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## City Deep 4L2 Mine Dump Heritage Management

## Heritage Site Management Plan

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**Project Number:**

ERG5884

**Prepared for:**

Ergo Mining (Pty) Ltd

August 2019

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This document has been prepared by Digby Wells Environmental.

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## ACRONYMS AND GLOSSARY OF TERMS

Abbreviation	Description
<b>ATPs</b>	Auger Test Pits
<b>BBBEE</b>	Broad-Based Black Economic Empowerment
<b>BGG</b>	Burial Grounds and Graves
<b>CS</b>	Cultural Significance
<b>Ergo</b>	Ergo Mining (Pty) Ltd
<b>EMO</b>	Ergo Mining Operations Proprietary Limited
<b>HRAs</b>	Heritage Resource Authorities
<b>HSMP</b>	Heritage Site Management Plan
<b>I&amp;APs</b>	Interested and Affected Parties
<b>Khumo</b>	Khumo Gold SPV Proprietary Limited
<b>MCCEBA</b>	Mpumalanga Cemeteries, Crematoria and Exhumation of Bodies Act, 2005 (Act No. 8 of 2005)
<b>NHRA</b>	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
<b>NoK</b>	Next-of-Kin
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SAHRIS</b>	South African Heritage Resources Information System
<b>SIR</b>	Site Inspection Report
<b>“the Trust”</b>	DRDSA Empowerment Trust

Term	Definition
<b>Alter</b>	Any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means.
<b>Archaeological</b>	Material remains resulting from human activity that are in a state of disuse and older than 100 years, including artefacts, human and hominid remains and artificial features and structures. Rock art created through human agency older than 100 years, including any area within 10 m of such representation. Wrecks older than 60 years - either vessels or aircraft - or any part thereof that was wrecked in South Africa on land, internal or territorial waters, and any cargo, debris or artefacts found or associated therewith. Features, structures and artefacts associated with military history that are older than 75 years and the sites on which they are found, e.g. battlefields.
<b>Archaeologist</b>	A trained professional who uses scientific methods to excavate record and study archaeological sites and deposits.
<b>Conservation</b>	In relation to heritage resources includes the protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance.
<b>Cultural Significance (CS)</b>	<p>The aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. A heritage may have cultural significance or other special value because of its:</p> <ul style="list-style-type: none"> <li>▪ Importance in the community, or pattern of South Africa's history;</li> <li>▪ Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;</li> <li>▪ Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</li> <li>▪ Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;</li> <li>▪ Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;</li> <li>▪ Importance in demonstrating a high degree of creative or technical achievement at a particular period;</li> <li>▪ Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;</li> <li>▪ Strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and</li> <li>▪ Significance relating to the history of slavery in South Africa.</li> </ul>
<b>Development</b>	Any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

Term	Definition
	<ul style="list-style-type: none"> <li>▪ Construction, alteration, demolition, removal or change of use of a place or a structure at a place;</li> <li>▪ Carrying out any works on or over or under a place;</li> <li>▪ Subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;</li> <li>▪ Constructing or putting up for display signs or hoardings;</li> <li>▪ Any change to the natural or existing condition or topography of land; and</li> <li>▪ Any removal or destruction of trees, or removal of vegetation or topsoil.</li> </ul>
<b>Excavation</b>	The scientific excavation, recording and retrieval of archaeological deposit and objects through the use of accepted archaeological procedures and methods, and excavate has a corresponding meaning.
<b>Field Rating</b>	<p>SAHRA requires heritage resources to be provisionally rated in accordance with Section 7 of the NHRA that provides a three tier grading system of resources that form part of the national estate. The rating system distinguishes between four categories:</p> <ul style="list-style-type: none"> <li>▪ Grade I: Heritage resources with qualities so exceptional that they are of special national significance;</li> <li>▪ Grade II: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region;</li> <li>▪ Grade III: Other heritage resources worthy of conservation; and</li> <li>▪ General Protected: i.e. generally protected in terms of Sections 33 to 37 of the NHRA.</li> </ul>
<b>General protection</b>	<p>General protections are afforded to:</p> <ul style="list-style-type: none"> <li>▪ Objects protected in terms of laws of foreign states;</li> <li>▪ Structures older than 60 years;</li> <li>▪ Archaeological and palaeontological sites and material and meteorites;</li> <li>▪ Burial grounds and graves; and</li> <li>▪ Public monuments and memorials.</li> </ul>
<b>Grave</b>	A place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place.
<b>Heritage resource</b>	Any place or object of cultural significance.
<b>Heritage site</b>	Any place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority.

Term	Definition
<b>Living / intangible heritage</b>	The intangible aspects of inherited culture that could include cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems, the holistic approach to nature, society and social relationships.
<b>Management</b>	In relation to heritage resources, includes the conservation, presentation and improvement of a place protected in terms of the NHRA.
<b>National estate</b>	<p>The national estate as defined in Section 3 of the NHRA, i.e. heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations. The national estate may include:</p> <ul style="list-style-type: none"> <li>▪ Places, buildings, structures and equipment of cultural significance;</li> <li>▪ Places to which oral traditions are attached or which are associated with living heritage;</li> <li>▪ Historical settlements and townscapes;</li> <li>▪ Landscapes and natural features of cultural significance;</li> <li>▪ Geological sites of scientific or cultural importance;</li> <li>▪ Archaeological and palaeontological sites;</li> <li>▪ Graves and burial grounds, including ancestral graves, royal graves and graves of traditional leaders, graves of victims of conflict, graves of individuals designated by the Minister by notice in the Gazette, historical graves and cemeteries, and other human remains which are not covered in terms of the National Health Act, 2003 (Act No. 61 of 2003)</li> <li>▪ Sites of significance relating to the history of slavery in South Africa;</li> <li>▪ Movable objects, including objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens; objects to which oral traditions are attached or which are associated with living heritage; ethnographic art and objects; military objects; objects of decorative or fine art; objects of scientific or technological interest; and</li> <li>▪ Books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).</li> </ul>

Term	Definition
<b>Phase 3 Management Plan / Conservation Management Plan (CMP)</b>	On occasion, a site may require a Phase 3 programme involving the modification of the site or the incorporation of the site into the development itself as a site museum, a special conservation area or a display. Alternatively it is often possible to relocate or plan the development in such a way as to conserve the archaeological site or any other special heritage significance the place may have. For example, in a wilderness area or open space when sites are of public interest the development of interpretative material is recommended and adds value to the development. Permission for the development to proceed can be given only once the heritage resources authority is satisfied that measures are in place to ensure that the archaeological sites will not be damaged by the impact of the development or that they have been adequately recorded and sampled. Careful planning can minimise the impact of archaeological surveys on development projects by selecting options that cause the least amount of inconvenience and delay. The process as explained above allows the rescue and preservation of information relating to our past heritage for future generations. It balances the requirements of developers and the conservation and protection of our cultural heritage as required of SAHRA and the provincial heritage resources authorities (ASAPA).
<b>Place</b>	A place includes: a site, area or region; a building or other structure which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure; a group of buildings or other structures which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures; an open space, including a public square, street or park; and in relation to the management of a place, includes the immediate surroundings of a place.
<b>Presentation</b>	In relation to a heritage resource, site or place includes: the exhibition or display of; the provision of access and guidance to; the provision, publication or display of information in relation to; and performances or oral presentations related to, heritage resources protected in terms of the NHRA.
<b>Provisional protection</b>	A protected area or heritage resource provisionally protected by SAHRA or a provincial heritage resources authority by a notice in the Gazette or Provincial Gazette.
<b>Site</b>	Any area of land, including land covered by water, and including any structures or objects thereon.
<b>Stop work order</b>	An order served on a person by the Minister on advice of SAHRA or MEC to immediately cease all work in and around a heritage site for a period not exceeding 10 years. The order attaches to land is binding on the current owner and any future owner.

Term	Definition
<b>Tangible heritage</b>	Physical heritage resources such as archaeological sites, historical buildings, burial grounds and graves, fossils, etc. Tangible heritage may be associated with intangible elements, e.g. the living cultural traditions, rituals and performances associated with burial grounds and graves and deceased persons.



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## 1 Introduction

Ergo Mining (Pty) Ltd (hereinafter Ergo) recently identified exposed human remains from a burial ground adjacent to the City Deep 4L2 Mine Dump in Johannesburg (hereinafter 4L2 Dump). Ergo appointed Digby Wells Environmental (hereinafter Digby Wells) to provide specialist support in respect of the discovery.

Digby Wells completed a Site Inspection Report (SIR) to comply with the instruction issued by the South African Heritage Resources Agency (SAHRA) Burial Grounds and Graves (BGG) Unit. To mitigate the manifested impacts to the burial ground and graves, Digby Wells recommended the following:

- Reinternment of the *ex-situ* human remains with the authorisation of the SAHRA BGG Unit;
- The immediate establishment of a buffer zone of 15 m<sup>1</sup> that is clearly and visibly demarcated; and
- The development and implementation of a Heritage Site Management Plan (HSMP).

This document serves as the recommended HSMP to promote compliance with the national South African legislative framework, with specific reference to the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA), the NHRA Regulations, 2000 (GN R 548), SAHRA Minimum Standards (2007) Part II Section 7L(d)(iii) and the SAHRA Guidelines for the Development of Plans for the Management of Heritage Sites or Places (2006).

### 1.1 Document Objective

The objective of this document is to define management and mitigation measures for the *in-situ* conservation that aims to remove or reduce the risk to the burial ground<sup>2</sup> as well as the risks to Ergo, their subsidiary companies and service providers.

### 1.2 Purpose

The purpose of the HSMP is to:

- Collate all relevant information into a single management document;
- Recognise the Cultural Significance (CS) of the burial ground and graves adjacent to the 4L2 Dump;
- Acknowledge the sensitivities of the burial ground and graves;

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<sup>1</sup> It is to be noted that there is no prescribed minimum buffer in respect of burial ground and graves in any national Act, Regulations or guidelines. The recommended buffer considers the primary activities in proximity to the burial ground and the identified risks.

