



***Archaeological Monitoring Report for the construction of the
Monageng Switching Station, near Roosenekal, Sekhukhune
District Municipality, Limpopo Province***

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Declaration of Independence

The report has been compiled by PGS Heritage (Pty) Ltd, an appointed Heritage Specialist for Eskom Holdings SOC Limited. The views stipulated in this report are purely objective and no other interests are displayed.

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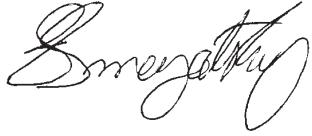


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1 INTRODUCTION

This document outlines the Archaeological Mitigation and Monitoring for the construction activities associated with the Monageng Switching Station.

Eskom Holdings SOC Limited have commissioned the implementation of this monitoring program to minimise possible impacts on heritage resources as per the recommendations of the completed Phase 2 Archaeological Mitigation Project (Pelser 2013) and the subsequently issued SAHRA Destruction Permit (CaseID: 11836; PermitID: 2666). An Archaeological Mitigation Programme was one of the conditions of SAHRA's approval for the continuation of the Monageng Switching Station development, as required by the Permit issued by the SAHRA (13/12/2017).

The main aim of this document is the management of primary impacts resulting from the destruction of known, low-significance, heritage features during construction activities. Additionally, it will report on the results of the monitoring visit which took place on 12th February 2018.

2 SPECIALIST QUALIFICATIONS

The staff at PGS has a combined experience of nearly 80 years in the heritage consulting industry. PGS and its staff have extensive experience in managing HIA processes and will only undertake heritage assessment work where they have the relevant expertise and experience to undertake that work competently.

Ms Linereè de Jager, the Project Coordinator/Manager, is a qualified archaeologist and anthropologist. She holds a BA (Hons) degree in Archaeology from the University of South Africa (Unisa). Since working for PGS, she has specialised in the relocation of numerous informal burial grounds in both South Africa and Mozambique and she has conducted various archaeological surveys, as well as monitoring and mitigation work. She is a registered Professional Archaeologist with the Association of Southern African Professional Archaeologists (ASAPA) as well as a member of the South African Archaeological Society.

Ilan Smeyatsky, holds an MSc in Archaeology and is registered as a Professional Archaeologist with the Association of Southern African Professional Archaeologists (ASAPA).

Refer to **Appendix B for CV's**.

3 LEGISLATIVE CONTEXT

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation -

- i. National Environmental Management Act (NEMA) Act 107 of 1998
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- i. GNR 982 of 2014 (Government Gazette 38282) promulgated under the (NEMA):
 - a. Basic Assessment Report (BAR) – Regulations 19 and 23
 - b. Environmental Scoping Report (ESR) – Regulation 21
 - c. Environmental Impacts Report (EIR) – Regulation 23
 - d. Environmental Management Programme (EMPr) – Regulations 19 and 23
- ii. NHRA:
 - a. Protection of Heritage Resources – Sections 34 to 36; and
 - b. Heritage Resources Management – Section 38

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 35 of the NHRA states that, the requirements for the requirements to excavate or disturb archaeological sites. The NEMA (Act No 107 of 1998) states that an integrated EMP should, (23 -2 (b)) "...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage". In accordance with legislative requirements and EIA rating criteria, the regulations of SAHRA and ASAPA have also been incorporated to ensure that a comprehensive legally compatible HMP report is compiled.

4 TERMINOLOGY AND ABBREVIATIONS

Abbreviations

Abbreviations	Description
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
AMP	Archaeological Mitigation Project
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
EIA practitioner	Environmental Impact Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Earlier Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
HMP	Heritage Management Plan
I&AP	Interested & Affected Party
LSA	Later Stone Age
LIA	Later Iron Age
LIHRA	Limpopo Heritage Resources Agency
MSA	Middle Stone Age
MIA	Middle Iron Age
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act (25 of 1999)
PIA	Palaeontological Impact Assessment
PHRA	Provincial Heritage Resources Authority
PSSA	Palaeontological Society of South Africa
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
STP	Shovel Test Pits

Archaeological resources

This includes -

- i. material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- ii. rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- iii. wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- iv. features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Artefact

An object made by a human being, typically one of cultural or historical interest.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the 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 -

- i. construction, alteration, demolition, removal or change in use of a place or a structure at a place;

- ii. carrying out any works on or over or under a place;
- iii. subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- iv. constructing or putting up for display signs or boards;
- v. any change to the natural or existing condition or topography of land; and
- vi. any removal or destruction of trees, or removal of vegetation or topsoil

Ecofact

An excavated piece of evidence consisting of natural remains, as opposed to an object of human workmanship. Contrasted with artefact.

Heritage

That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

Heritage resources

This means any place or object of cultural significance.

Late Iron Age (Early Farming Communities)

The archaeology of the last 1000 years up to the 1800s, associated with people who carried out iron working and farming activities such as herding and agriculture.

Refer to **Appendix A** for further discussions on heritage management and legislative frameworks.

5 TERMINOLOGY AS PART OF POLICY

Client – *Construction* – Developer

Client - *Operational and Maintenance* - Home Owners Association

Archaeologist – Professional Archaeologist accredited with the Association of Southern African Professional Archaeologists (ASAPA)

Archaeological Contractor - Professional Archaeologist accredited with ASAPA, conducting rehabilitation or research on heritage sites in development

Contractor – Any other person doing construction work on site including earthmoving, digging of holes and ditches.

Site Manager – Person appointed by the Client to manage the day to day activities of construction.

Or a person directly responsible for maintenance activities on the heritage sites under the supervision of the Archaeologist.

Environmental Control Officer (ECO) - Person responsible for the monitoring of the environment during construction work.

Primary or Direct Impacts – Activities that might have a direct impact on heritage sites that will result in destruction of such sites, during construction. These include earthmoving, building of roads and other structures

Secondary Impacts – Activities that may impact on heritage sites after construction in the development has stopped. These may include people walking through heritage sites and causing erosion of sites, damaging of stone walls by climbing over them, the collection of artefacts by residents.

6 AFFECTED PARTIES

Parties identified, listed and registered during the Public Consultation Process as managed through the Basic Assessment process for the Monageng Switching Station, are seen as interested and affected.

Those groups and individuals that have a strong and special link to the identified heritage sites in the area, are deemed of major importance to the management of the heritage resources of the project.

7 SITE SIGNIFICANCE

The Phase 1 Archaeological & Cultural Heritage Impact Assessment (HIA) (Van Schalkwyk 2013), identified three sites of heritage significance in the general project vicinity (Sites T12-T14), with one requiring management as part of the construction activities (Late Iron Age site: **Site T12**). This HIA noted that **Site T13 & Site T14** represented a large settlement site dating to the LIA, consisting of homestead areas, public areas such as a male gathering place and livestock enclosures, measuring a total extent of approximately 400x500m (Van Schalkwyk 2013). **Site T12** was ascertained to represent the agricultural terracing and fields of the settlement, together with some homestead areas (Van Schalkwyk 2013). The HIA graded the settlement sites uncovered during the survey as **High - Regional Level (Grade III)** and it was recommended that if the location of the substation could not be changed, then an archaeological mitigation process would have to be implemented to negate the impacts of the development (Van Schalkwyk 2013).

