



**SATIVA TRAVEL AND ENVIRONMENTAL
CONSULTANTS (PTY) LTD**

**PHASE 1:
ARCHAEOLOGICAL IMPACT ASSESSMENT**

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT FOR PROPOSED JOHN
TAOLE GAETSEWE SCHOOL AND HOSTELS ON PORTION 0 OF THE FARM MOTITON 509
HM IN DITHAKONG, JOE MOROLONG LOCAL MUNICIPALITY, NORTHERN CAPE
PROVINCE**

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DOCUMENT INFORMATION

Item	Description
Proposed development and location	The development of a new school with boarding facilities, teacher's houses and associated infrastructure on Portion 0 of the farm Motiton 509 HM (Dithakong Village) in Northern Cape Province.
Title	Proposed school development in Joe Morolong Local Municipality of Northern Cape Province: Archaeological and Heritage Impact Assessment Report
Purpose of the study	The purpose of this document is an Archaeological and Heritage Impact Assessment report that describes the cultural values and heritage factors that may be impacted on by the proposed construction of a new school with boarding facilities and associated infrastructure located in the North Cape Province near Kuruman.
1:50 000 Topographic Map	2723 CA
Coordinates	See Table 2
Municipalities	Joe Morolong Local Municipality.
Predominant land use of surrounding area	Grazing and residential on the eastern edge of the site
Developer	Independent Development Trust (IDT) on behalf of the Department of Education
Heritage Consultant	Sativa TEC (Pty) Ltd.135 Pitzer Road, Glen Austin 1685
Date of Report	Final Report 30 May 2016
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NC Dept of environment and agriculture Ref	NC/BA/07/JTG/JOE/KAR1/2016
Sativa TEC Ref	STEC/ENV/NC/01/2016

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Authorship: This A/HIA Report has been prepared by Mr Trust Mlilo and Dr. F. Bandama (Professional Archaeologist). The report is for the review of the Heritage Resources Agency (PHRA).

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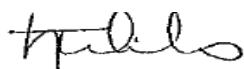
Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

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

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

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation of proposed school development project being proposed by Independent Development Trust (IDT) on behalf of the Department of Education.

Signed by



02 June 2016

Review and Approval

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ACKNOWLEDGEMENTS

The authors acknowledge UM Consultants, IDT, Ba Bothithong Traditional Authority and Department of Education for their assistance with project information, and the associated project BID as well as responding to technical queries related to the project.

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EXECUTIVE SUMMARY

This Archaeological and Heritage Impact Assessment (AIA/HIA) Report has been prepared to address requirements of the National Heritage Resources Act, Act 25 of 1999, Section 38. Sativa TEC (Pty) Ltd (STEC) was commissioned by UM Consultants (Pty) Ltd to conduct this Archaeological and Heritage Impact Assessment (AIA/HIA) Study for the proposed school development. The proposed school is located at Dithakong Village within the Joe Morolong Local Municipality area of the Northern Cape Province. This report includes an impact study on potential archaeological and cultural heritage resources that may be associated with the proposed school development project site. This study was conducted as part of the specialist input for the Environmental Impact Assessment exercise. The proposed development consists of:

- Construction of a school with boarding facilities and associated infrastructure

As such, the study area covers the site for the proposed school, hostels and associated developments. The proposed development site has been provided by the Ba Bothithong Traditional Authority and endorsed by the developer and the Northern Cape Provincial Department of Education. The project information has been passed to STEC research team by the project engineers. Analysis of the archaeological, cultural heritage, environmental and historic contexts of the study area predicted that archaeological sites, cultural heritage sites, burial grounds or isolated artefacts were likely to be present on the affected landscape. The field survey was conducted to test this proposition and verify this prediction within the proposed school development site. The proposed development site is located at Dithakong Village, North West of Kuruman town. The general project area is predominantly agriculture (livestock rearing) and mining.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed project.

- Most sections of the project area are very accessible and the field survey was effective enough to cover all sections of the project receiving environs. However, some small portions of the proposed school development site had limited access because of the thick vegetation cover.
- The immediate project area is predominantly agricultural (grazing) and residential.
- Some sections of the proposed development site are severely degraded from existing developments such as village roads.
- The study did not record any archaeological site at the proposed school development site.