<sup>2</sup> Refer to Section 2 for a more detailed description of burial ground and graves.

- Understand the potential risks to the burial ground and graves from tailings reclamation and related activities;
- Ensure that the potential risks or manifested impacts to the burial grounds are assessed, prioritised and controlled through the various management structures (refer to Section 3) to an acceptable level; and
- Present the tools for implementation of prescribed management and mitigation requirements.

### 1.3 Scope

The scope of this document is to provide:

- A description of the heritage resource located adjacent to the 4L2 Dump;
- The delimitations of the burial ground;
- The relevant management structures to implement the stipulated requirements;
- The principles for planning and action;
- Applicable preservation mechanisms that consider current and future risks; and
- Possible awareness requirements and initiatives.

This document applies to the following:

- All Ergo Crown employees,
- All organisational units under the management control of Ergo; and
- All Ergo service providers and subsidiary companies.

### 1.4 Principles

The national South African regulatory framework and international best practice standards informed the principles of this document. The SAHRA Site Management Plans: Guidelines for the Development of Plans for the Management of Heritage Sites or Places (2006) and draft Development Heritage Management Plan Guidelines for Archaeological, Palaeontological and Meteorites Heritage Resources (2017) form the basis of the process. General principles include *inter alia*:

- The general principles for heritage resource management as encapsulated within Section 5<sup>3</sup> of the NHRA and must be considered during the compilation of the HSMP;

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<sup>3</sup> (1)(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;

(1)(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;

- Proposed management measures must be realistic and commensurate to the nature of the Project, and community;
- The HSMP must be clear, written in simple language and not be unduly complex; and
- The relevant Heritage Resource Authorities (HRAs), in this instance the SAHRA BGG Unit must guide the development of the HSMP and endorse it once finalised.

## 2 Site Definition

### 2.1 Delimitation

#### **Guidance Note**

The precise position and delimitation of a site are important. They define where and to what extent actions and restrictions that are part of the management programme will be applicable and facilitated.

The burial ground is situated adjacent to the 4L2 Dump on the property Doornfontein 92 IR. The property is within an industrial development zone, south-east of the Johannesburg City Centre.

Plan 1 presents an overview of the geographical setting of the burial ground. Table 2-1 provides the burial ground location details.

**Table 2-1: Project Location Details**

<b>Erf or farm number/s</b>	Doornfontein 92 IR
<b>Coordinates of approximate centre</b>	26° 12' 56.84" S
	28° 06' 30.12" E
<b>Town or District</b>	Johannesburg
<b>Responsible Municipality</b>	City of Johannesburg
<b>Extent</b>	1 ha
<b>Current use</b>	Cemetery
<b>Predominant land use/s of surrounding properties</b>	Mining and Industrial

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

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

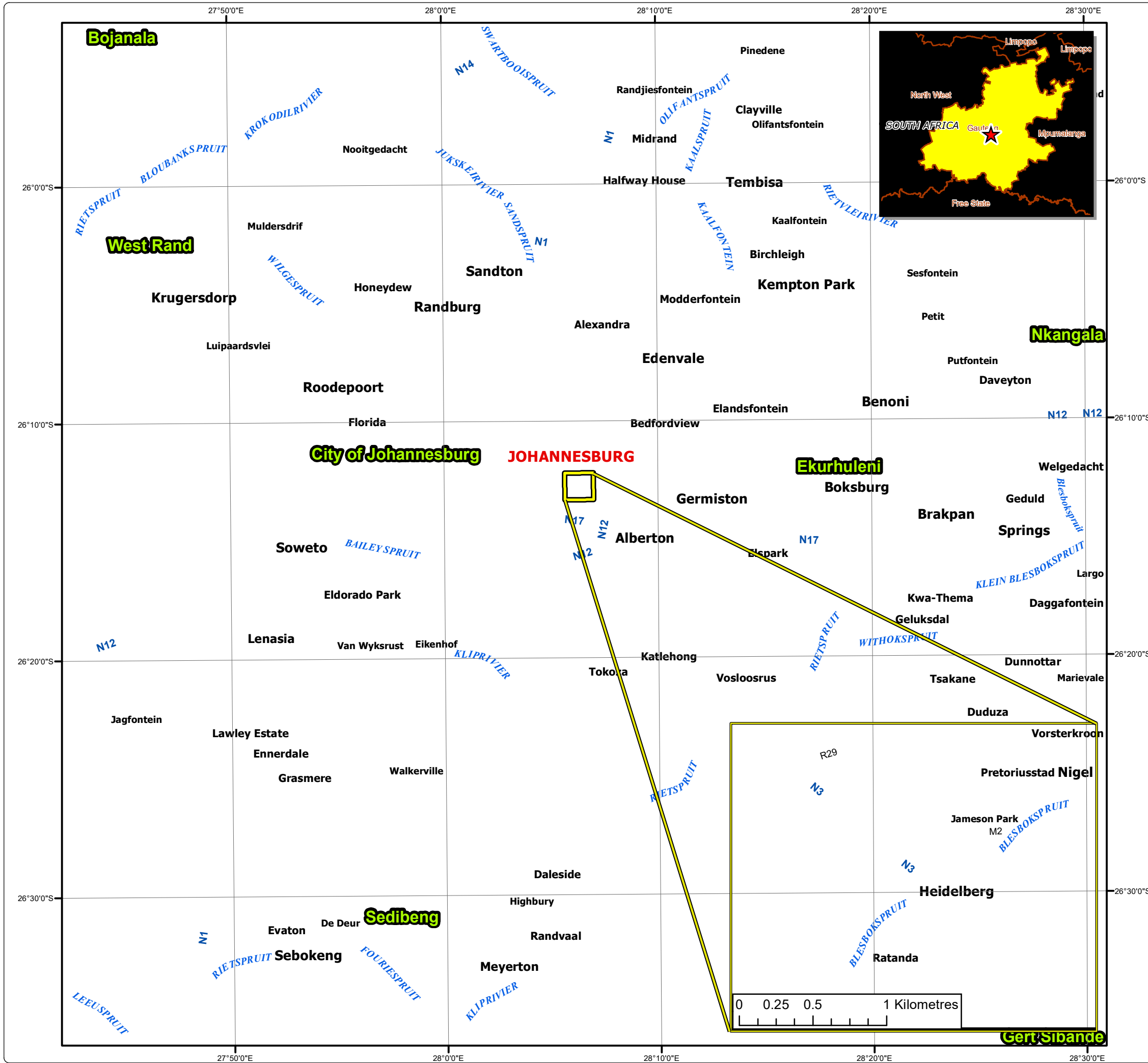
# HERITAGE SITE MANAGEMENT PLAN

## Regional Setting



### Legend

- 4L2 Dump
- City
- Major Town
- Secondary Town
- Other Town
- Settlement
- Railway Line
- Non-Perennial River/Stream
- Perennial River/Stream
- National Route
- Main Road
- Grave Extent
- District Municipality Boundary



• Sustainability • Service • Positive Change • Professionalism • Future Focused • Integrity

Projection: Transverse Mercator      Ref #: prv.ERG5884.201907.013  
 Datum: WGS 1984      Revision Number: 1  
 Central Meridian: 29°E      Date: 03/07/2019

0 4 8 16  
 Kilometres  
 1:300 000

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## 2.2 Description and Significance

### Guidance Note

Site descriptions and the ensuing discussions of CS drive the management of the heritage sites. Management plans must include clear descriptions to the character and extent of the site and define the cultural significance built upon by verifiable sources, robust criteria and motivations.

### 2.2.1 Description

The heritage site is a burial ground approximately one hectare in areal extent, adjacent to the 4L2 Dump. The burial ground is not recognised as a municipal cemetery and is unmaintained. Historical aerial imagery dated to 1952 suggests the burial ground was known as the footprints of the 4L2 Dump and the now reclaimed dump to the east avoided the direct impacts to the site (Figure 2-1).

The surface condition of the burial ground has degraded over time with limited surface indicators remaining. Unauthorised manual excavation at the site, assumed for the illegal collection of iron from historic concrete supports, manifested in the exposure of human remains. The current degradation processes are exacerbated by reclamation activities at the 4L2 Dump, expressed as silt wash over the site (Figure 2-2).

The heritage assessors identified 33 possible graves in the burial ground and its approximate areal extent (Figure 2-4 & Figure 2-3).

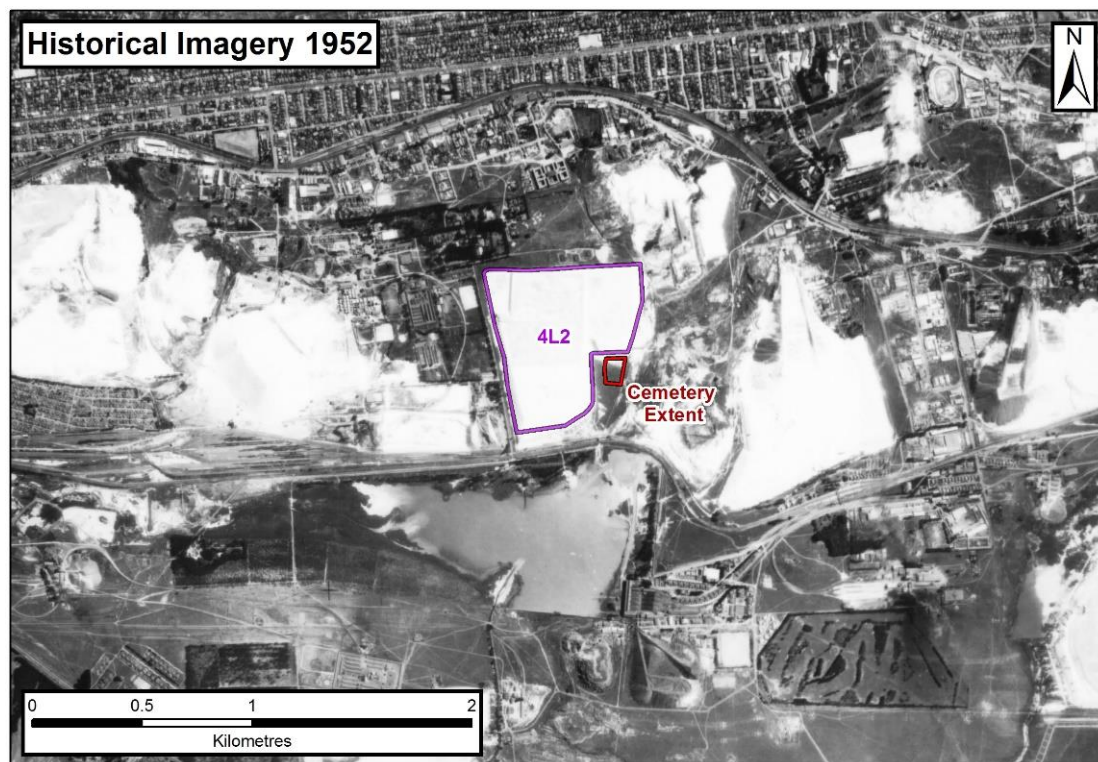


Figure 2-1: 1952 Aerial Imagery Depicting 4L2 Dump.



