damage and/or loss. Vibrations and earth moving activities associated with drilling and excavation have the potential to crack/damage rock art covered surfaces, which are known to occur in the greater study area. In addition, vibration from traffic has the potential to impact buildings and features of architectural and cultural significance. Earth moving and extraction of gravel have the potential to interact with archaeology, architectural and cultural heritage.

No specific paleontological resources were found in the project area during the time of this study; however, this does not preclude the fact that paleontological resources may exist within the greater study area. As such, the proposed development has the potential to impact on possible paleontological resources in the area. sites of archaeological, paleontological, or architectural significance were not specifically identified and cumulative effects are not applicable. the nature and severity of the possible cumulative effects may differ from site to site depending on the characteristics of the sites and variables.

Cumulative impacts that need attention are related to the impacts of digging pipeline trenches, access roads and impacts to buried heritage resources. Allowing the impact of the proposed development to go beyond the surveyed area would result in a significant negative cumulative impact on sites outside the surveyed area. A significant cumulative impact that needs attention is related to stamping by especially construction vehicles during clearance and excavation within the development sites. Movement of heavy construction vehicles must be monitored to ensure they do not drive beyond the approved sites. No significant cumulative impacts, over and above those already considered in the impact assessment, are foreseen at this stage of the assessment process. Cumulative impacts can be significant, if construction vehicles are not monitored to avoid driving through undetected heritage resources.

8.7 Mitigation

Mitigation is not required for the proposed R5 bulk water pipeline. Work may be allowed to commence without any further studies and monitoring.

Table 2: Summary of findings

Heritage resource	Status/Findings
Buildings, structures, places and equipment of cultural significance	None exists with the development footprint
Areas to which oral traditions are attached or which are associated with intangible heritage	None exists
Historical settlements and townscapes	None survives in the proposed area
Landscapes and natural features of cultural significance	None
Archaeological and palaeontological sites	LIA sites occur in the broader project area
Graves and burial grounds	None exists or are identifiable on the basis of a surface survey
Movable objects	None
Overall comment	The surveyed area has no identifiable heritage resources on the surface but sub-surface chance finds are still possible.

9 Assessing Significance

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; sense of place, the smells and sounds associated with the place and its use.

Historic Value

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information. Scientific value is also enshrined in natural resources that have significant social value. For example, pockets of forests and bushvelds have high ethnobotany value.

Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national or other cultural sentiment to a majority or minority group. Social value also extend to natural resources such as bushes, trees and herbs that are collected and harvested from nature for herbal and medicinal purposes.

10 Recommendations

1. From a heritage perspective supported by the findings of this study, the proposed R5 bulk water pipeline is feasible. However, the proposed development should be approved to proceed as planned under observation that the development dimensions do not extend beyond the proposed site.
2. The foot print impact of the proposed development and associated infrastructure should be kept to minimal to limit the possibility of encountering chance finds.
3. Should chance archaeological materials or human remains be exposed during subsurface construction work on any section of the proposed development laydown sites, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
4. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed development. The Heritage authority may approve the proposed R5 bulk water pipeline to proceed as planned with special commendations to implement the recommendations here in made

11 Conclusion

ISS was retained by Taktho Environmental Strategy (Pty) Ltd to carry out HIA for the proposed R5 bulk water pipeline within Woodhill estate in City of Tshwane Municipality of Gauteng Province. The proposed R5 bulk water pipeline cuts through an existing golf course and through private properties within the estate. Desktop research revealed that the project area is rich in LIA sites (Kusel 2003) and Pelsner (2007). In terms of the archaeology and heritage in respect of the proposed pipeline development, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, still remains and the developer and contractors are advised to be diligent and observant during construction of the land site. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed R5 bulk water pipeline cannot proceed.