The report sets out the potential impacts of the proposed development on heritage matters and recommends appropriate safeguard and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

- Should construction work commence for this project:
 - ❖ The school construction teams should be inducted on the possibility of encountering archaeological resources that may be accidentally exposed during subsurface construction prior to commencement of work on the site in order to ensure appropriate mitigation measures and that course of action is afforded to any chance finds.
 - ❖ If archaeological materials are uncovered, work should cease immediately and the SAHRA be notified and activity should not resume until appropriate management provisions are in place.
 - ❖ The findings of this report, with approval of the SAHRA, may be classified as accessible to any interested and affected parties within the limits of the legislations.

This report concludes that the impacts of the proposed development of the cultural environmental values are not likely to be significant on the entire development site if the EMP includes recommended safeguard and mitigation measures identified in this report.

ABBREVIATIONS

AIA	Archaeological Impact Assessment
ECO	Environmental Control Officer
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EM	Environmental Manager
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
IDT	Independent Development Trust
LIA	Late Iron Age
NHRA	Nation Heritage Resources Act, Act 25 of 1999
PM	Project Manager
PHRA	Provincial Heritage Agency
SM	Site Manager
STEC	Sativa Travel and Environmental Consultants (Pty) Ltd
SAHRA	South African Heritage Resources Agency

Key concepts and terms

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

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

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

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

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

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

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

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

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

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

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

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

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

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

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

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

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

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

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

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

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

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

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

introduction

Background

This Archaeological and Heritage Impact Assessment (A/HIA) Report has been prepared by Sativa Travel and Environmental Consultants (Heritage Division) for the purpose of Environmental Impact Assessment for UM Consultants on behalf of Independent Development Trust and the Department of Education. Independent Development Trust is proposing to construct a new school and hostels on behalf of the Northern Cape Department of Education. The proposed school is located at Dithakong Village in the Joe Morolong Local Municipality of Northern Cape Province. This report details the field study, results of the study as well as discussion on the anticipated impacts of the proposed development as is required by the National Heritage Resources Act, Act 25 of 1999 Section 38. It focuses on identifying and assessing potential impacts on archaeological resources as well as on other physical cultural properties including historical heritage resources in relation to the proposed school development. STEC heritage specialists undertook the assessments, research and consultations required for the preparation of the report comprising archaeological and heritage impacts for the purpose of ensuring that the cultural environmental values are taken into consideration and reported into the EIA processes.

The study was designed to ensure that any significant archaeological or cultural physical property or sites are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the proposed development. The assessment includes recommendations to manage the expected impact of the proposed school development. The report includes recommendations to guide heritage authorities in making appropriate decision with regards to the environmental approval process for the proposed development. The report concludes with detailed recommendations on heritage management associated with the school development work. STEC, an independent consulting firm, conducted the assessment; research and consultations required for the preparation of the archaeological and heritage impact report in accordance with its obligations set in the NHRA as well as the environmental management legislations.

In line with SAHRA guidelines, this report, not necessarily in that order, provides:

- 1) Management summary
- 2) Methodology
- 3) Information with reference to the desktop study
- 4) Map and relevant geodetic images and data
- 5) GPS co-ordinates
- 6) Directions to the site

- 7) Site description and interpretation of the cultural area where the project will take place
- 8) Management details, description of affected cultural environment, photographic records of the project area
- 9) Recommendations regarding the significance of the site and recommendations regarding further monitoring of the site
- 10) Conclusion.

Location of the proposed school development site

The proposed development is located on Portion 0 of the Farm Motiton 509 HM, at Dithakong Village in Joe Morolong Local Municipality of the John Taolo Gaetsewe District Municipality, Northern Cape Province. IDT on behalf of the Northern Cape Department of Education intends to construct a new school with boarding facilities at Dithakong Village in the Northern Cape Province. The development will entail the construction of a school, hostels and associated infrastructure. The Northern Cape Department of Education saw a need to construct the new John Taole Gaetsewe School with boarding facilities at Dithakong Village within Joe Morolong Local Municipality of the Northern Cape. The school will be constructed on a 16 hectares land (Farm Motiton 509 HM) owned by Ba Bothithong Traditional Council (Refer to Fig. 1 – Google Site Map).