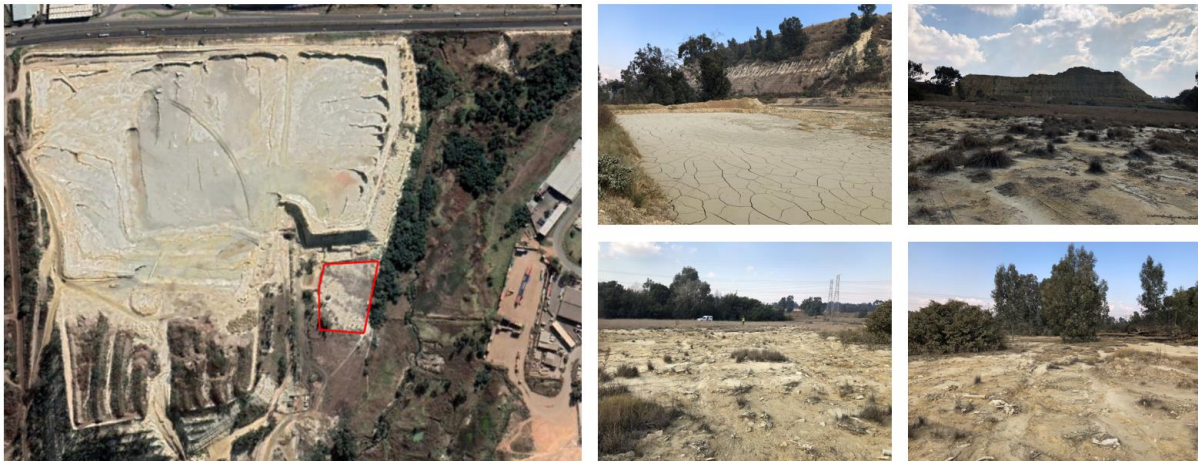


Figure 2-2: Burial Ground Location Relative to the 4L2 Dump and Current Condition

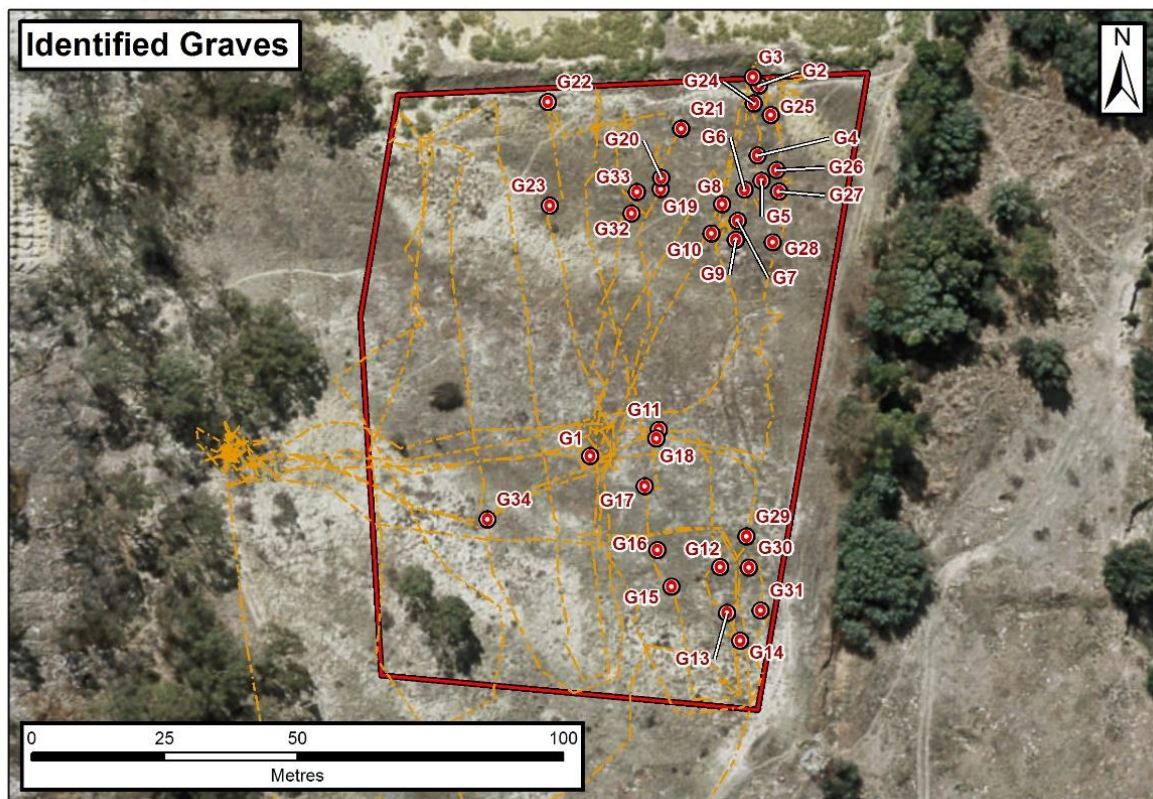


Figure 2-3: Distribution of the Identified Graves and Areal Extent of the Burial Ground



Figure 2-4: Images of Individual Graves Identified During the Site Inspection

## 2.2.2 Evaluation of Cultural Significance

CS<sup>4</sup> was determined based on identified resources' importance or contribution to four broad value categories: aesthetic, historical, scientific and social values (Table 2-2). These categories summarised the CS and other values described in Section 3(3) of the NHRA. The resources' importance or contributions to these values were considered in terms of associative (qualitative) and/or rarity (quantitative) attributes, based on data collected through the HRM process. The integrity or condition of resources further influenced the CS. Integrity is largely determined based on resources' current, observed state of conservation, as well as notable changes made to it over the years.

Field ratings assist the responsible heritage resources authority to grade heritage resources into national (Grade I), provincial (Grade II) or local (Grade III) categories and are required under Chapter II Section 7(J) of the SAHRA Minimum Standards.

Field ratings considered the assigned CS and the level of official management required or the local competency of heritage authorities<sup>5</sup>.

**Table 2-2: Broad Value Categories to Inform CS**

Value Category	Attributes		NHRA Reference
Aesthetic	1.	Importance in aesthetic characteristics	S. 3(3)(e)
	2.	Degree of technical/creative skill at a particular period	S. 3(3)(f)
Historical	3.	Importance to a community or pattern in the country's history	S. 3(3)(a)
	4.	Site of significance relating to the history of slavery	S. 3(3)(i)
	5.	Association with life or work of a person, group or organisation of importance in the history of the country	S. 3(3)(h)

<sup>4</sup> Cultural Significance is defined in the NHRA as the intrinsic "aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance" of a heritage resource. These attributes are combined and reduced to four themes used in the Digby Wells significance matrix: aesthetic, historical, scientific and social.

<sup>5</sup> Currently the MPHRA is only competent to manage and issue permits on NHRA Section 34 heritage resources, and no local (i.e. local government) competency exists within the province. All decisions relating to archaeology, palaeontology and burial grounds and graves therefore fall under the ambit of SAHRA.

Value Category	Attributes		NHRA Reference
Scientific	6.	Possession of uncommon, rare or endangered natural or cultural aspects	S. 3(3)(b)
	7.	The potential to yield information	S. 3(3)(c)
	8.	Importance in demonstrating principle characteristics	S. 3(3)(d)
Social	9.	Association to a community or cultural group for social, cultural or spiritual reasons	S. 3(3)(g)

Table 2-3 presents the assessment of the CS of the burial ground.