The main reason as to why this particular settlement received such a high grading was most likely due to the rich Iron Age history from the area. The origins of Iron Age farming communities, who practiced agriculture, livestock herding and metal working, can be traced to the Steelpoort Valley (Pelser 2013). Research has shown that these particular communities were related to Early Iron Age communities who also settled further north towards the Lydenburg Valley from 500 AD to 900 AD (Pelser 2013). The Early Iron Age communities of the Lydenburg Valley achieved international acclaim from the discovery of the famous *Lydenburg Heads* that were recovered from the same area (Pistorius 2013).

The task of tracing the people who populated the Steelpoort Valley is a difficult task due to the fluidity in which Iron Age chiefdoms operated, however from about 1700 AD, the population of this area can be distinguished into several groups: 1.) A large group of Sotho who came from the north-eastern parts of the Lowveld, who settled on the plateau to the north and south of the Strydpoortberge (Pelser 2013), 2.) Small groups of people of Kgatla, Huruthshe-Kwena and Pedi origin who moved from the Tswana area (Brits and Rustenburg) into the territory (Pelser 2013), and 3. after 1600 AD, a group of Northern Ndebele who arrived from the south-east and settled in what is now the Mokerong district (Pistorius 2013).

The Voortrekkers arrived in the Steelpoort area in the late 1840's (Pelser 2013). Several armed struggles between the Voortrekkers and the Pedi ensued (Pelser 2013). After the British annexed the Transvaal (1877 to 1881), the Pedi group was subjugated by the British who were supported by the

Swazi during the war of Sekhukhune in 1879 (Pelser 2013). In 1842, Andries Hendrik Potgieter wished to move from the British sphere of influence and to establish trade relations with Delagoa Bay (Pelser 2013). He moved with his followers from Potchefstroom to the Eastern Transvaal and founded Ohrigstad (Pelser 2013). During 1848 to 1849, Ohrigstad was abandoned when many people died of malaria (Pelser 2013). The town of Lydenburg was founded further to the south near the confluence of the Sterkspruit and the Spekboom Rivers (Pelser 2013). The railway line between Steelpoort and Lydenburg was constructed in 1924 due to an increase in the mining of chrome and magnetite (Pelser 2013). The name Steelpoort is derived from a hunting expedition that took place either in the late 19th century or the early 20th century (Pelser 2013).

Thus, it was most likely due to the connection between the Lydenburg Valley Iron Age communities and the Steelpoort Valley Iron Age communities; combined with the rich history of peopling of the area, that Van Schalkwyk (2012) ascribed such a high grading to **Site T13**.

The Phase 2 Archaeological Mitigation Project (AMP) (Pelser 2013) served to fulfil the recommendations of the 2012 Phase 1 HIA by excavating a portion of **Site T13**. Due to the lack of surface finds, the excavation took place on an area of visible cattle dung that was part of the terracing and a possible cattle kraal (Pelser 2013). The excavation encompassed a 2m x 2m square, dug down through 25cm of dark brown soil to natural bedrock (Pelser 2013). The small amount of cultural material recovered from the excavation included some pottery fragments and metal fragments, as well as a few faunal remains (Pelser 2013). Four Middle Stone Age tools were also recovered, but these were not indicative of MSA occupation but rather re-use by the Iron Age occupants of the site (Pelser 2013).

Portions of **Site T12** were tested with several Shovel Test Pits (STP) in order to determine the depth of possible cultural deposits (Pelser 2013). **STP's A – D** were all approximately the size of a shovel head and they were dug on alternating terraces, from the bottom of the site moving up to the top (Pelser 2013). GPS Locations: S25 06.442 E29 49.605 (**A**); S25 06.445 E29 49.583 (**B**); S25 06.443 E29 49.553 (**C**); S25 06.437 E29 49.538 (**D**) (Pelser 2013).

Overall, the AMP concluded that even though the sites comprised an early Iron Age settlement and since the development would only be having a limited impact on the stone walled sites in the area, only a relatively small section of the terraced sites will be destroyed as a result (Pelser 2013). Therefore, from an archaeological perspective the development should be allowed to continue after the issuing of a destruction permit by SAHRA, taking cognizance of the following recommendations:

- should any significant archaeological features, such as possible granary pits, unmarked human burials and cultural material deposits be exposed during any development actions, work should be halted in the areas where they are discovered and an archaeologist must then be called in to investigate and recommend the best way forward (Pelser 2013).
- development work should only be limited to the area indicated originally. Should there be any amendments to the development footprint and location, this should be reported and the changes investigated to determine if any new sites and features could possibly be impacted (Pelser 2013).

The following features that formed part of **Site T13** were identified as sensitive during a site visit conducted prior to the destruction of the site (Steyn 2017):

7.1 MSS1

GPS coordinates: S25.107736; E29.826620.

Several low stone walls associated with the LIA, appearing to have been scattered throughout the site (Figure 1). One large (3m x 1.5m) rectangular stone-packed structure which was constructed from large rocks backfilled with smaller stones. Although this is most probably a platform associated with the surrounding LIA sites, there is a very small possibility that this feature might be a grave (Figure 2).



Figure 1 – Example of low stone walling



Figure 2 – Grave-like surface feature at MSS1

7.2 MSS2

GPS coordinates: S25.10702; E 29.82561.

As with MSS1, this site consists of several low stone walls associated with the LIA, appearing to have been scattered throughout the site. While not of the same dimensions and size as the platform at MSS1, MSS2 also contains a stone-packed structure that could also be associated with a grave (Figure 3).



Figure 3 – Surface of MSS2

Site Significance & Recommendations:

Once a new destruction permit has been issued by SAHRA, a heritage specialist should be present when the structures are destroyed, especially the large, elongated stone structure situated at MSS1 (S25.107736; E29.826620) (Steyn 2017). Under the small chance that the structure at MSS1 turns out to be a grave, a full grave relocation process will have to be initiated.