12 References

- Barham, L. and Mitchell, P. 2008. *The first Africans: African archaeology from the earliest toolmakers to most recent foragers*. Cambridge: Cambridge university press
- Bamford, M. 2012. Palaeontological Impact Assessment for Odi Airport Basetsana / White Plane PV Facility Unpublished report.
- Birkholtz, P.D. 2009. Phase 1 Heritage Impact Assessment proposed Kameeldrift Extension 298-JR, Nokeng Tsa Taemane Local Municipality, Gauteng Province
- Bergh, J.S. (ed.) 1998. *Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies*. Pretoria: J.L. van Schaik.
- Coetzee, F.P. 2008 Cultural Heritage Survey of the proposed residential developments on the farm Nooitgedacht 333 JR, Mamelodi
- Deacon, H. J. and Deacon, J. 1999. *Human beginnings in South Africa: Uncovering the secrets of the Stone Age*. Cape Town: David Philip
- Evers, T.M. 1981. The Iron Age in the Eastern Transvaal, South Africa. In Voight, E.A. (ed). *Guide to archaeological sites in Northern and Eastern Transvaal*. Pretoria: South African Association of Archaeologists, 64-109.
- Inskeep, R.R. 1978. *The peopling of Southern Africa*. David Philip: Cape Town.
- Hartdegen, P. (ed.) 1988. *Our building heritage*. Halfway House: Ryll's Publishing Co.
- Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.
- Huffman, T.N. 2007 Handbook to the Iron Age: The archaeology of pre-colonial farming societies in southern Africa. Scottville: University of KwaZulu Natal Press
- Knudson, S. I 1978. *Culture in retrospect*. Chicago: Rand McNally College Publishing Company.
- Kruger, N. 2011. Phase 1 Archaeological Impact Assessment report Deltsand Portion 10, Pienaarspoort 339 JR Kungwani Municipality area, Gauteng Province

Küsel, U. 2003. Keeley Granite Survey of Archaeological Sites on Hoekfontein 432 JQ. An unpublished report by African Heritage Consultants CC on file at SAHRA as: 2003-SAHRA-0150.

Küsel, U.S.2008. *Cultural Heritage impact assessment of Holding 205 Swavelpoort Tshwane, Gauteng Province.*

Küsel, U.S. 2009. *Cultural heritage resources impact assessment of the proposed extension of Midrand Estate Portion 35, 39, a Portion of Portion 48 and 148 remainder of Portion 34 and the remainder of the Farm Olifantsfontein 410 JR Ekurhuleni Gauteng*

Küsel, U.S.2013. *Heritage impact assessment for proposed construction of a pedestrian pathway and cycle path at Hammanskraal, Gauteng Province.*

Küsel, U.S.2013. 1st Phase Cultural Heritage Resources *Impact Assessment for proposed mining licence on the farm Nooitgedacht 436 JR Portion 25*

Küsel, U.S.2013. *Heritage impact assessment for proposed construction of a pedestrian pathway and cycle path in the Mabopane Area of Gauteng Province.*

Maggs T.M. 2008. The Mpumalanga Escarpment settlements. In (Swanepoel, N., Esterhuisen, A. & Bonner, P. eds.) *Five hundred years rediscovered. South African precedents and prospects.* 169-182.

Mason, R. 1962. *Prehistory of the Transvaal.* Johannesburg: Witwatersrand University Press.

Mason, R.J. 1968. Transvaal and Natal Iron Age settlement revealed by aerial photography and excavation. *African Studies.* 27:167-180.

National Environmental Management Act 107 of 1998

National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)

Naude, M.2008 Assessment of Archaeological sites on the Farm Zwartkoppies 364 JR/

Praagh, L.V. (ed.) 1906. *The Transvaal and its mines.* London: Praagh & Lloyd

Pelser, A. 2007. A report on the first phase of archaeological excavations at the Mmakau heritage site Located on the farm Hoekfontein 342 JQ, Madibeng area, Northwest Province. Unpublished report by Archaeognos

Pelser, A.J. and Van Vollenhoven, A.C.2008. A report on proposed residential development on portion 30 of the farm Kameelsfontein 297 J.R Roodeplaat Dam area, Gauteng Province.