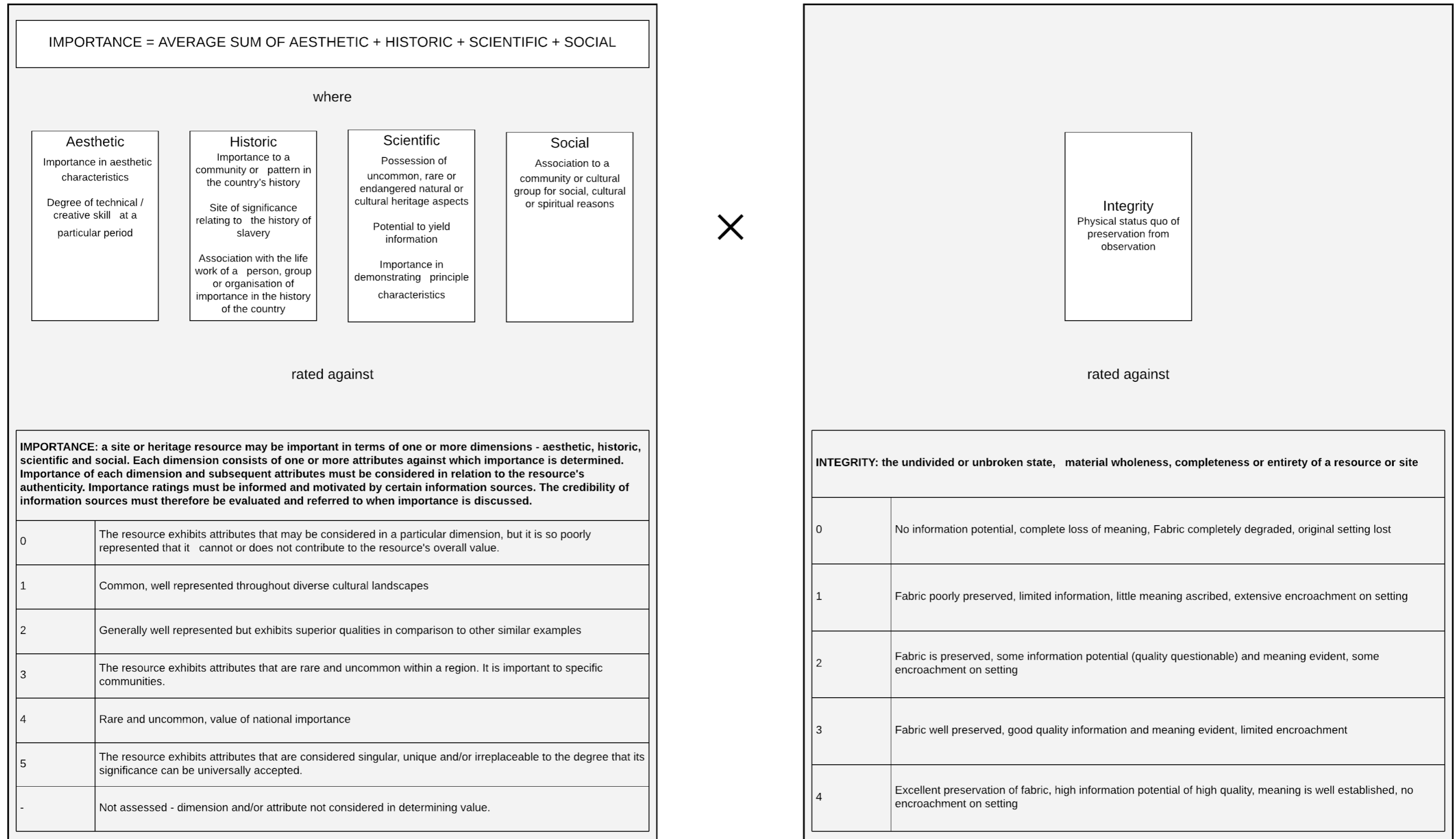


Figure 2-5: CS Determination Methodology

**Table 2-3: CS and Field Ratings of newly identified heritage resources within the Ergo 4L2 Dump site-specific study area**

Resource ID	Type	Description	Aesthetic	Historic	Scientific	Social	INTEGRITY	Value	Designation	Recommended Field Rating	Field Rating Description	Project-Specific Recommended Mitigation
4L2 Dump Cemetery	Burial/grave	Burial ground approximately 1 ha in extent. At least 33 individual graves recorded within the burial ground.	- Burial grounds and graves were not assessed against aesthetic criteria as defined in Section 3(3) of the NHRA.	- Burial grounds and graves were not assessed against historic criteria as defined in Section 3(3) of the NHRA.	- Burial grounds and graves were not assessed against scientific criteria as defined in Section 3(3) of the NHRA.	5 Burial grounds and graves have specific connections to communities or groups for spiritual reasons. The significance is universally accepted.	4 The integrity of burial grounds is considered to be excellent with both tangible and intangible fabric preserved.	20	Very High	Grade I <sup>6</sup>	Heritage resources with exceptional qualities.	Project design must change to avoid the resource completely where possible. Resources within the 15 m buffer zone must be incorporated into the HSMP. A Grave Relocation Process (GRP) may be necessary where risks manifest.

<sup>6</sup> Field ratings considered the assigned CS and the level of official management required or the local competency of heritage authorities. All decisions relating burial grounds and graves fall under the ambit of the SAHRA BGG Unit, as the national heritage authority.

## 2.3 Ownership Structure

Ownership of the graves resides with the *bona fide* Next-of-Kin (NoK). In the absence of national or applicable provincial legislation, *bona fide* NoK are defined in terms of Section 14(3)(e)(iii) of the Mpumalanga Cemeteries, Crematoria and Exhumation of Bodies Act, 2005 (Act No. 8 of 2005) (MCCEBA). These include in order of relevance:

1. The surviving spouse or partner of the deceased;
2. In the absence of a surviving spouse or partner, the eldest adult child of the deceased;
3. In the absence of an adult child, a parent of the deceased;
4. In the absence of a parent, an adult sibling of the deceased; and
5. In the absence of a sibling, the closest adult relative to the deceased.

In an instance where no *bona fide* NoK is known, the landowners are considered the custodians of the grave.

## 2.4 Access

### Guidance Note

Access relates to the free movement of proprietors and users of the heritage site or the restriction of movement to the heritage site to manage identified risks and liabilities. The management plan must be developed to facilitate access to the best benefit of society.

The burial ground is reached from the Whitworth Road via an access road to the 4L2 Dump and is freely accessible. Figure 2-6 presents the current routing to the burial ground.

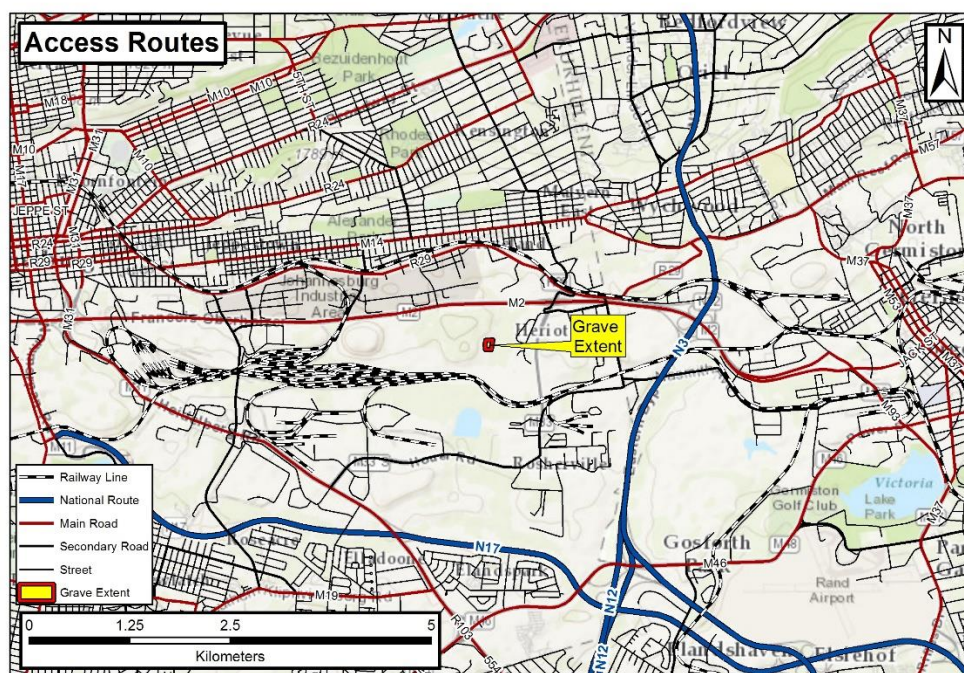


Figure 2-6: Access to Burial Ground

### 3 Management Structures

#### Guidance Note

Implementation of an HSMP requires co-operation between several entities that have bearing on the way various interests and policy objectives are implemented. These need to be captured in an HSMP to define competencies, responsibilities and modalities of co-ordination. The site management plan should contain a description of all these entities as well as a binding agreement of their competencies and responsibilities in the context of the plan.

#### 3.1 Legal Status of Entities

The City Deep operation is managed by the operating entity, Ergo. Ergo is wholly owned by Ergo Mining Operations Proprietary Limited (EMO). Following the roll-up of the stake of their broad-based black economic empowerment (BBBEE) partners in EMO into DRDGOLD, EMO is now a wholly-owned subsidiary of DRDGOLD. The roll-up involved the substitution by their BBBEE partners, Khumo Gold SPV Proprietary Limited (Khumo) and the DRDSA Empowerment Trust (the Trust) for a direct holding in DRDGOLD. The agreement provided Khumo with an 8.1% interest and the Trust with a 2.4% interest in DRDGOLD.



Figure 3-1: Group Structure

For the purposes of this HSMP, the following entities are considered:

Table 3-1: Legal Status of Entities

Entity	Role
NoK (Refer to Section 2.3 above)	Owner
City Deep Operation	Management
Ergo	Custodian
SAHRA BGG Unit	Competent Authority