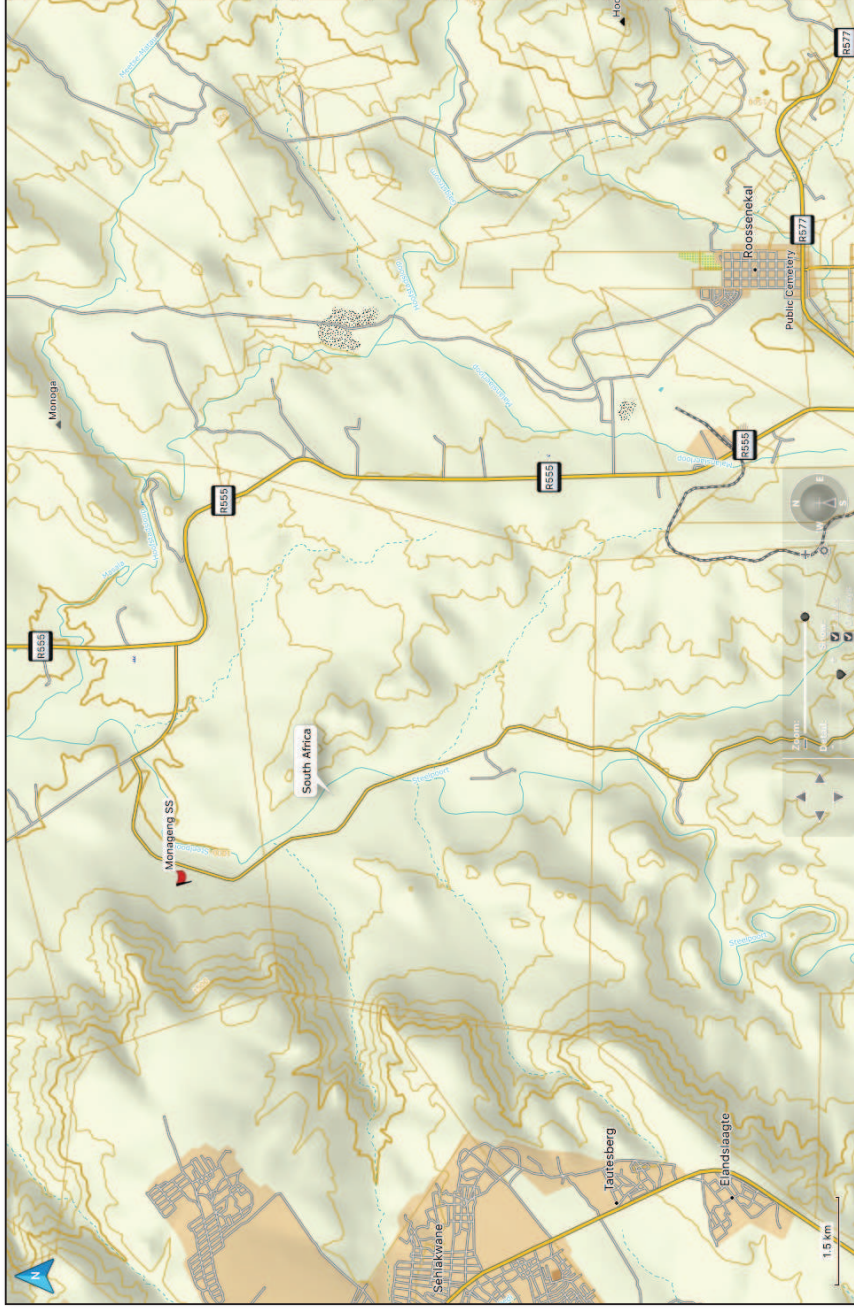


Figure 4 - Map of the proposed Eskom Monageng Switching Station Development, indicating Site T13



Figure 5 – Satellite image of sensitive features MSS1 and MSS2 at Site T13

8 KEY ISSUES

- Policy development for the management of heritage sites
- Possible pre-construction threats to sites;
- Identification of environmental and social threats to heritage sites;
- Management of mitigation measures for impacts;
- Management of heritage sites during construction; and
- Identification of research opportunities.

9 MANAGEMENT OBJECTIVES

9.1 Policy development

A policy relating to the management and conservation of heritage resources is developed in consultation with the client and all relevant role players. This policy is based on the IFC Performance Standard 8, and includes:

The protection of irreplaceable cultural heritage and is aimed to guide clients on protecting cultural heritage in the course of their business operations.

9.2 Objectives

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To promote the equitable sharing of benefits from the use of cultural heritage in business activities.

This policy covers all cultural heritage referring to tangible forms of cultural heritage, such as tangible property and sites having archaeological (prehistoric), palaeontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values, such as sacred groves.

The policy adheres to:

1. Protection of Cultural Heritage in Project Design and Execution
2. Internationally Recognized Practices

In addition to complying with relevant national law on the protection of cultural heritage, including national law implementing South Africa's obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage and other relevant international law, the client will protect and support cultural heritage by undertaking internationally-recognized practices for the protection, field-based study, and documentation of cultural heritage.

9.3 General Management Guidelines

- The National Heritage Resources Act (Act 25 of 1999) states that, any person who intends to undertake a development categorised as-
 - the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - the construction of a bridge or similar structure exceeding 50m in length;
 - any development or other activity which will change the character of a site-
 - exceeding 5 000 m² in extent; or
 - involving three or more existing erven or subdivisions thereof; or
 - involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - the re-zoning of a site exceeding 10 000 m² in extent; or
 - any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

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.

- In the event that an area previously not included in an archaeological or cultural resources survey, is to be disturbed, the Limpopo Provincial Heritage Resources Authority (LIHRA) needs to be contacted. An enquiry must be lodged with them into the necessity for a Heritage Impact Assessment.
- If a further heritage assessment is required, it is advisable to utilise a qualified heritage specialist / archaeologist, preferably registered with the Cultural Resources Management Section (CRM) of the Association of Southern African Professional Archaeologists (ASAPA).

- This survey and evaluation must include:
 - The identification and mapping of all heritage resources in the area affected;
 - an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7 of the National Cultural Resources Act;
 - an assessment of the impact of the development on such heritage resources;
 - an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
 - the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
 - if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
 - plans for mitigation of any adverse effects during and after the completion of the proposed development.
- Should a possible find be discovered during construction, all activities must be halted in the area of the discovery and a qualified archaeologist contacted.
- The archaeologist needs to evaluate the finds on site and make recommendations towards possible mitigation measures.
- If mitigation is necessary, an application for a rescue permit must be lodged with SAHRA.
- After mitigation, an application must be lodged with LIHRA for a destruction permit. This application must be supported by the mitigation report generated during the rescue excavation. Only after the permit is issued may such a site be destroyed.
- If during the initial survey sites of cultural significance are discovered, it will be necessary to develop a management plan for the preservation, documentation or destruction of such sites. Such a program must include a watching brief, timeframe and agreed upon schedule of actions between the company and the archaeologist / heritage specialist.

- In the event that human remain are uncovered or previously unknown graves are discovered, a qualified archaeologist must be contacted and an evaluation of the finds made.
- If the remains are to be exhumed and relocated, the relocation procedures as accepted by LIHRA need to be followed. This includes an extensive social consultation process.

9.3.1 Pre-Construction Phase

Based on the findings of the Heritage Impact Report, all stakeholders and key personnel should undergo an archaeological induction course during this phase.

Induction courses generally form part of the employees' overall training and the archaeological component can easily be integrated into these training sessions.

9.3.2 Construction Phase

The project will encompass a range of activities during the construction phase, including ground clearance, access road construction and excavations. It is possible that cultural material will be exposed during operations and feasibly may be recoverable, but this is the high-cost front of the operation, and so any delays should be minimised.

- Development surrounding infrastructure and construction of facilities results in significant disturbance, but construction trenches do offer a window into the past and it may be possible to rescue some of these data and materials.
- It is also possible that substantial alterations are implemented during this phase of the project and these must be catered for.
- Temporary roads and construction camps are often overlooked during the planning and implementation phases with regards to archaeological and heritage assessments, causing some unmitigated environmental damage.
- Temporary infrastructure is often changed or added to the subsequent history of the project. In general, these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.
- Similarly, the construction of transmission lines are low impact developments in archaeological terms, but excavation holes still may expose artefacts.