Pelser, A.J. 2013. 2nd Draft report on a Heritage Impact Assessment process for proposed residential development on Erven 1483, 1299 and the Remaining Extent of ERF 453, in Arcadia, Pretoria, Gauteng Province

Republic of South Africa. 1980. Ordinance on Excavations (Ordinance no. 12 of 1980). The Government Printer: Pretoria.

Republic of South Africa. 1983. Human Tissue Act (Act 65 of 1983). The Government Printer: Pretoria.

Republic of South Africa. 1998. National Environmental Management Act (no 107 of 1998). Pretoria: The Government Printer.

Ross, R. 2002. A concise history of South Africa. Cambridge: Cambridge University Press.

SAHRA, Burial sites, [Http://www.sahra.org.za/burial.htm](http://www.sahra.org.za/burial.htm), Accessed, 02 June 2016.

Taylor, M.O.V. 1979. Wildebeestfontein: a Late Iron Age site in the south eastern Transvaal. In Van der Merwe, N.J. & Huffman, T.N. (eds.) 1979. *Iron Age studies in Southern Africa*.

Van der Ryst, M.M. 2009. *Archaeological Impact Assessment of potential heritage resources on Portion 61 of the farm Olievenhoutbosch 389 JR, Centurion Gauteng Province*

Van Der Walt J. 2008. Archaeological Impact Assessment for proposed Mamelodi East Primary School, Mamelodi Ext.22, Gauteng Province

Van Der Walt J. 2008. Archaeological Impact Assessment on Portion 5,7,9 and 55 of the farm Kaalfontein 513 and Ptn 20 of the farm Rietfontein 366 JR, Rayton, Gauteng Province

Van Der Walt J. 2009. Archaeological Impact Assessment Wildebees infeed Station and associated powerlines on the farm Hatherley 311 J.T, Mamelodi, Gauteng Province

Van Der Walt J. 2014. Phase 1 Heritage Impact Assessment on Holdings 117 Princess Agricultural Holdings in Roodepoort, Gauteng Province

Van Schalkwyk, J.A., Pelser, A. and Van Vuuren, C.J. 1996. Investigation of Late Iron Age sites on the farm Hatherley 331 JR, Pretoria District. Research by the National

Cultural History Museum (Vol. 5)

Van Schalkwyk, J.A. & Moifatswane, S. 2003. Heritage Impact Assessment for the Ramaland Residential Development, Ga-Rankuwa Area Gauteng. An unpublished report by the National Cultural History Museum on file at SAHRA as: 2003-SAHRA-0167.

Van Schalkwyk, J.A. 1998. A Survey of Cultural Resources in the Proposed Mining Area on the Farm Hoekfontein 432 JQ, Odi 1 District. An unpublished report by the National Cultural History Museum on file at SAHRA as: 1998-SAHRA-0052.

Van Schalkwyk, J. A. 2005. *Scoping study for the development of a new landfill site for the northern areas of the Metropolitan Municipality of Johannesburg*. Unpublished report 2005KH09. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2011a. *Heritage impact assessment for the proposed upgrade of Road 104, Silverton to Bronkhostpruit, Gauteng Province*

Van Schalkwyk, J.A. 2012. *Heritage impact assessment for the proposed upgrade of the Baviaanspoort waste water treatment works, north of Mamelodi Gauteng*

Van Schalkwyk, J.A. 2013. *Heritage Impact Assessment for proposed new Ntshona Substation and 132kv powerline, Mogale City, Gauteng Province*.

Van Warmelo, N.J., *A Preliminary Survey of the Bantu Tribes of South Africa*, Pretoria, 1935.

Van Warmelo, N.J., Grouping and Ethnic History, in Schapera, I., *The Bantu-Speaking Tribes of South Africa: An Ethnographical Survey*, London. 1937.