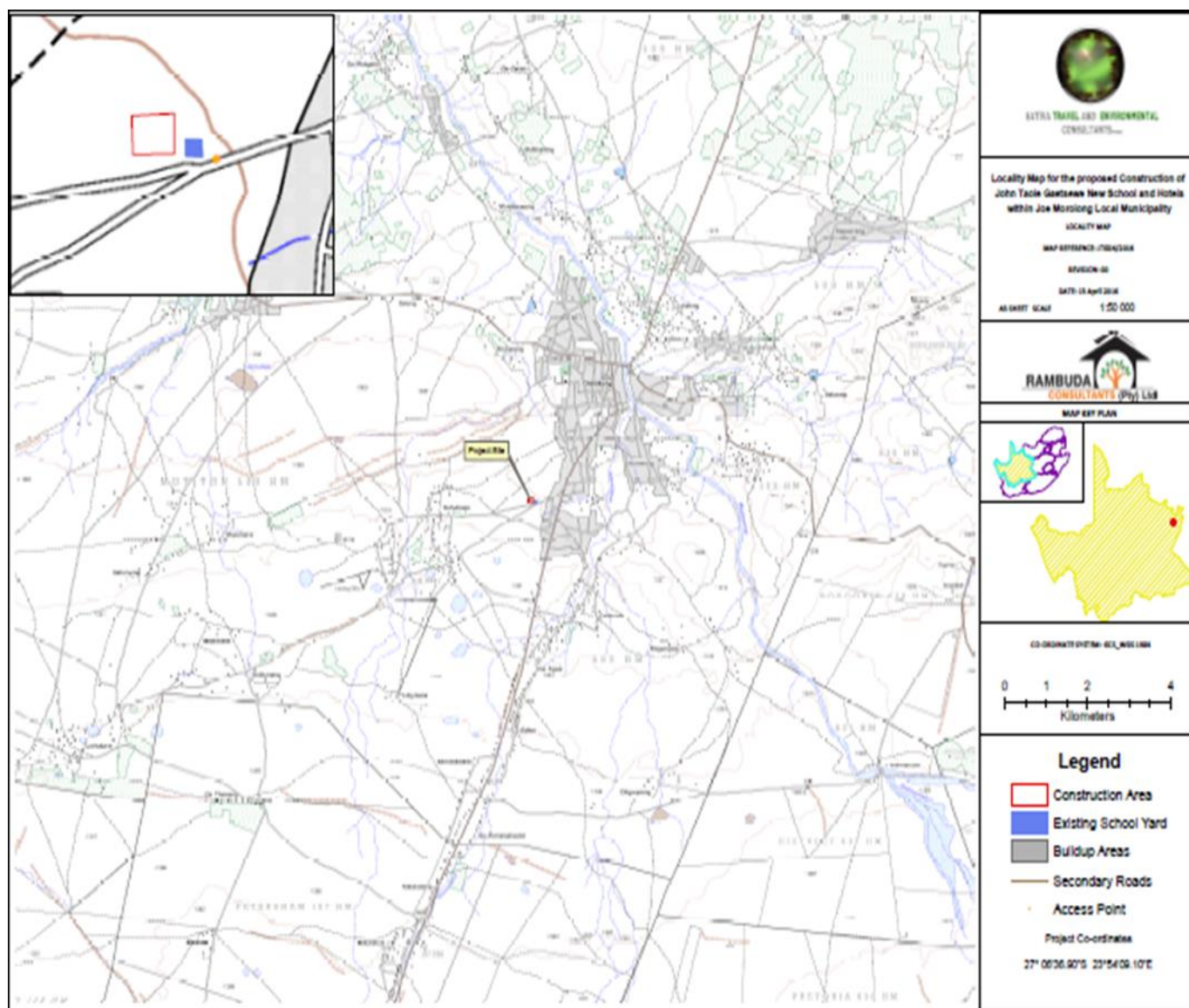


Figure 1: Site and directions to access to the proposed school development site.