- **During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken.**
- A responsible archaeologist must be appointed for this commission. This person does not have to be a permanent employee, but needs to attend relevant meetings, for example when changes in design are discussed, and notify LIHRA of these changes.
- The archaeologist would inspect the site and any development recurrently, with more frequent visits to the actual workface and operational areas.
- In addition, feedback reports can be submitted by the archaeologist to the client and ECPHRA to ensure effective monitoring.
- Should a site or cultural material be discovered during construction (or operation), for example burials, the project needs to be able to call on a qualified heritage specialist / archaeologist to make an expert decision on what is required and, if necessary, to carry out emergency recovery.
- ECPHRA would need to be informed and may give advice on procedure.
- The developers thus should have some sort of contingency plans so that operations could move elsewhere temporarily while the material and data are recovered.
- The project thus needs to have an archaeologist / heritage specialist available to do such work.
- The purpose of the monitoring programme is to provide general information to the developer with regards to management recommendations and cost estimates for the archaeological component, as a specialist sub-section of the Basic Assessment (BA) process, for the project. Such a monitoring programme is planned for observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land where there is a possibility that archaeological deposit may be disturbed or destroyed.

The monitoring program (watching brief) outline is provided in Section 11.

9.4 Identification of threats

Threats to the heritage site in question are seen as:

9.4.1 Pre- construction operations

- Damage due to vegetation clearance;
- Temporary roads;
- Uncoordinated movement of personnel and machinery.

9.4.2 Construction operations

- Damage due to earthmoving;
- Sitting of construction camps;
- Dumping of overburden;
- Temporary roads;
- Erosion of heritage sites and deposits; and
- Uncoordinated movement of personnel and machinery.

9.5 Mitigation requirements

To be read and implemented with rest of document.

9.5.1 MSS1, MSS2 & MSS3

1) Site Recording, Destruction and Final Recommendations:

- Vegetation clearing should preferably be done by hand or should follow a low-keyed mechanical excavator clearance program.
- An archaeologist should be on site at all times during the destruction process and should have full say in directing the method of destruction.
- Theoretically, middens could be present on site, the conservation of which would be directly dependant on past post-depositional processes.

- Considering the site size, which is indicative of fairly significant temporal depth and occupation, graves can reasonably be expected to be present.
- Graves: The probable presence of graves remains a concern with reference to development impact.
- Should any graves be identified during the archaeological Phase 2 mitigation program or encountered during the course of development, the exhumation and reinternment of the human remains would be necessary. It is advised that SAHRA should comment on the suitability of such exhumation, as part of the archaeological Phase 2 mitigation program.

9.5.2 *Stone Age lithics*

Should be any stone artefacts, especially concentrations of stone artefacts, be identified during the archaeological Phase 2 mitigation program or encountered during the course of the initial vegetation clearance and subsequent earth-moving or construction activities, the archaeologist / heritage specialist would need to advise on the appropriate mitigation measures to be followed.

9.5.3 *General*

Should any heritage features or objects not included in the HIA be located or observed, a heritage specialist must be contacted immediately. Such observed or located heritage features and/or objects may not be disturbed or removed in any way, until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This applies to graves and cemeteries as well.

10 MANAGEMENT GUIDELINES FOR MITIGATION

The identified site (**Site T13**) to be impacted on by the clearance and construction activities will require mitigation as recommended by the AMP (Pelser 2013). The following process will be required if the identified site (**Site T13**) cannot be avoided and will be impacted directly:

1. Meeting on Site to identify final mitigation measures
 - Client
 - Archaeologist
 - Provincial Heritage Resources Authority
2. Application for permit to conduct mitigation excavations
 - Archaeologist - Physical documentation
 - SAHRA – Review application
 - Developer – Letter of agreement on work to be done and appointment of archaeologist
3. Physical Surveying of site layout in development area
4. Receiving of mitigation permit from SAHRA
5. Physical mitigation excavations, involving:
 - Archaeologist, with team of field assistants
6. Lab Analysis, if required, and Documentation completion – Reporting:
 - Archaeologist, with team of field assistants
7. Application for destruction Permit
 - Archaeologist – Application documentation and final report
 - SAHRA – Review and final authorisation
8. Commencement of full-blown construction

11 MONITORING PROGRAM (WATCHING BRIEF)

11.1 Aim

The following outline for the watching brief agreement conforms to international standards.

The purpose of a watching brief is:

- To allow, within the resources available, the preservation by recording of archaeological deposits, the presence and nature of which could not be established prior to the construction/ clearance activities.
- To provide an opportunity, if needed, for the watching archaeologist / heritage specialist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.

- A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.
- The objective of a watching brief is to establish and make available information about the archaeological resources existing on a site.
- An archaeologist / heritage specialist shall only undertake a watching brief which is governed by a written and agreed specification or project design prepared in advance of work commencing.
- The specification or project design must identify the objectives, scope, geographical area, and means of dissemination of the results of the watching brief, and incorporate a method statement and work programme.

11.2 Monitoring

All work must be monitored by an archaeological contractor approved by SAHRA, and the Cultural Resources Management Section of the South African Association of Archaeologists (CRM Section of ASAPA), or their nominated representatives. The guidance below is directed in general at monitors from outside the organisation undertaking the work, but many of the points apply equally to internal monitors or managers.

- A monitor should be suitably experienced and qualified, or have access to appropriate specialist advice.
- Monitoring must be undertaken against the written specification and/or project design.
- Monitors, where not representing the commissioning body, should bear in mind the need for flexibility, within the stated parameters, in contractual matters such as staff numbers, budgets or timetable.
- All monitoring visits must be documented and agreed by each party.
- Non-compliance with the agreed specification or project design must be pointed out by the monitor to the archaeologist undertaking the work, and their client if appropriate, at the earliest opportunity.

- Monitors should be aware of their professional and moral duties regarding Health and Safety, in particular, reporting and advising against bad and unsafe practices.
- All monitoring arrangements must be agreed at the outset of the project; the archaeologist undertaking fieldwork must inform the planning archaeologist or other monitor of the commencement of work with reasonable notice.
- Although monitors may choose to visit at any time, they should normally inform the archaeologist undertaking the work of any intended visits in advance. Monitors must respect reasonable requests from the client commissioning the work to attend only at prearranged times and, if necessary, in the company of the client's representative.
- Any costs for monitoring to be charged by the planning archaeologist or other monitor must be agreed in writing at the outset of the project.

11.3 Fieldwork in the event that excavation is required

All relevant parties must agree to the specification and/or project design before work commences. All work must conform to the agreed specification or project design. All relevant parties must agree to any variations in writing.

Sufficient and appropriate resources (staff, equipment, accommodation etc) must be used to enable the project to achieve its aims, the desired quality and timetable, and comply with all statutory requirements. Any contingency elements must be clearly identified and justified. It is the role of the archaeologist undertaking the work to define appropriate staff levels.