#### 3.2 Competencies and Responsibilities

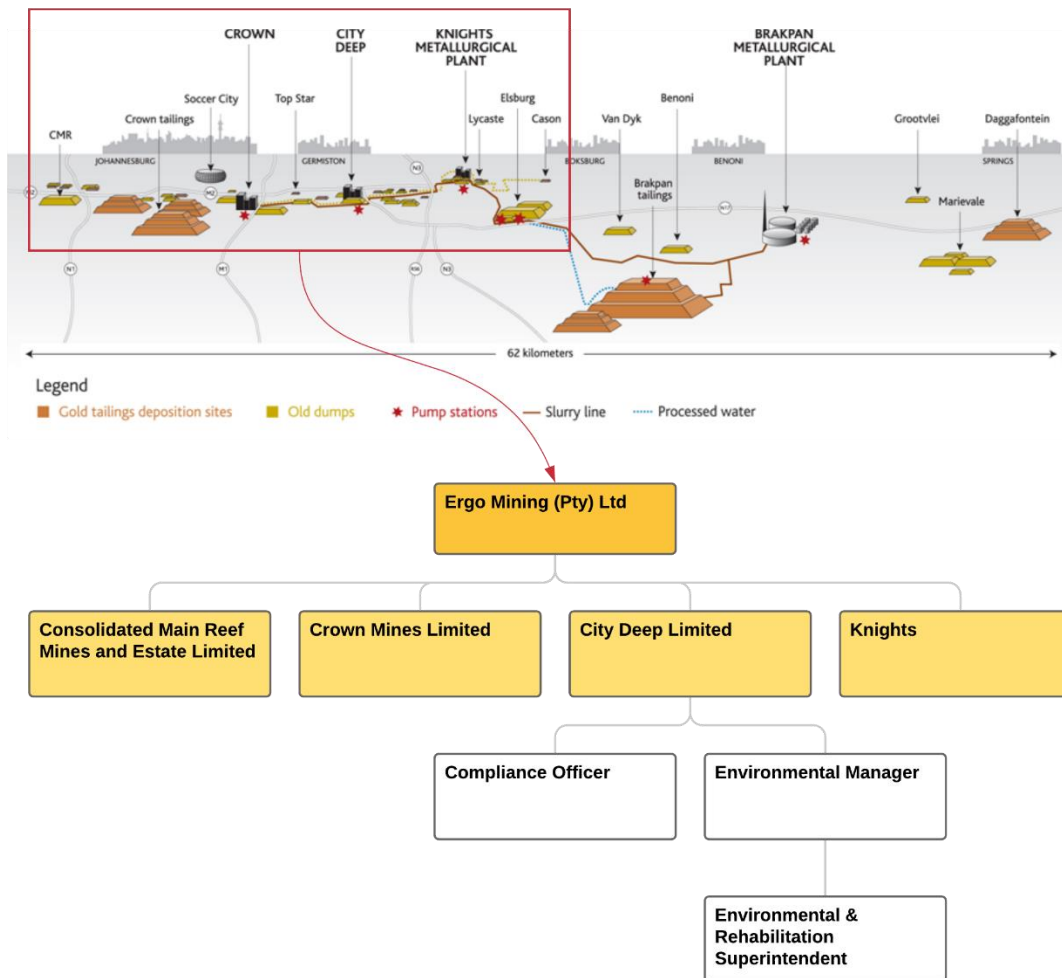
In the absence of *bona fide* NoK, DRDGOLD and Ergo specifically, as the operating entity responsible for the City Deep operation, is the custodian of the burial ground. A representation of the hierarchical structure at the City Deep operation is presented in Figure 3-2. These functions are ultimately responsible for the management of the burial ground in accordance with the requirements stipulated in Chapter 5 below.



The SAHRA BGG Unit is the competent authority responsible for the regulation of the HSMP in terms of the national legislative framework. The NHRA states:

*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 the necessary arrangement for their conservation as they see fit.*

Ergo will provide the SAHRA BGG Unit this HSMP including all future progress and monitoring reports as the competent authority.



**Figure 3-2: City Deep Organisational Structure**

**Table 3-2: Positions and Responsibilities**

Positions	Responsibility
City Deep Operations Manager	Ultimately responsible for the implementation of this HSMP in accordance with the legislative requirements, Ergo policies, and defined scope of this HSMP.

Positions	Responsibility
Environmental Managers	Communication of the scope and procedures contained within this HSMP to support staff.
	Identifying risks applicable to their area of responsibility as it may relate to the cemetery and this HSMP.
	Ensuring identified risks for their area of responsibility as it may relate to the cemetery and this HSMP are mitigated and updated on a continuous basis.
	Ensuring this HSMP as it may be relevant to their area of responsibility is implemented and adhered to.
Compliance Officer	Ensuring monitoring of the grave in accordance with the scope and procedures contained within this HSMP is implemented through auditing and visual inspections.
	Ensuring identified risks to the grave are captured and recorded in the SHE Risk/Impact Register.
Environmental Rehabilitation Superintendent	Monitoring of the cemetery in accordance with the scope and procedures contained within this HSMP.
	Updating the risk and impact register to adhere to the scope and procedures in this HSMP.
	Ensuring progress reporting as defined in this HSMP for submission to the relevant competent authorities is completed and submitted on time.

### 3.3 Coordination Mechanism between Entities

The South African Heritage Resources Information System (SAHRIS<sup>7</sup>) platform will be the primary co-ordination mechanism between the various entities. The SAHRIS platform is in the public domain and will allow for process transparency.

All documentation, including the HSMP, progress reporting and correspondence will be captured under the unique SAHRIS Case ID (Case ID: 14041).

<sup>7</sup> <https://sahris.sahra.org.za/cases/erg5884-city-deep-4l2-dump-heritage-management>

## 4 Principles for Planning and Actions

### 4.1 Objectives, Targets and Strategies

#### Guidance Note

Principles for planning and actions are anchored in general strategies and policies. These will have specific targets that should be defined and met through the implementation of the HSMP. What is best for a heritage site considering the specific, defined CS and the opportunities is the main objective of any HSMP. Several aspects, such as preservation, access, provisions for science and research should be integrated with this objective, as well as a vision for the future and sustainable use.

The principles for planning and actions are directly correlated to and guided by defined objectives, targets and strategies. Commensurate to this HSMP, the following objectives, targets and strategies are applicable:

**Table 4-1: Objectives, targets and strategies**

Objective	Target	Strategy
<p>To comply with the requirements of the national legislative framework, with specific reference to the NHRA in terms of Section 36(3) where no person may, without a permit issued by SAHRA</p> <ul style="list-style-type: none"> <li>- (b) 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.</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>In situ</i> conservation of the grave;</li> <li>■ Identification of risks;</li> <li>■ Proactive management of identified risks;</li> <li>■ Monitoring of the grave; and</li> <li>■ Management of manifested risks.</li> </ul>	<p>Develop an HSMP for approval by the competent authority.</p>
<p>To safeguard tangible cultural heritage.</p>		<p>Implement scope and procedures defined in the HSMP (Refer to Chapter 5 below).</p>
<p>To facilitate sustainable use of the heritage site.</p>		

### 4.2 Masterplan of Action

#### Guidance Note

All completed and planned actions should be listed in relation to the defined objectives to guide decision-making processes of competent authorities. The masterplan is not static and should be continuously reviewed and updated to remain applicable to changes and developments.

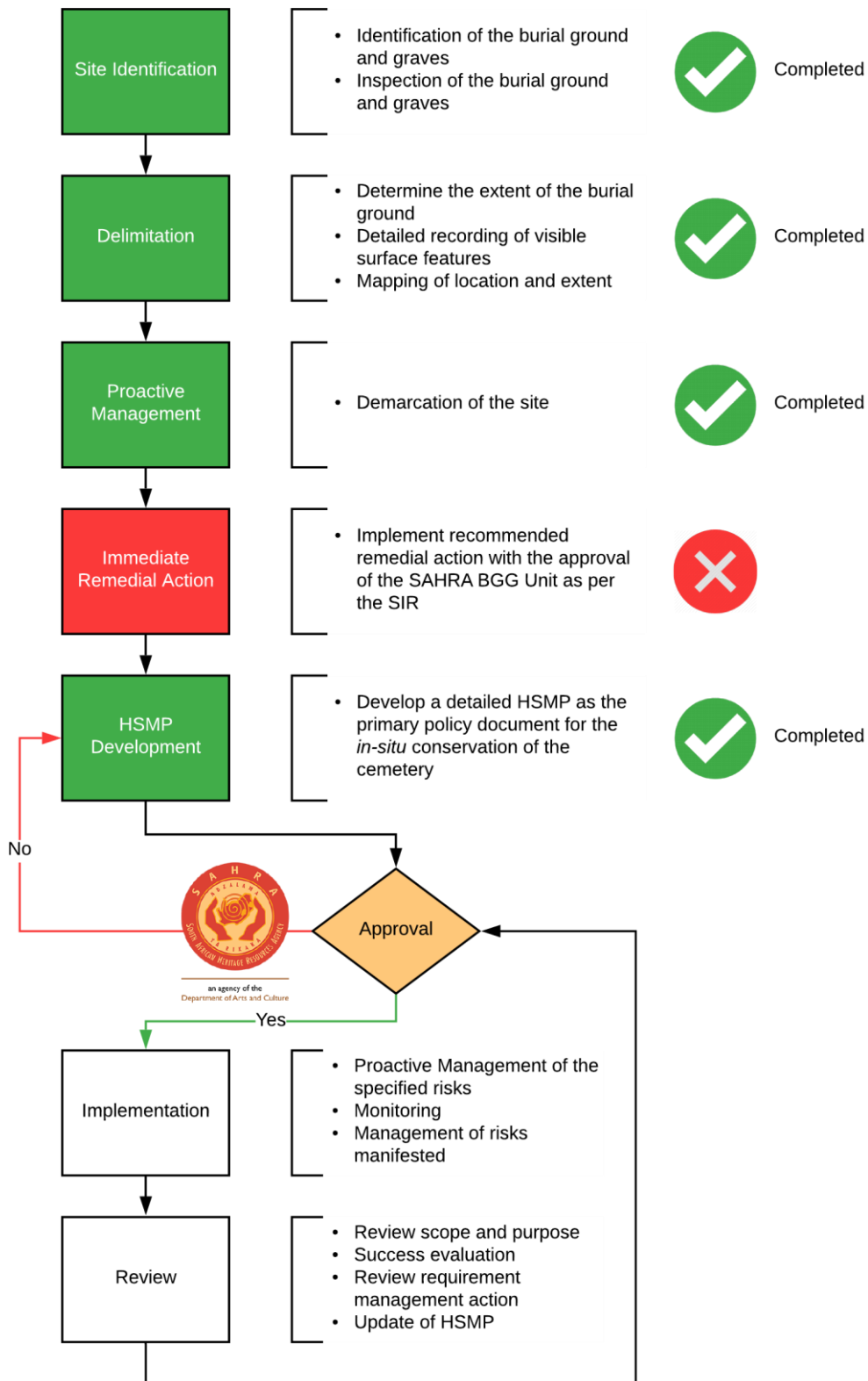


Figure 4-1: Current Masterplan of Action

## 5 Preservation Mechanism

### Guidance Note

Preservation, as the broadest objective of a site management plan, is undertaken for specific purposes that must consider all aspects. A site management plan must aim to balance the benefits of preservation with acceptable levels of degradation.

levels of degradation.