Wadley, L & Turner, G. 1987. *Hope Hill shelter: a Later Stone Age site in southern Transvaal*. *South African*

Van der Walt, J. 2012. Heritage Scoping Report for the Prospecting Right Application On The Farm Sjambok Zijn Oude Kraal 258 Jr In The Gauteng Province. Unpublished report for QE Solutions.

Van der Walt. J. 2012. Heritage Scoping Report For The Prospecting Right Application On The Farm Klipfontein 268 JR By Wildebeest Platinum (Pty) Ltd In The Gauteng Province. Unpublished report for QE Solutions.

Van Schalkwyk, J.A. & Moifatswane, S. 2003. Heritage Impact Assessment for the Ramaland Residential Development, Ga-Rankuwa Area Gauteng. An unpublished report by the National Cultural History Museum on file at SAHRA as: 2003-SAHRA-0167.

**APPENDIX 1 CHANCE FIND PROCEDURE FOR PROPOSED R5 PIPELINE PROJECT AT WOODHILL
ESTATE IN CITY OF TSHWANE METROPOLITAN MUNICIPALITY IN GAUTENG PROVINCE.**

January 2020

ACRONYMS

BGG	Burial Grounds and Graves
CFPs	Chance Find Procedures
ECO	Environmental Control Officer
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Authority
SAPS	South African Police Service
UNESCO	United Nations Educational, Scientific and Cultural Organisation

CHANCE FIND PROCEDURE

INTRODUCTION

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during construction. The main purpose of a CFP is to raise awareness of all construction workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Chance Finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the site manager must ensure that all personnel on the proposed R5 bulk water pipeline servitude understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance find procedure details the necessary steps to be taken if any culturally significant artefacts are found during construction.

DEFINITIONS

In short the term 'heritage resource' includes structures, archaeology, meteors, and public monuments as defined in the South African National Heritage Resources Act (Act No. 25 of 1999) (NHRA) Sections 34, 35, and 37. Procedures specific to burial grounds and graves (BGG) as defined under NHRA Section 36 will be discussed separately as this require the implementation of separate criteria for CFPs.

BACKGROUND

The proposed R5 pipeline development in City of Tshwane Metropolitan Municipality, Gauteng Province development site is subject to heritage survey and assessment at planning stage in accordance with the NHRA. These surveys are based on surface indications alone and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated construction work and hence the need for a Chance Find Procedure to deal with accidental finds. In this case an extensive

Archaeological Impact Assessment was completed by Naude (2008) and Mlilo (2020) on the proposed deviation cutting through Woodhill estate. The AIA/HIA conducted was very comprehensive covering the entire site. The current study (Mlilo 2020) did not record any significant archaeological or heritage resources.

PURPOSE

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources along the proposed pipeline route. This Chance Find Procedure intends to provide the applicant and contractors with appropriate response in accordance with the NHRA and international best practice. The aim of this CFP is to avoid or reduce project risks that may occur as a result of accidental finds whilst considering international best practice. In addition, this document seeks to address the probability of archaeological remains finds and features becoming accidentally exposed during digging of pipeline trenches and movement of construction equipment. The proposed construction activities have the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by tall grass cover. Integrated Specialist Services developed this Chance Find Procedure to define the process which govern the management of Chance Finds during construction. This ensures that appropriate treatment of chance finds while also minimizing disruption of the construction schedule. It also enables compliance with the NHRA and all relevant regulations. Archaeological Chance Find Procedures are to promote preservation of archaeological remains while minimizing disruption of construction scheduling. It is recommended that due to the low to moderate archaeological potential of the project area, all site personnel and contractors be informed of the Archaeological Chance Find procedure and have access to a copy while on site. This document has been prepared to define the avoidance, minimization and mitigation measures necessary to ensure that negative impacts to known and unknown archaeological remains as a result of project activities and are prevented or where this is not possible, reduced to as low as reasonably practical during construction.