All techniques used must comply with relevant legislation and be demonstrably fit for the defined purpose(s).

All staff, including subcontractors, must be suitably qualified and experienced for their project roles, and employed in line with relevant legislation. The site director and/or manager should preferably be accredited as a Principal Inspector with the Cultural Resources Management Section of ASAPA.

All staff, including subcontractors, must be fully briefed and aware of the work required under the specification, and must understand the aims and methodologies of the project. All equipment must

be suitable for the purpose and in sound condition and comply with Health and Safety regulations and recommendations.

Full and proper records (written, graphic, electronic and photographic as appropriate) should be compiled for all work, using pro forma record forms and sheets as applicable. Digital records created as part of the project should comply with specified data standards. An archaeologist must ensure that digital information, paper and photographic records should be stored in a secure and appropriate environment, and be regularly copied or backed up, and copies stored in a separate location.

Artefact and environmental data collection and discard policies, strategies and techniques must be fit for the defined purpose, and understood by all staff and subcontractors

Environmental Health and Safety regulations and requirements cannot be ignored, no matter how imperative the need to record archaeological information; hence Health and Safety will take priority over archaeological matters. All archaeologists undertaking fieldwork must do so under a defined Health and Safety Policy.

Archaeologists undertaking fieldwork must observe safe working practices; the Health and Safety arrangements must be agreed and understood by all relevant parties before work commences.

Archaeologists must liaise closely with the principal contractor and comply with specified site rules. Archaeologists are advised to note the onerous responsibilities of the role of planning supervisor.

The archaeologist undertaking a watching brief must ensure that he or she has adequate insurance policies, public and employer's liability and some relevant form of civil liability indemnity or professional indemnity.

On arrival on site, the archaeologist should report to the site manager or other identified representative of the principal contractors or developers and conform to their arrangements for notification of entering and leaving site.

Where the archaeologist has by instruction or agreement the power to suspend development work, he or she shall, in exercising such power, follow procedures previously agreed with the other contractors on the site. Within the constraints of the nature of the archaeological resources, the archaeologist shall not cause unreasonable disruption to the maintenance of the work schedules of other contractors.

An archaeologist should keep a record of the date, time and duration of all visits, the number of staff concerned and any actions taken.

12 MONITORING PROGRAM REPORT – FEBRUARY 2018

12.1 Introduction

PGS staff arrived on site at 9:00AM, 12 February 2018 and after a short induction, visited site **MSS2** where the site manager, environmental officer and a mechanical excavator were all present. The surface features were documented, which included a large pile of packed stones covering about 5 square meters. The pile was carefully pushed aside with the mechanical excavator in stages and then about a 7m x 6m area was cleared of topsoil where the pile once stood. After this, a 4m x 5m square was excavated beneath the location of the pile to a depth of 1.7m. After every 1 m or so excavating, the heritage professionals would call for the digging to pause while they perused the area for cultural material or human remains. No cultural material or human remains were found in or around the site.

The same process was undertaken at site **MSS1** on the same day. The packed stone platform described in Steyn (2017), could have been a grave with its north-south orientation. The same process was followed as was undertaken at site **MSS2** and once again, no cultural material or human remains were uncovered in or around the site. A 3m x 1.5m pit was excavated to a depth of 1.7m where the pile of packed stones had been located. A secondary feature within close proximity to **MSS1**, called **MSS1.2**, was also processed in the same manner as the previous sites. This smaller stone packed platform was cleared and a 4m x 5m pit was excavated to a depth of 1.3m. No cultural material or human remains were uncovered in or around the site.

A third site, **MSS3**, was brought to attention of the PGS staff by the site manager, as another feature which they had avoided and wished to destroy, but which had not been documented in the Steyn (2017) site visit as a sensitive feature. As the destruction permit applied to all structures affected by construction activities, PGS proceeded with the same process applied at the other sites. **MSS3** comprised a few low stone walls as well as a stone packed mound, similar to the previous sites. Once the stone pile was cleared, a 5m x 5m pit was excavated to a depth of 1.3m deep. No cultural material or human remains were uncovered in or around the site.



Figure 6 – Initial clearing of MSS2



Figure 7 – Excavated pit at MSS2



Figure 8 – Surface of MSS1.1



Figure 9 – Initial clearing of MSS1.1



Figure 10 – Excavated pit at MSS1.1



Figure 11 – Surface of MSS1.2



Figure 12 – Initial clearing of MSS1.2



Figure 13 – Excavated pit at MSS1.2



Figure 14 – Surface of MSS3



Figure 15 – Excavated pit at MSS3

12.2 Findings And Discussion

By the end of the monitoring period, no significant cultural or human remains relating to the Late Iron Age had been uncovered. Fortunately, the features designated as particularly significant (*MSS1* & *MSS2*) in previous reports due to their resemblance to Iron Age grave mounds, were realised to be nothing more than probable grain bin platforms, as suggested by (Pelser 2013).

The same situation was found to occur at each of these features, where, after their clearing and excavation, no significant cultural or human remains were subsequently uncovered despite having carefully monitored for the exposure of pieces of pottery, stone tools and human remains. This indicates that the area designated for the development of the Monageng Switching Station was predominantly used for agricultural purposes and the 'sensitive' stone packed features mentioned in

the previous reports that were carefully monitored during their destruction, were most likely grain bin platforms and were not of any particularly significant heritage value.

Looking at the topographical map 2529BB (First Edition) from 1962, we can see that no heritage features are indicated on the map at the locations where they were detected during the various heritage projects conducted in the area (Figure 16). This is probably due to the heavy vegetation in the area and the sites might not have been discoverable when the original surveys were done for the 1st edition maps. There is also no indication of old, colonial structures in or near the site. Therefore the likelihood of uncovering any other remains, Iron Age or colonial, is highly unlikely.