Commensurate to the objectives of this HSMP (Refer to section 4.1 above) preservation mechanisms include *inter alia*:

- Remedial mitigation and rehabilitation;
- Preventative protection;
- Monitoring;
- Progress reporting; and
- Reactive management (*if identified risks manifest*).

To develop appropriate preservation mechanisms, potential current and future risks must be identified and recorded within the existing Ergo instruments. Section 5.1 presents a summary of the identified current and future risks to the burial ground and graves.

### 5.1 Current and Future Risks

An HSMP aims at balancing the preservation of heritage sites *in situ* against identified risks and potential impacts. This section describes the identified risks to the burial ground and graves, as well as the potential impacts if these manifest.

**Table 5-1: Assessment of Identified Risks**

Risk	Description	Potential Impact	Assessment <sup>8</sup> :
Earthmoving activities	Earthmoving activities associated with the current 4L2 Dump reclamation process	Damage	<p>Potential surface damage to the burial ground and graves through earthmoving activities associated with the current 4L2 Dump reclamation process is highly unlikely. Preventative protection measures described in Section 5.3 below further curbs the probability of the risk manifesting. This notwithstanding, where the impact manifests, it will require the involvement of the SAHRA BGG Unit as the competent authority.</p> <p><b>Consequence: Moderately detrimental</b></p>
		Destruction	<p>Potential destruction of graves and consequently the mortal remains through earthmoving activities associated with the current 4L2 Dump reclamation process is highly unlikely. Preventative protection measures described in Section 5.3 below further curbs the probability of the risk manifesting. This notwithstanding, where the impact manifests, it will require the involvement of the SAHRA BGG Unit as the competent authority.</p> <p><b>Consequence: Highly detrimental</b></p>

<sup>8</sup> The impact to a resource is directly related to the designated CS, as it provides minimum accepted levels of change to the resource.

Risk	Description	Potential Impact	Assessment <sup>8</sup> :
Paddock Failure	Paddock failure resulting in slurry wash across the burial ground.	Damage	<p>Paddock failure has previously occurred resulting in permanent alteration to the surface of the burial ground, effecting the integrity of the graves within the burial ground. As this has previously occurred, the likelihood of reoccurrence is highly probable. The required preventative protection measures, however, aim to reduce the probability of this risk manifesting in the future. Further, proposed remedial mitigation and rehabilitation initiatives will positively impact on the integrity of the burial ground. This notwithstanding, where the impact manifests again, it will require the involvement of the SAHRA BGG Unit as the competent authority.</p> <p><b>Consequence: Extremely detrimental</b></p>
Opportunistic Vandalism	Vandalism of the surface dressing and possible exposure of mortal remains	Destruction	<p>Potential destruction of surface dressing and graves through acts of opportunistic vandalism has previously occurred, causing not only damage, but potentially full destruction of the individual graves. The likelihood of reoccurrence is highly probable if left unmanaged. The required preventative protection measures, however, aim to reduce the probability of this risk manifesting in the future. Further, proposed remedial mitigation and rehabilitation initiatives will positively impact on the integrity of the burial ground. This notwithstanding, where the impact manifests again, it will require the involvement of the SAHRA BGG Unit as the competent authority.</p> <p><b>Consequence: Extremely detrimental</b></p>

Risk	Description	Potential Impact	Assessment <sup>8</sup> :
Restricted access	Full restriction of access to the heritage site	Degradation of CS	<p>Potential degradation of the intrinsic CS of the burial ground through full restricted access is highly unlikely when considering current access. If manifested, however, it will be limited to the duration of the Project and limited to the extent of the heritage site.</p> <p>Consequence: Moderately detrimental</p>



## 5.2 Remedial Mitigation and Rehabilitation

Paddock failure at the 4L2 Dump resulted in surface damage to the burial ground, and slurry contamination. Remedial mitigation and rehabilitation of the slurry spill is required. Required interventions include:

- Repair of the existing paddock to prevent future spillage;
- Quantification of the slurry spill, i.e. extent and depth of crust. The depth is to be determined through Auger Test Pits (ATPs);
- Mapping the extent of the slurry spill to define areas for rehabilitation;
- Temporary removal of grave surface dressings to allow for cleaning and to accommodate required remedial actions;
- Manual removal of the slurry crust to a depth of between ~10 to 20 cm (*actual depths to be confirmed through ATP*) using equipment such as spades, hoes and rakes;
- Disposal of slurry crust either within the paddock or back onto the tailing's facility;
- Using manual labour to plant grass in the remediated areas;
- Replacement of original grave surface dressing to points of origin; and
- Monitoring of rehabilitation to manage possible alien invasive plant species and reseed as required.

## 5.3 Preventative Protection

### Guidance Note

Preventative protection has important implications for the implementation of site management and future planning. These measures protectively cover the most vulnerable components to prevent degradation of the heritage site from identified risks. These measures must aim at improving the conditions for preservation that can be adapted and refined through time.

Table 5-2 presents the required preventative protection measures to manage the current and future risks to the burial ground (Refer to Section 5.1).

**Table 5-2: Preventative Protection Measures**

Objective	Action
Avoid accidental damage or destruction of the burial ground and graves during earth moving activities.	Clearly determine extent of the heritage site and delineate boundaries. Completed and presented in the SIR, Section 2.1 above, and Figure 2-3.
	Clearly demarcate the extent of the burial ground so it is clearly visible.
	Place signage along access routes and adjacent to the burial ground to warn of presence.

Objective	Action
	Maintain established berms surrounding the perimeter of the burial ground.
Avoid paddock failure resulting in slurry spill over the burial ground.	Maintain paddock and monitor its integrity to action any required remedial management measures as soon as possible.
	Record baseline conditions for effective monitoring.
	Establish monitoring procedure in line with the applicable Ergo procedures. Monitoring must be measured against baseline conditions.
Curb opportunistic vandalism of the burial ground.	Remove all potential sources of iron that could promote theft and consequent vandalism of the burial ground.
	Establish monitoring procedure in line with the applicable Ergo procedures. Monitoring must be measured against baseline conditions.
Avoid degradation of the intrinsic CS of the burial ground.	Identify alternative routings to the heritage site.
	Place signage along access routes to inform heritage site users of alternative routing options and relevant contact information.
	Complete monthly maintenance to remove overgrowth and reduce intensity of natural degradation processes.

## 5.4 Monitoring

### Guidance Note

A site management plan cannot be static and must be conceived in terms of a cycle. Defined measures must be implemented, evaluated, reviewed, and if necessary altered or withdrawn. Monitoring should target specific issues, measure specific parameters of change or react to specific events. Monitoring should be measured against recorded baseline conditions.

All relevant Ergo monitoring procedures remain applicable. This section presents the relevant monitoring requirements specifically applicable to the burial ground.

Aspect	Responsible	Frequency	Proactive or Reactive	Method
Rehabilitation of Slurry Spill	Environmental Rehabilitation Superintendent	Daily	Proactive	<ul style="list-style-type: none"> <li>■ Supervise all required rehabilitation activities;</li> <li>■ Record all rehabilitation activities through photographs and detailed notes.</li> </ul>
	Archaeologist	Weekly		<ul style="list-style-type: none"> <li>■ Visually assess the <i>status quo</i> of the burial ground;</li> <li>■ Review monitoring results;</li> <li>■ Complete progress reporting for submission to the competent authority.</li> </ul>
	Environmental Rehabilitation Superintendent	When risk manifests	Reactive	<ul style="list-style-type: none"> <li>■ If risks manifest:                             <ol style="list-style-type: none"> <li>1. Cease all works immediately;</li> <li>2. Report the incident to the Environmental Manager and Compliance Officer;</li> <li>3. Contact an archaeologist to inspect the site and detail immediate remedial action;</li> <li>4. Report the incident to the competent authority and await instruction;</li> <li>5. Implement the required mitigation and management measures to comply with the NHRA, NHRA Regulations and SAHRA Minimum Standards.</li> </ol> </li> <li>■ Only recommence activities once impacts are mitigated and remedial actions completed.</li> </ul>

Aspect	Responsible	Frequency	Proactive or Reactive	Method
Reclamation of 4L2	Environmental Rehabilitation Superintendent	Weekly	Proactive	<ul style="list-style-type: none"> <li>■ Visually assess the <i>status quo</i> of the burial ground;</li> <li>■ Confirm the status of the burial ground against the established baseline;</li> <li>■ Record status of the burial ground through photographs and detailed notes.</li> </ul>
	Archaeologist	Quarterly – throughout operation	Proactive	<ul style="list-style-type: none"> <li>■ Visually assess the status quo;</li> <li>■ Review monitoring results against baseline conditions;</li> <li>■ Complete progress reporting for submission to the competent authority.</li> </ul>
	Environmental Rehabilitation Superintendent	When risk manifests	Reactive	<ul style="list-style-type: none"> <li>■ If risks manifest:                             <ol style="list-style-type: none"> <li>1. Cease all works immediately;</li> <li>2. Report the incident to the Environmental Manager and Compliance Officer;</li> <li>3. Contact an archaeologist to inspect the site and detail immediate remedial action;</li> <li>4. Report the incident to the competent authority and await instruction;</li> <li>5. Implement the required mitigation and management measures to comply with the NHRA, NHRA Regulations and SAHRA Minimum Standards.</li> </ol> </li> <li>■ Only recommence activities once impacts are mitigated and remedial actions completed.</li> </ul>

## 5.5 Progress Reporting

### Guidance Note

Progress reporting should present details to the status quo, state of degradation or stability to guide proactive management measures and competent authority decisions. Progress reporting is important as it correlates baseline conditions to the effectiveness of measures contained in the site management plan.

The *status quo* of the burial grounds and graves are reported in an SIR, submitted to the SAHRA BGG Unit via SAHRIS (Case ID: 14041). The baseline must be updated upon completion of the remedial mitigation and rehabilitation activities prescribed in Section 5.2 above.