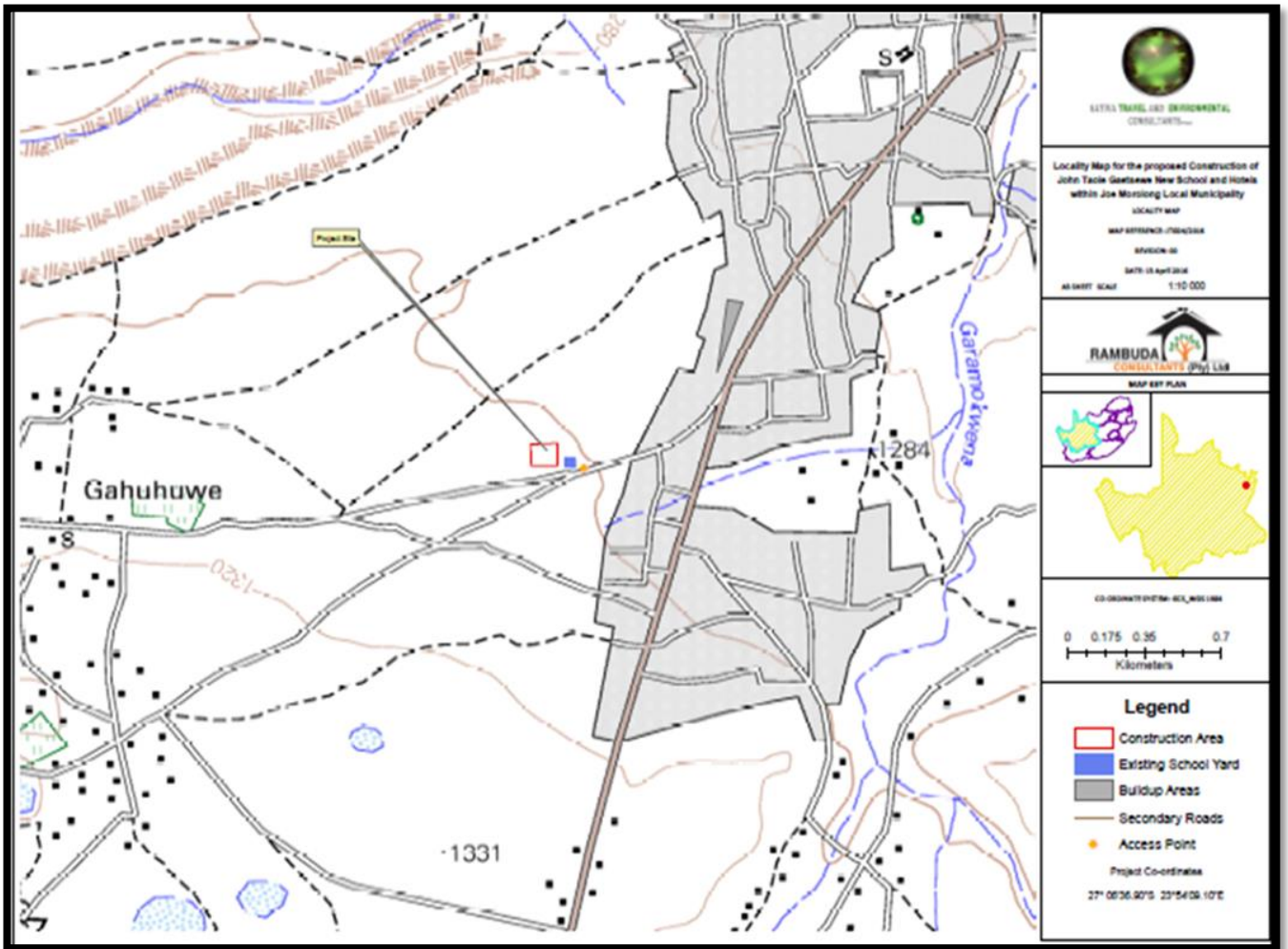


Figure 2: Site and directions to access to the proposed school development area

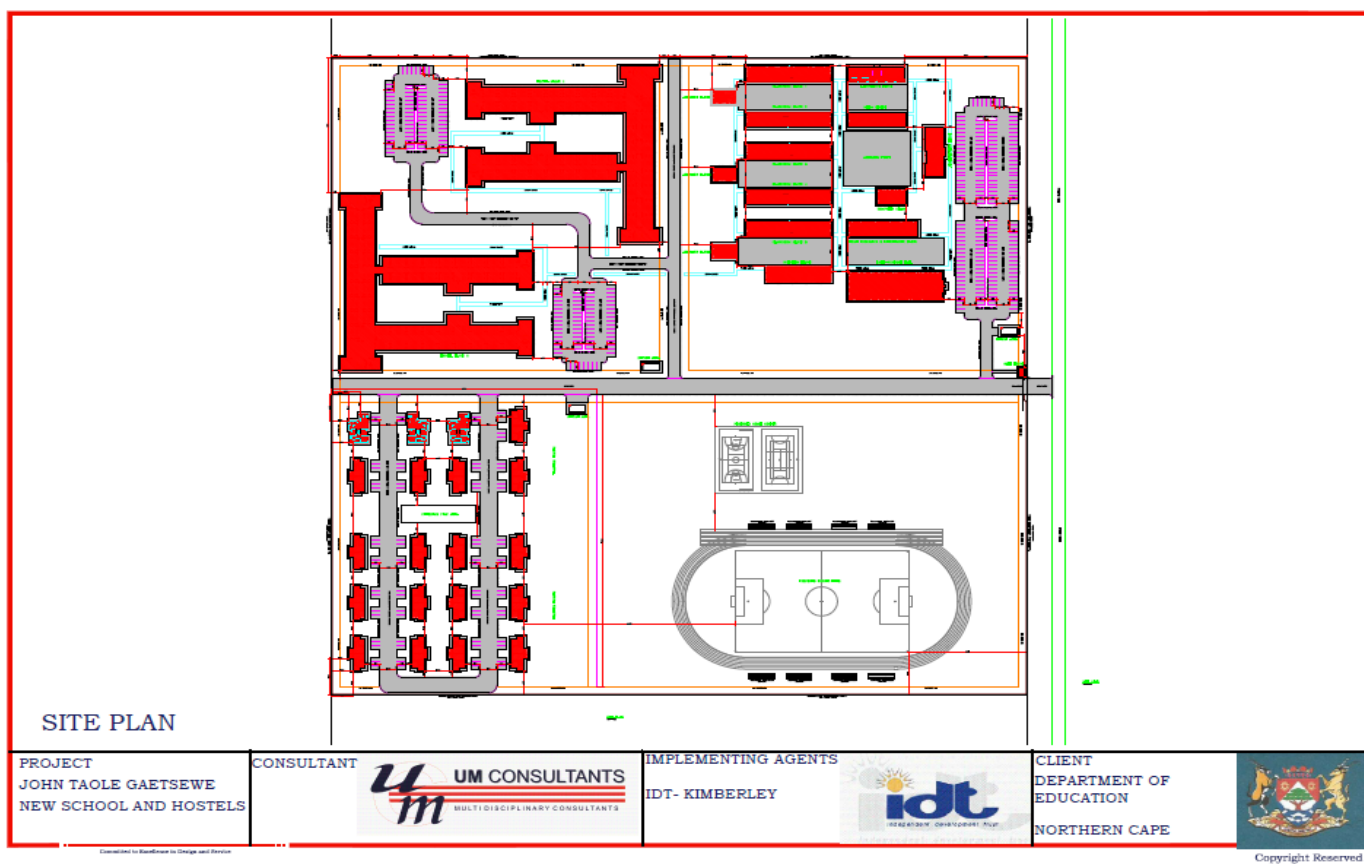


Figure 3: Site plan for the proposed development

LEGAL REQUIREMENTS

This A/HIA report is a component of a broader EIA Report and addresses the requirements of Section 38 of the NHRA Act 25 of 1999 and EIA Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment. The statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Resources Act, Act 25 of 1999 and auxiliary regulations. Therefore, in pre-development context, heritage impact assessment study is conducted to fulfil the requirements of Section 38 (1) of the National Heritage Resources Act (No 25 of 1999).

The legislations requires that when constructing a linear development exceeding 300m in length or developing an area exceeding 5000 m² in extent, the developer must notify the responsible heritage authority of the proposed development and they in turn must indicate within 14 days whether an impact assessment is required. The NHR Act notes that “any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent”, the heritage authority here being Provincial Authority (PHRA-NC).

Both the national legislations and provincial provisions provide protection for the following categories of heritage resources:

- Landscapes, cultural or natural;
- Buildings or structures older than 60 years;
- Archaeological Sites, palaeontological material and meteorites;
- Burial grounds and graves;
- Public monuments and memorials;
- Living heritage (defined as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Also see Appendix 4).

TERMS OF REFERENCE

The author was instructed to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of school development area including any known data on affected areas;
- Provide details on methods of study; potential and recommendations to guide the PHRA provincial authority to make an informed with regards to authorization of the proposed development.

PHOGRAPHIC PRESENTATION OF THE PROJECT SITE



Plate 1: Photo 1: View of proposed school development site (Photograph © by Author 2016).



Plate 2: Photo 2: View of common vegetation species common at the site (Photograph © by Author 2016).