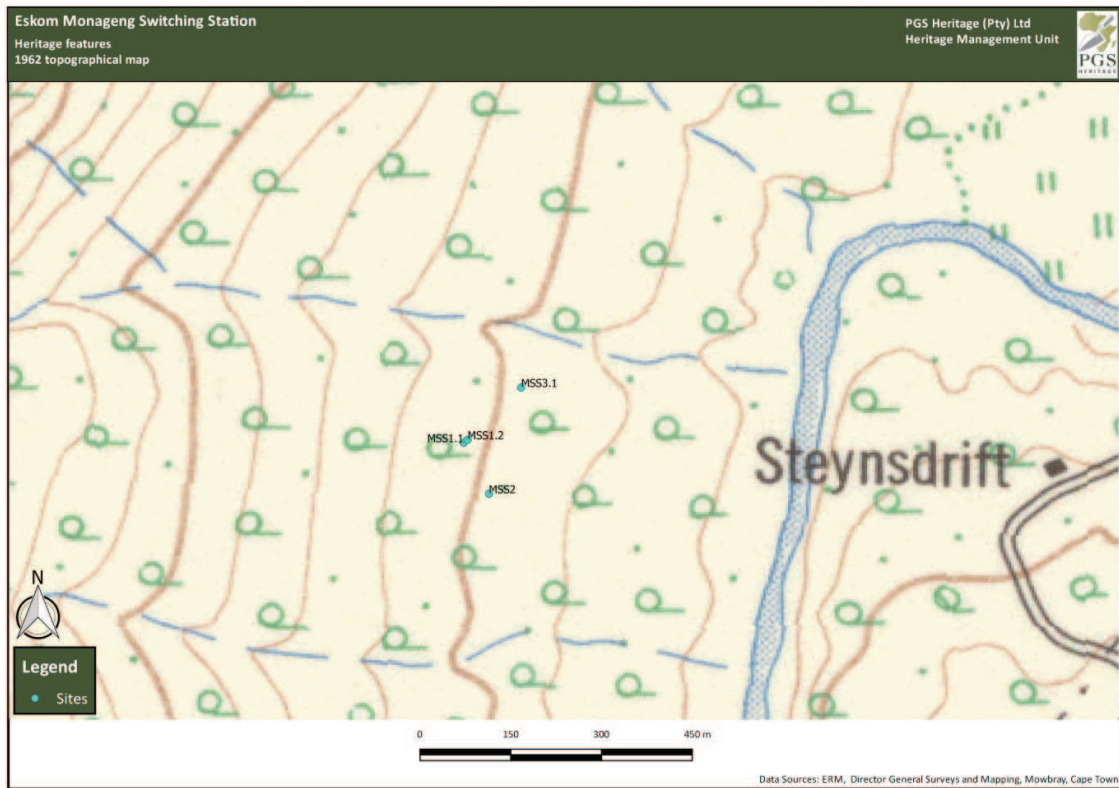


Figure 16 - Topographic Map 2529BB – First Edition 1962

12.3 Conclusion

This document outlines the Archaeological Mitigation and Monitoring for the construction activities associated with the Monageng Switching Station.

Eskom Holdings SOC Limited commissioned the implementation of this monitoring program to minimise possible impacts on heritage resources as per the recommendations of the completed Phase 2 Archaeological Mitigation Project (Pelser 2013) and the subsequently issued SAHRA Destruction Permit (CaseID: 11836; PermitID: 2666). An Archaeological Mitigation Programme was one of the conditions of SAHRA's approval for the continuation of the Monageng Switching Station development, and a requirement of the permit issued by the SAHRA (13/12/2017).

This document reports on the results of the monitoring program which took place on 12th February 2018. The program saw the destruction and clearing of four previously designated site features, during which no cultural or human remains were uncovered. Therefore, it is our professional opinion that there are no more significant heritage features within the development area and that the Eskom Monageng Switching Station development should continue unimpeded.

However, it must be noted that there is always a possibility that some archaeological or human remains may be uncovered during the construction process and under such circumstances, construction activities must be halted with immediate effect and a professional archaeologist must be contacted.

13 PREPARERS

Henk Steyn – Senior Heritage Specialist

Ilan Smeyatsky - Archaeologist

14 REFERENCES

Huffman, T. 2007. *Handbook to the Iron Age. The archaeology of pre-colonial farming societies in Southern Africa*. University of KwaZulu-Natal Press: Scottsville.

Pelser, A.J. 2013. *A Short Report on the preliminary mapping of a Stone Walled Late Iron Age Site impacted on by the development of the ESKOM Tubatse Switching Station, near Steelpoort in the Limpopo Province*. Unpublished Report APAC013/48 APELSER ARCHAEOLOGICAL CONSULTING cc. For: Savannah Environmental (Pty) Ltd. July 2013.

Pistorius, Dr. Julius C.C. 2013. *A Phase I Heritage Impact Assessment (HIA) study for ESKOM'S proposed new 132kV loop-in and loop-out Power Line from the 132KV Jane Furse/Merensky Power Line to the proposed new Grootboom Substation in the Steelpoort Valley in the Limpopo Province of South Africa*. Unpublished Report for the Polokwane Environmental

Management Limpopo Operating Unit. Mbofho Consulting and Project Management.
January 2013.

Steyn, H. 2017. Site Visit Report: Investigation of Possible Heritage Sites Near Roossenkall, Limpopo Province.

Van Schalkwyk, Dr. J.A. 2013. *Compilation of Construction Environmental Management Programmes for the Steelpoort to Marble Hall 400Kv Powerline and the Steelpoort Integration Project: Heritage Resources Assessment*. Unpublished Report 2012/JvS/060. For: Iliso Consulting - Amended January 2013.

LEGISLATIVE REQUIREMENTS – TERMINOLOGY AND ASSESSMENT CRITERIA**1 General principles**

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and paleontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the NHRA, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it. The management of heritage resources is integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a formal cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have an interest in the graves - they should be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle are to be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the construction company's cost. Thus, the construction company will be able to proceed without uncertainty about whether work will have to be stopped if an archaeological or heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that -

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects, meteorites and rare geological specimens;

- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video 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), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection to, all historic and pre-historic cultural remains, including graves and human remains.

2 Graves and burial grounds

Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the National Health Act (Act 63 of 2003) (NHA) and are under the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

Graves older than 60 years, but younger than 100 years, fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the NHA and are under the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administered by a local authority. Graves in the category

located inside a formal cemetery administered by a local authority will also require the same authorisation as set out for graves younger than 60 years, over and above SAHRA authorisation.

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

PROJECT PERMITS

Tubatse Switching Station**Our Ref: 16/1/5/9 Tubatse to Marblehall Powerline**

Enquiries: Jenna Lavin
 Tel: 021 462 4502
 Email: jlavin@sahra.org.za
 CaseID: 2920

Date: Tuesday August 20, 2013
 Page No: 1

PermitID: 606

**PERMIT: Excavation****In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)**

Permit Holder: Mr Anton Pelsler
 APelsler Archaeological Consulting
 P.O. Box 73703
 Lynwood Ridge
 0040

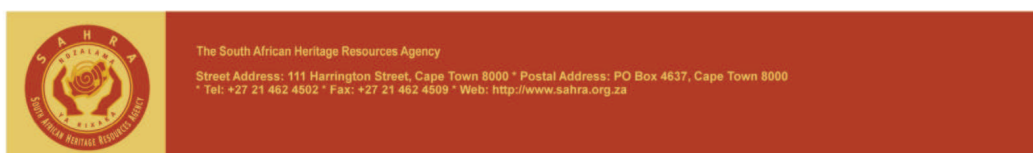
Site: Tubatse Switching Station Site 12 (T12) approximately at 25° 33' 55.2096" S, 30° 31' 40.476" E

This permit is for the mitigation of impact to the identified Late Iron Age Stone Walling site likely to be impacted by the construction of the Tubatse Switching Station. This permit is for the excavation and destruction of only those heritage resources which will be directly impacted by the proposed development.