Thus, this Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

CHANCE FIND PROCEDURE

General

The following procedure is to be executed in the event that archaeological material is discovered:

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide 25m buffer zone from all sides of the find.
- Record the find GPS location, if able.
- All remains are to be stabilised *in situ*.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer.
- **Finds rescue strategy:** All investigation of archaeological soils will be undertaken by hand, all finds, remains and samples will be kept and submitted to a Museum as required by the heritage legislation. In the event that any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeologist will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the permit application process.
- Once authorisation has been given by SAHRA, the Applicant will be informed when construction activities can resume.

MANAGEMENT OF CHANCE FINDS

Should the Heritage specialist conclude that the find is a heritage resource protected in terms of the NRHA (1999) Sections 34, 36, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), ISS will notify SAHRA and/or PHRA on behalf of the applicant. SAHRA/PHRA may require that a search and rescue exercise be conducted in terms of NHRA Section 38, this may include rescue excavations, for which ISS will submit a rescue permit application having fulfilled all requirements of the permit application process.

In the event that human remains are accidentally exposed, SAHRA Burial Ground Unit or ISS Heritage Specialist must immediately be notified of the discovery in order to take the required further steps:

- a. Heritage Specialist to inspect, evaluate and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:
- b. Heritage specialist will investigate the age of the accidental exposure in order to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or that the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.
- c. The local SAPS will be notified to inspect the accidental exposure in order to determine where the site is a scene of crime or not.
- d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.
- e. The project archaeologist will consult with the traditional authorities, local municipality and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, 42;
- f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit to SAHRA Burial Ground and Graves Unit.

- g. As soon as the project archaeologist receives the rescue permit from SAHRA he will in collaboration with the company/contractor arrange for the relocation in terms of logistics and appointing of an experienced undertaker to conduct the relocation process.
- h. The rescue process will be done under the supervision of the archaeologist, the site representative and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the excavation (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the excavation must wear clean cotton or non-powdered latex gloves when handling remains in order to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.
- i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and to the company.

Note that the relocation process will be informed by SAHRA Regulations and the wishes of the descendants of the affected burial.

13 APPENDIX 1: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED PIPELINE PROJECT EMP

Objective	<ul style="list-style-type: none">Protection of archaeological sites and land considered to be of cultural value;Protection of known physical cultural property sites against vandalism, destruction and theft; andThe preservation and appropriate management of new archaeological finds should these be discovered during construction.							
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase								
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Construction Phase								
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or PHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform PHRA-G.		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that is potentially human remains, the PHRA-G and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						

14 Appendix 2: heritage mitigation measure table

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD REQUIRED	STATEMENT
Chance Archaeological and Burial Sites	General area where the proposed project is situated is a historic landscape, which may yield archaeological, cultural property, remains. There are possibilities of encountering unknown archaeological sites during subsurface construction work which may disturb previously unidentified chance finds.	<p>Possible damage to previously unidentified archaeological and burial sites during construction phase.</p> <ul style="list-style-type: none"> • Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites. • Loss of historic cultural landscape; • Destruction of burial sites and associated graves • Loss of aesthetic value due to construction work • Loss of sense of place <p>Loss of intangible heritage value due to change in land use</p>	<p>In situations where unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately.</p> <p>Where remedial action is warranted, minimize disruption in construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate.</p> <ul style="list-style-type: none"> • Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no-go zone by use of fencing during construction, and access thereto by the construction team must be denied. • Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be directed by relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work. 	<ul style="list-style-type: none"> • Contractor / • Project Manager • Archaeologist • Project EO 	Fine and or imprisonment under the PHRA-G Act & NHRA	Monitoring measures should be issued as instruction within the project EMP.	PM/EO/Archaeologists Monitor construction work on sites where such development projects commences within the farm.

16 APPENDIX 3: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed—

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must—

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

(c) give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

(5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.

(7) The identification, assessment and management of the heritage resources of South Africa must—

(a) take account of all relevant cultural values and indigenous knowledge systems;

(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;

(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;

(d) contribute to social and economic development;

- (e) safeguard the options of present and future generations; and
- (f) be fully researched, documented and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—
- (a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
 - (b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—
- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant

to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.