Progress reporting must be completed per the requirements stipulated in Table 5-2 and distributed to the various management structures via the SAHRIS portal.

Monitoring and recording of the *status quo* in support of progress reporting will be completed in accordance with the competencies and responsibilities Section 3.2 above. An archaeologist will be responsible to confirm the status quo and detailed records, as well as compile and submit the progress report to the competent authorities.

## 6 Awareness

### Guidance Note

The site management plan must make provision for the dissemination of information to the public. Means of communication may vary considerably across various platforms. Nonetheless, information pertaining to the heritage site and the proposed management thereof must be freely available.

Interested and Affected Parties (I&APs) can access this HSMP via the SAHRIS portal (Case ID: 14041). Furthermore, Ergo will create awareness of the burial ground through appropriate signage along various access routes and at the heritage site.

## 7 Resources

### Guidance Note

A site management plan must detail the resources required for its implementation. Resources from other entities that promote the management objectives and actions should be listed.

The HSMP will be implemented by the employees of the Ergos' City Deep operation and in line with the management structure presented in Figure 3-2 and competences and responsibilities defined in Table 3-2.

In accordance with the measures defined in Chapter 5 above, in the event of risk manifesting and for monitoring purposes, Ergo will enlist the services of a qualified and accredited archaeologist.

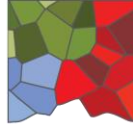
## 8 Sustainable Use and Vision for The Future

### Guidance Note

A site management plan must adapt through time to meet the specific requirements for the continued use of the heritage site and benefits for society.

Ergo will endeavour to maintain *in situ* conservation of the burial ground throughout the Project life and promote the sustainable use thereof via the various measures contained in this HSMP.

## Appendix A: Specialist CV



# DIGBY WELLS

## ENVIRONMENTAL

Mr. Justin du Piesanie

Divisional Manager: Social and Heritage Services

Social and Heritage Services Department

Digby Wells Environmental

## 1 Education

Date	Degree(s) or Diploma(s) obtained	Institution
2015	Continued Professional Development, Intermediate Project Management Course	PM.Ideas: A division of the Mindset Group
2013	Continued Professional Development Programme, Architectural and Urban Conservation: Researching and Assessing Local Environments	University of Cape Town
2008	MSc	University of the Witwatersrand
2005	BA (Honours) (Archaeology)	University of the Witwatersrand
2004	BA	University of the Witwatersrand
2001	Matric	Norkem Park High School

## 2 Language Skills

Language	Written	Spoken
English	Excellent	Excellent
Afrikaans	Proficient	Good



### 3 Employment

Period	Company	Title/position
2018 to present	Digby Wells Environmental	Divisional Manager: Social and Heritage Services
2016-2018	Digby Wells Environmental	Unit Manager: Heritage Resources Management
2011-2016	Digby Wells Environmental	Heritage Management Consultant: Archaeologist
2009-2011	University of the Witwatersrand	Archaeology Collections Manager
2009-2011	Independent	Archaeologist
2006-2007	Maropeng & Sterkfontein Caves UNESCO World Heritage Site	Tour guide

### 4 Experience

I joined the company in August 2011 as an archaeologist and was subsequently made manager of the Heritage Unit and subsequently the Divisional Manager for Social and Heritage Services in 2016 and 2018 respectively. I obtained my Master of Science (MSc) degree in Archaeology from the University of the Witwatersrand in 2008, specialising in the Southern African Iron Age. I further attended courses in architectural and urban conservation through the University of Cape Town's Faculty of Engineering and the Built Environment Continuing Professional Development Programme in 2013. I am a professional member of the Association of Southern African Professional Archaeologists (ASAPA), and accredited by the association's Cultural Resources Management (CRM) section. I am also a member of the International Council on Monuments and Sites (ICOMOS), an advisory body to the UNESCO World Heritage Convention. I have over 10 years combined experience in HRM in South Africa, including heritage assessments, archaeological mitigation, grave relocation, and NHRA Section 34 application processes. I gained further generalist experience since my appointment at Digby Wells in Botswana, Burkina Faso, Cameroon, the Democratic Republic of Congo, Liberia, Malawi, Mali, Senegal and Tanzania on projects that have required compliance with IFC requirements such as Performance Standard 8: Cultural Heritage. Furthermore, I have acted as a technical expert reviewer of HRM projects undertaken in Cameroon and Senegal. As Divisional Manager for Social and Heritage Services at Digby Wells Environmental, I manage several large capital Projects and multidisciplinary teams placing me in the best position to identify and exploit points of integration between the HRM process and greater social landscape. This approach to HRM, as an integrated discipline, is grounded in international HRM principles and standards that has allowed me to provide comprehensive,

project-specific solutions that promote ethical heritage management and assist in achieving the strategic objectives of our clients, as well as maintain or enhance Cultural Significance of the relevant cultural heritage resources.

## 5 Project Experience

Please see the following table for relevant Project experience:

PROJECT	LOCATION	DATES		PROJECT TYPE		CLIENT
Kibali Kalimva & Ikamva Pit ESIA	Orientele Province, Democratic Republic of Congo	2019	2019	Heritage Assessment	Impact	Barrick Gold Corporation
Ergo City Deep HSMP	Johannesburg, Gauteng, South Africa	2019	2019	Heritage Management Plan	Site	Ergo (Pty) Ltd
Ergo RTSF Section 34 Process	Westonaria, Gauteng, South Africa	2019	-	Section 34 Destruction Applications	Permit	Ergo (Pty) Ltd
Twyfelaar EIA	Ermelo, Mpumalanga, South Africa	2019	2019	Heritage Assessment	Impact	Dagsoom Coal Mining (Pty) Ltd
Sasol River Diversion	Sasolburg, Free State, South Africa	2019	2019	Heritage Assessment	Impact	Sasol Mining
Sun City EIA and CMP	Pilanesberg, North-West Province, South Africa	2018	2019	Heritage Assessment and Conservation Management Plan	Impact	Sun International
Exxaro Matla HRM	Kriel, Mpumalanga, South Africa	2017	2019	Heritage Assessment and Conservation Management Plan	Impact	Exxaro Coal Mpumalanga (Pty) Ltd
Exxaro Belfast GRP	Belfast, Mpumalanga, South Africa	2013	-	Grave Relocation		Exxaro Coal Mpumalanga (Pty) Ltd
Eskom Northern Strengthening	KZN KwaZulu-Natal, South Africa	2016	2018	Heritage Assessment	Impact	ILISO Consulting
Thabametsi GRP	Lephalale, Limpopo Province, South Africa	2017	2018	Grave Relocation		Exxaro Resources Ltd

PROJECT	LOCATION	DATES		PROJECT TYPE	CLIENT
SKA HIA and CMP	Carnarvon, Northern Cape, South Africa	2017	2018	Heritage Impact Assessment and Conservation Management Plan	SARAO
Grootegeeluk Watching Brief	Lephalale, Limpopo Province, South Africa	2017	2017	Watching Brief	Exxaro Resources Ltd
Matla HSMP	Kriel, Mpumalanga Province, South Africa	2017	2017	Heritage Site Management Plan	Exxaro Coal Mpumalanga (Pty) Ltd
Ledjadja Coal Borrow Pits	Lephalale, Limpopo Province, South Africa	2017	2017	Heritage Basic Assessment	Ledjadja Coal (Pty) Ltd
Exxaro Belfast Implementation Project PIA	Belfast, Mpumalanga, South Africa	2017	2017	Palaeontological Impact Assessment	Exxaro Coal Mpumalanga (Pty) Ltd
Lanxess Chrome Mine Archaeological Mitigation	Rustenburg, North West Province, South Africa	2017	2017	Phase 2 Excavations	Lanxess Chrome Mine (Pty) Ltd
Tharisa Apollo EIA Project	KwaZulu- Natal, South Africa	2017	2017	Heritage Impact Assessment	GCS (Pty) Ltd
Queen Street Section 34 Process	Germiston, Johannesburg, Gauteng, South Africa	2017	2017	Section 34 Destruction Permit Applications	IDC Architects
Goulamina EIA Project	Goulamina, Sikasso Region, Mali	2017	2017	Heritage Impact Assessment	Birimian Limited
Zuurfontein Residential Establishment Project	Ekurhuleni, Gauteng, South Africa	2017	2017	Notification of Intent to Develop	Shuma Africa Projects
Kibali Grave Relocation Training and Implementation	Oriental Province, Democratic Republic of Congo	2017	2017	Grave Relocation	Randgold Resources Limited
Massawa EIA	Senegal	2016	2017	Heritage Impact Assessment and Technical Reviewer	Randgold Resources Limited

PROJECT	LOCATION	DATES	PROJECT TYPE	CLIENT
Beatrix EIA and EMP	Welkom, Free State, South Africa	2016 2017	Heritage Impact Assessment	Sibanye Stillwater
Sun City Chair Lift	Pilanesberg, North-West Province, South Africa	2016 2017	Notification of Intent to Develop and Heritage Basic Assessment	Sun International
Hendrina Underground Coal Mine EIA	Hendrina, Mpumalanga, South Africa	2016 2017	Heritage Impact Assessment	Umcebo Mining (Pty) Ltd
Elandsfontein Update	EMP Clewer, Mpumalanga, South Africa	2016 2017	Heritage Impact Assessment	Anker Coal
Groningen and Inhambane PRA	Limpopo Province, South Africa	2016 2016	Heritage Basic Assessment	Rustenburg Platinum Mines Limited
Palmietkuilen MRA	Springs, Gauteng, South Africa	2016 2016	Heritage Impact Assessment	Canyon Resources (Pty) Ltd
Copper Sunset Sand Mining S.102	Free State, South Africa	2016 2016	Heritage Basic Assessment	Copper Sunset Sand (Pty) Ltd
Grootvlei MRA	Springs, Gauteng, South Africa	2016 2016	Notification of Intent to Develop	Ergo (Pty) Ltd
Lambda EMP	Mpumalanga, South Africa	2016 2016	Palaeontological Impact Assessment	Eskom Holdings SOC Limited
Kilbarchan Basic Assessment and EMP	Newcastle, KwaZulu-Natal, South Africa	2016 2016	Heritage Basic Assessment	Eskom Holdings SOC Limited
Grootegeeluk Amendment	Lephalale, Limpopo Province, South Africa	2016 2016	Notification of Intent to Develop	Exxaro Coal Resources (Pty) Ltd
Garsfontein Township Development	Pretoria, Gauteng, South Africa	2016 2016	Notification of Intent to Develop	Leungo Construction Enterprises
Louis Botha Phase 2	Johannesburg, Gauteng, South Africa	2016 2016	Phase 2 Excavations	Royal Haskoning DHV
Sun City Mapping	Heritage Pilanesberg, North-West	2016 2016	Phase 2 Mapping	Sun International