Conditions:

1. If the permit holder is not to be present on the site at all times then SAHRA must be provided with the names and qualifications of the authorised representatives.
2. Adequate recording methods as specified in the Regulations and Guidelines pertaining to the National Heritage Resources Act must be employed. Note that the position of all excavations and objects collected must be marked on a plan of site.
3. A standard site record form must be lodged with the Lydenberg Museum.
4. All archaeological material collected and excavated, as well as field notes and records, will be curated by the Lydenberg Museum.
5. An annual progress report on the results of the excavations and analyses must be submitted to the heritage authority issuing this permit on 31 August 2014, and a final report is due on or before 31 August 2015.
6. Reprints of all published papers or copies of theses and/or reports resulting from this work must be lodged with SAHRA.
7. If a published report has not appeared within three years of the lapsing of this permit, the report required in terms of the permit will be made available to researchers on request.
8. It is the responsibility of the permit holder to obtain permission from the landowner for each visit, and conditions of access imposed by the landowner must be observed.
9. It is the responsibility of the permit holder to fill in excavations and protect sites during and after excavation to the satisfaction of the heritage authority and the landowner.
10. SAHRA shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities in connection with this permit.
11. SAHRA reserves the right to cancel this permit by notice to the permit holder.

This permit is valid from **20/08/2013 to 31/08/2014**.



Tubatse Switching Station

Our Ref: 16/1/5/9 Tubatse to Marblehall Powerline

Enquiries: Jenna Lavin
Tel: 021 462 4502
Email: jlavin@sahra.org.za
CaseID: 2920

Date: Tuesday August 20, 2013
Page No: 2

PermitID: 606



Jenna Lavin
Heritage Officer
South African Heritage Resources Agency

Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

Additional Info:

Please note that this permit may be suspended should an appeal against the decisions be received by SAHRA within 14 days from the date of the permit. SAHRA may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Tubatse Switching Station Destruction Permit Application

Our Ref: 16/1/5/9 Tubatse to Marblehall Powerline

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 2920

Date: Tuesday March 25, 2014
Page No: 1

PermitID: 1561



PERMIT: Destruction

In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Permit Holder: Ms Grace Motsoane

Eskom Holdings SOC Ltd

Megawatt House

Simba Road

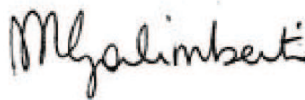
Sunninghill

Johannesburg

Site: Tubatse Switching Station Site 12 (T12)

1. If the permit holder is not to be present on the site at all times then SAHRA must be provided with the names and qualifications of the authorised representatives.
2. It is the responsibility of the permit holder to obtain permission from the landowner for each visit, and conditions of access imposed by the landowner must be observed.
3. SAHRA shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities in connection with this permit.
4. SAHRA reserves the right to cancel this permit by notice to the permit holder.

This permit is valid from **25/03/2014 to 30/04/2015**.



Mariagrazia Galimberti
Heritage Officer: Archaeology
South African Heritage Resources Agency



The South African Heritage Resources Agency

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* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Tubatse Switching Station Destruction Permit Application

Our Ref: 16/1/5/9 Tubatse to Marblehall Powerline

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 2920

Date: Tuesday March 25, 2014
Page No: 2

PermitID: 1561



Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

Additional Info:

Please note that this permit may be suspended should an appeal against the decisions be received by SAHRA within 14 days from the date of the permit. SAHRA may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.



The South African Heritage Resources Agency

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* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>

Tubatse Switching Station Destruction Permit

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11836

Date: Wednesday December 13, 2017
Page No: 1

Letter

In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Ms Lene Grobbelaar
Eskom Holdings SOC Limited
Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sunninghill
2157

Late Iron Age Stone Walled Sites impacted upon by the Eskom Tubatse Switching Station (now known as Manogeng Switching Station) located on Portion 1 of Steynsdrift 145 JS, Limpopo Province

Dear Ms Grobler,

Thank you for your application for a destruction permit related to Permit 1516. SAHRA has reviewed your application and decided to approve it.

We wish you every success with this project.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

Tubatse Switching Station Destruction Permit

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11836

Date: Wednesday December 13, 2017
Page No: 2

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/409332>

Tubatse Switching Station Destruction Permit

Our Ref:



an agency of the
Department of Arts and Culture

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South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11836

Date: Wednesday December 13, 2017
Page No: 1
PermitID: 2666

PERMIT: Destruction

In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Permit Holder: Ms Lene Grobbelaar
Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sunninghill 2157

Site: Tubatse Switching Station Site 12 (T12)

Conditions:

1. Monitoring must be done by a professional archaeologist during the destruction and a monitoring report submitted to SAHRA before 31 December 2018. It is preferred that the monitoring must be done by Mr Henk Steyn
2. It is the responsibility of the permit holder to obtain permission from the landowner for each visit, and conditions of access imposed by the landowner must be observed.
3. SAHRA shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities in connection with this permit.
4. SAHRA reserves the right to cancel this permit by notice to the permit holder.

This permit is valid from
13/12/2017 to 31/12/2018

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Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

Tubatse Switching Station Destruction Permit

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11836

Date: Wednesday December 13, 2017
Page No: 2
PermitID: 2666

Additional Info:

Please note that this permit may be suspended should an appeal against the decisions be received by SAHRA within 14 days from the date of the permit. SAHRA may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.

ADMIN: Direct URL to case: <http://www.sahra.org.za/node/409332>

APPENDIX C – CV'S OF TEAM

LINEREE DE JAGER

CURRICULUM VITAE

Email: linereepienaar@gmail.com

lineree@pgsheritage.co.za

ID: 891010 0072 083

Tax no.: 1871 144 0150

Nationality: South African

Languages: English and Afrikaans

Mobile: +27 (0) 71 471 3897

Office: +27 (0) 12 332 5305

Physical: 44 Doreen Street

The Reeds, 0157

Postal: P.O. Box 50992

Wierdapark, 0149

EDUCATION AND TRAINING

February 2017: Health and Safety Representative Course (EOH Legal)

September 2016: First Aid Level 1 Course (First-Aid Training SA, Certificate Number 16/5422)

June 2015: Science Writing and Presentation Skills workshop (NRF-National Research Foundation)

October 2015: Basic Project Management (NRF-National Research Foundation)

April 2014: BA (Hons) Archaeology at UNISA

Research dissertation: A spatial analysis of the Botshabelo Mission Station Graveyard Mpumalanga.

April 2012: BA Archaeology at UNISA

Majored in Archaeology and Anthropology with additional subjects in Biblical Archaeology, Philosophy and Ancient Near Eastern History

September 2012: Mapping and GIS workshop (Unisa)

Heritage Management Policy - Bengal Heights Residential Development

November 2007: Matriculated from Hoërskool Zwartkop

Afrikaans (B) English (A) History (A) Criminology (A) Geography (B) Biology (B) Maths (E)

KEY ATTRIBUTES

Meticulous attention to detail, written communication skills, ability to extract and analyse data, good communication skills, ability to work under pressure, computer literate, good organisational skills, good report writing.

SOCIETY MEMBERSHIP

(Since September 2011) South African Archaeology Society, Student member

(Since March 2016) South African Archaeology Society, Member

EMPLOYMENT HISTORY

Professional Grave Solutions (PGS) Heritage NRF Intern/Appointed as Archaeologist

April 2015 – Present

- Drafting of permit application
- Accessioning of artefacts
- Exhumation and relocation of graves
- Field survey methods
- Data analysis
- Map drafting and compilation
- Report writing
- Health and Safety Administration
- Stakeholder engagement on grave relocation projects
- Archival Research

Anton Pelser (Part time work experience)

August 2013

- Excavating, sorting, survey

FIELD WORK EXPERIENCE

Current: Exhumations at Tweefontein Open Cast, Mpumalanga Province (Project Assistant)

Current: Exhumations at Atcom Impunzi Open Cast, Mpumalanga Province (Project Manager)

Current: Exhumations at Anadarko, Afungi Mozambique area (Project Assistant)

Current: Exhumations at Orchards Development, Gauteng Province (Project Assistant)

Current: Exhumations at the R61 road expansion, Eastern Cape (Project Manager)

2017: Monitoring at Atcom Open Cast Coal Mine, Mpumalanga Province (Project Assistant)

2017: Excavations at Lotus Gardens Development, Gauteng Province (Project Assistant)

2017: Exhumations at Optimum Colliery (North Operations), Mpumalanga Province (Project Assistant)

2017: Survey at Sibanye mine for Heritage Management, Free State (Field Assistant)

2017: Exhumations at Zonnebloem, Mpumalanga Province (Project Manager)

2017: Exhumations at Sabrix, Gauteng Province (Project Assistant)

2017: Exhumations at Goedehoop Coal Mine, Mpumalanga Province (Project Assistant)

2017: Field survey at Tetra4 gold mine, Free State (assisting Polke Birkholtz)

2017: Exhumations at Atcom East Open Cast, Mpumalanga (Project Assistant)

2016: Exhumations at the R61 road, Eastern Cape (Field Assistant)

2016: Exhumations at Kroonstad, Free State (Project Assistant)

2016: Exhumations at Coega, Eastern Cape Province (Project Assistant)

2016: Exhumations at Nkomati Mine, Mpumalanga Province (Project Assistant)

2015: Field survey at the Jeanette Gold mine, Free State.

2015: Exhumations at Kgalabatsane, Gauteng Province (Project Manager)

2015: Exhumations at Wonderboom, Gauteng Province – Background research and report writing (assisting Henk Steyn)

2015: Johannesburg Zoo, Gauteng Province – Glass analysis, artefact cleaning, report writing and monitoring, (assisting Polke Birkholtz)

2015: Exhumations at Crystal Park, Gauteng Province – Archival research, report writing (Project Assistant)

2015: Field survey at Kroondal, North West Province – Measuring and map drafting of Iron Age sites (assisting Polke Birkholtz)

2013: Excavation at Lafarge, Polokwane (assisting Anton Pelsler)

2013: Unisa Archaeological Fieldwork Excursion at Botshabelo Mission Station (field supervisor, graveyard recording team).

2012: Unisa Archaeological Fieldwork Excursion at Magoro Hill – Limpopo Province
(excavator)

2011: Unisa Anthropological Field Excursion, Buysdorp - Limpopo Province

CONFERENCE PRESENTATIONS

August 2015: Accepted to present a poster A spatial analysis of the Botshabelo Mission Station Graveyard Mpumalanga at the ASAPA (Archaeological Society for Professional Archaeologists) Conference in Zimbabwe.

REFERENCES

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ILAN SMEYATSKY
Professional Archaeologist

Personal Details

- **Name:** Ilan
- **Surname:** Smeyatsky
- **Identity Number:** 9109275072080
- **Date of Birth:** 27-09-1991
- **Citizenship:** South African
- **Gender:** Male
- **Marital Status:** Single
- **Languages Spoken:** English

Education History

2010-2013: BSc Bachelors Degree

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology
- Psychology
- Statistics
- Research Design and Analysis
- 67% Pass (**2:1 Qualification**)

2014: BSc (Hons) in Archaeology

AWARDS:

- Received the 2014 Center of Excellence in Palaeoscience award - **Bursary to the value of ZAR 30000 ≈ \$2500**
- Received the Post-Graduate Merit Award in 2015 for academic merit for my Honours academic results - **Bursary to the value of ZAR 25000 ≈ \$1800**

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology

- Excavation techniques
- Theory
- 69% Pass (**2:1 Qualification**)
- **Distinction** received for thesis entitled: “Stylistic variation in Later Stone Age tanged arrowheads: a pilot study using geometric morphometrics”

2015-2017: MSc by Research (Archaeology)

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology
- Statistical analysis
- GIS (Geographic Information Systems)
- Thesis entitled: “Discerning and explaining shape variations in Later Stone Age tanged arrowheads, South Africa”

Aug 2016 –

Jan 2017: Semester of Archaeology Masters

AWARD: Received the 2016 AESOP+ full Masters scholarship to study at Uppsala University, Uppsala, Sweden – **Scholarship to the value of ZAR 160,000 ≈ \$11,000**

Uppsala University, Uppsala, Sweden

- Archaeological theory
- GIS (Geographic Information Systems)
- Invitational research

Employment History

Part time employment as a student:

- **2009-2013:** Part-Time Electrician Apprentice: Assisting in home electrical repair jobs.
- **2014-2015:** Lab Research Assistant: Analysing and classifying lithic artefacts, Data capturing, Mentoring trainee research assistants.

Experience in the field of archaeology:

- **2013-2015: Fieldwork/Excavator - Responsibilities:** Feature detection, excavation, sieving, sorting, analysis, soil sampling, field documentation, ‘dumpy’ operation , Total Station operation, DGPS operation, rock art tracing and photography, engraving tracing and photography.
 - South African excavations:
 - Early Stone Age excavation at Maropeng World Heritage Site in Gauteng (1 Week – August 2015)
 - Pig cadaver exhumation as part of forensic experiment near Pretoria, Gauteng (1 Week – December 2014) - Praised for having the determination of returning for each subsequent excavation day as it was performed on a purely volunteer basis and the work conditions were particularly strenuous - Dr. Coen Nienaber
 - Iron Age excavation at Komati Gorge, Mpumalanga (1 Week – August 2014) - Praised for being exceptionally “methodical and proficient” with my excavation techniques – Dr. Alex Schoeman
 - Rock art fieldwork at Komati Gorge, Mpumalanga (1 Week – August 2014)
 - Underwater archaeology site mapping Komati Gorge, Mpumalanga (1 Week – August 2014)
 - Early Stone Age excavation at Maropeng World Heritage Site in Gauteng (2 Weeks - September 2013) - Personally uncovered some of the only stone tools (~1.8 million years old) found during that digging season.
- **2016: Excavation Supervisor - Responsibilities:** Supervision of two junior excavators, site detection, decision of excavation grid placement, excavation, sieving, sorting, soil sampling, field documentation.
 - Historical (farm site) excavation at Graaff-Reinet, Eastern Cape, South Africa (2 Weeks)
 - Completed dig 1 week ahead of schedule aided by my efficient direction, drive and support to the excavators under my supervision.

2017 – PRESENT: Intern Archaeologist – PGS Heritage: Heritage Impact assessments, background research, report writing, permit applications, collections management, stakeholder engagement and grave relocations