PROJECT	LOCATION	DATES		PROJECT TYPE		CLIENT
	Province, South Africa					
Gino's Building Section 34 Destruction Permit Application	Johannesburg, Gauteng, South Africa	2015	2016	Heritage Assessment Section 34 Destruction Application	Impact and 34 Permit	Bigen Africa Services (Pty) Ltd
EDC Block Refurbishment Project	Johannesburg, Gauteng, South Africa	2015	2016	Heritage Assessment Section 34 Application	Impact and Permit	Bigen Africa Services (Pty) Ltd
Namane IPP and Transmission Line EIA	Steenbokpan, Limpopo Province, South Africa	2015	2016	Heritage Assessment	Impact	Namane Resources (Pty) Ltd
Temo Coal Road Diversion and Rail Loop EIA	Steenbokpan, Limpopo Province, South Africa	2015	2016	Heritage Assessment	Impact	Namane Resources (Pty) Ltd
Sibanye WRTRP	Gauteng, South Africa	2014	2016	Heritage Assessment	Impact	Sibanye Stillwater
NTEM Iron Ore Mine and Pipeline Project	Cameroon	2014	2016	Technical Review		IMIC plc
NLGM Constructed Wetlands Project	Liberia	2015	2015	Heritage Assessment	Impact	Aureus Mining
ERPM Section 34 Destruction Permits Applications	Johannesburg, Gauteng, South Africa	2015	2015	Section 34 Destruction Applications	34 Permit	Ergo (Pty) Ltd
JMEP II EIA	Botswana	2015	2015	Heritage Assessment	Impact	Jindal
Oakleaf ESIA Project	Bronkhorstspuit, Gauteng, South Africa	2014	2015	Heritage Assessment	Impact	Oakleaf Investment Holdings
Invula Project	Kriel, Mpumalanga, South Africa	2014	2015	Heritage Assessment	Impact	Ixia Coal
VMIC Vanadium EIA Project	Mokopane, Limpopo, South Africa	2014	2015	Heritage Assessment	Impact	VM Investment Company
Everest North Mining Project	Steelpoort, Mpumalanga, South Africa	2012	2015	Heritage Assessment	Impact	Aquarius Resources

PROJECT	LOCATION	DATES	PROJECT TYPE	CLIENT
Nzoro 2 Hydro Power Project	Orientele Province, Democratic Republic of Congo	2014 2014	Social consultation	Randgold Resources Limited
Eastern Basin AMD Project	Springs, Gauteng, South Africa	2014 2014	Heritage Assessment Impact	AECOM
Soweto Cluster Reclamation Project	Soweto, Gauteng, South Africa	2014 2014	Heritage Assessment Impact	Ergo (Pty) Ltd
Klipspruit South Project	Ogies, Mpumalanga, South Africa	2014 2014	Heritage Assessment Impact	BHP Billiton
Klipspruit Extension: Weltevreden Project	Ogies, Mpumalanga, South Africa	2014 2014	Heritage Assessment Impact	BHP Billiton
Ergo Pipeline Assessment	Rondebult Basic Johannesburg, South Africa	2014 2014	Heritage Assessment Basic	Ergo (Pty) Ltd
Kibali ESIA Update Project	Orientele Province, Democratic Republic of Congo	2014 2014	Heritage Assessment Impact	Randgold Resources Limited
GoldOne Consolidation	EMP Westonaria, Gauteng, South Africa	2014 2014	Gap analysis	Gold One International
Yzermite PIA	Wakkerstroom, Mpumalanga, South Africa	2014 2014	Palaeontological Impact Assessment	EcoPartners
Sasol Mooikraal Basic Assessment	Sasolburg, Free State, South Africa	2014 2014	Heritage Assessment Basic	Sasol Mining
Rea Vaya Phase II C Project	Johannesburg, Gauteng, South Africa	2014 2014	Heritage Assessment Impact	ILISO Consulting
New Liberty Gold Project	Liberia	2013 2014	Grave Relocation	Aureus Mining
Putu Iron Ore Mine Project	Petroken, Liberia	2013 2014	Heritage Assessment Impact	Atkins Limited

PROJECT	LOCATION	DATES		PROJECT TYPE	CLIENT
Sasol Twistdraai Project	Secunda, Mpumalanga, South Africa	2013	2014	Notification of Intent to Develop	ERM Southern Africa
Kibali Gold Hydro- Power Project	Orientele Province, Democratic Republic of Congo	2012	2014	Heritage Impact Assessment	Randgold Resources Limited
SEGA Gold Mining Project	Burkina Faso	2013	2013	Technical Reviewer	Cluff Gold PLC
Consbrey and Harwar Collieries Project	Breyton, Mpumalanga, South Africa	2013	2013	Heritage Impact Assessment	Msobo Coal
Falea Uranium Mine Environmental Assessment	Falea, Mali	2013	2013	Heritage Scoping	Rockgate Capital
Daleside Acetylene Gas Production Facility	Gauteng, South Africa	2013	2013	Heritage Impact Assessment	ERM Southern Africa
SEGA Gold Mining Project	Burkina Faso	2012	2013	Socio Economic and Asset Survey	Cluff Gold PLC
Kibali Gold Project Grave Relocation Plan	Orientele Province, Democratic Republic of Congo	2011	2013	Grave Relocation	Randgold Resources Limited
Everest North Mining Project	Steelpoort, Mpumalanga, South Africa	2012	2012	Heritage Impact Assessment	Aquarius Resources
Environmental Authorisation for the Gold One Geluksdal TSF and Pipeline	Gauteng, South Africa	2012	2012	Heritage Impact Assessment	Gold One International
Platreef Burial Grounds and Graves Survey	Mokopane, Limpopo Province, South Africa	2012	2012	Burial Grounds and Graves Survey	Platreef Resources
Resgen Boikarabelo Coal Mine	Limpopo Province, South Africa	2012	2012	Phase 2 Excavations	Resources Generation
Bokoni Platinum Road Watching Brief	Burgersfort, Limpopo Province, South Africa	2012	2012	Watching Brief	Bokoni Platinum Mine

PROJECT	LOCATION	DATES	PROJECT TYPE	CLIENT	
Transnet NMPP Line	Kwa-Zulu Natal, South Africa	2010	2010	Heritage survey	Umlando Consultants
Archaeological Impact Assessment – Witpoortjie Project	Johannesburg, Gauteng, South Africa	2010	2010	Archaeological Impact Assessment	ARM
Der Brochen Archaeological Excavations	Steelpoort, Mpumalanga, South Africa	2010	2010	Phase 2 Excavations	Heritage Contracts Unit
De Brochen and Booyesdal Archaeology Project	Steelpoort, Mpumalanga, South Africa	2010	2010	Site Recording: Mapping	Heritage Contracts Unit
Eskom Thohoyandou Electricity Master Network	Limpopo Province, South Africa	2010	2010	Heritage Statement	Strategic Environmental Focus
Bathhako Expansion	Mine North-West Province, South Africa	2010	2010	Phase 2 Mapping	Heritage Contracts Unit
Wenzelrust Excavations	Shoshanguve, Gauteng, South Africa	2009	2009	Phase 2 Excavations	Heritage Contracts Unit
University of the Witwatersrand Parys LIA Shelter Project	Parys, Free State, South Africa	2009	2009	Phase 2 Mapping	University of the Witwatersrand
Archaeological Assessment Modderfontein Holdings	of AH Johannesburg, Gauteng, South Africa	2008	2008	Heritage Assessment	Basic ARM
Heritage Assessment of Rhino Mines	Thabazimbi, Limpopo Province, South Africa	2008	2008	Heritage Assessment	Impact Rhino Mines
Cronimet Project	Thabazimbi, Limpopo Province, South Africa	2008	2008	Archaeological surveys	Cronimet
Eskom Thohoyandou SEA Project	Limpopo Province, South Africa	2008	2008	Heritage Statement	Eskom
Witbank Archaeological Assessment	Dam Impact Witbank, Mpumalanga, South Africa	2007	2007	Archaeological survey	ARM



PROJECT	LOCATION	DATES	PROJECT TYPE	CLIENT
Sun City Archaeological Site Mapping	Sun City, Pilanesberg, North West Province, South Africa	2006 2006	Site Mapping Recording:	Sun International
Klipriviersberg Archaeological Survey	Meyersdal, Gauteng, South Africa	2005 2006	Archaeological surveys	ARM

## 6 Professional Registrations

Position	Professional Body	Registration Number
Member	Association for Southern African Professional Archaeologists (ASAPA); ASAPA Cultural Resources Management (CRM) section	270
Member	International Council on Monuments and Sites (ICOMOS)	14274
Member	Society for Africanist Archaeologists (SAfA)	N/A
Member	International Association of Impact Assessors (IAIA) South Africa	5494

## 7 Publications

Huffman, T.N. & du Piesanie, J.J. 2011. Khami and the Venda in the Mapungubwe Landscape. *Journal of African Archaeology* 9(2): 189-206

du Piesanie, J.J., 2017. Book Review: African Cultural Heritage Conservation and Management. *South African Archaeological Bulletin* 72(205)