Plate 3: Photo 3: Full view of proposed development and new residential area in the background (Photograph © by Author 2016).



Plate 4: Photo 4: View of general topography of the project area (Photograph © by Author 2016).



Plate 5: Photo 5: View of proposed school development site (Photograph © by Author 2016)



Plate 6: Photo 6: South western view of the proposed development site (Photograph © by Author 2016)



Plate 7: Photo 7: South western view of the project area (Photograph © by Author 2016)



Plate 8: Photo 8: View of rock outcrop on the southern tip of the proposed development site (Photograph © by Author 2016)



Plate 9: Photo 9: View of Ba Bothithong Traditional Council members at the proposed development site (Photograph © by Author 2016)



Plate 10: Photo 10: Members of Ba Bothithong Traditional Council inspecting the proposed development site (Photograph © by Author 2016)



Plate 11: Photo 11: View of the chief and some members of Ba Bothithong Traditional Council enjoying some wild berries during assessment of the proposed development site (Photograph © by Author 2016)

Methodology

The proposed school development requires clearance and authorisation from government compliance agencies including the heritage authority of SAHRA. Key A/HIA objectives for this project are to:

- Fulfil the statutory requirements of the National Heritage Resources Act, Act 25 of 1999.
- Identify and describe, (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the proposed school development project. This study searched for sites and features of traditional historical, social, scientific, cultural and aesthetic significance within the affected study area; the identification of gravesites.
- Assess the significance of the resources where they are identified.
- Evaluate the impact thereon with respect to the socio-economic opportunities and benefits that would be derived from the proposed development.
- Provide guidelines for protection and management of identified heritage sites and places (including associated intangible heritage resources management that may apply).
- Consult with the affected and other interested parties, where applicable, in regard to the impact on the heritage resources in the project's receiving environment.
- Make recommendations on mitigation measures with the view to reduce specific adverse impacts and enhance specific positive impacts on the heritage resources.
- Take responsibility for communicating with the SAHRA and other authorities in order to obtain the relevant permits and authorization with reference to heritage aspects.

In order to meet the objectives of the A/HIA Phase 1 study, the following tasks were conducted: 1) site file search, 2) limited literature review, 3) consultations with the affected communities, 4) completion of a field survey and assessment and 5) analysis of the acquired data and report production. The following tasks were undertaken:

- Preparation of a predictive model for archaeological heritage resources in the study area.
- A review and gap analysis of archaeological, historical and cultural background information, including possible previous heritage consultant reports specific to the affected project area, the context of the study area and previous land use history as well as a site search;
- Field survey of the proposed school site within the study area, in order to test the predictive model regarding that heritage sites in the area;
- Physical cultural property recording of any identified sites or cultural heritage places;
- Identification of heritage significance; and

- Preparation of A/HIA report with recommendation, planning constraints and opportunities associated with the proposed development.

Walking surveys were conducted in order to identify and document archaeological and cultural sites within the proposed school development site. Formal settlements, grazing lands; village roads and main road infrastructures, bulk water pipelines, existing transmission and distribution and other auxiliary infrastructures dominate the affected project area. The entire project area was accessible through a network of main roads, district roads and farm tracks used to access the settlements. Although limited sections of ground surface were covered with grass and thick bushes, this did not hinder identification of possible archaeological sites in surveyed areas particularly those earmarked for the school development. Geographic coordinates were obtained with a handheld Garmin GPS global positioning unit. Photographs were taken as part of the documentation process during field study.

Assumptions and Limitations

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

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, and the sections exposed by erosion or field ploughing. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information would apply. It should however, be noted that these do not invalidate the findings of this study in any significant way:

- The proposed school development will be limited to specific right of site as detailed in the development layout (Figure 2 & 3).
- The construction team to provide link and access to the proposed site will use the existing access roads and there will be no construction beyond the demarcated site.
- No excavations or sampling were undertaken, since a permit from heritage authorities is required to disturb a heritage resource. As such the results herein discussed are based on superficially observed indicators.

However, these surface observations concentrated on exposed sections such as road cuts and clear farmland.

- This study did not include any ethnographic and oral historical studies nor did it investigate the settlement history of the area.

Consultation

STEC team consulted the Ba Bothithong Traditional Council and members participated in the inspection of the site (see plate 9, 10 &11). The chief and members of the Ba Bothithong Traditional Council confirmed that the proposed development site has been used as grazing land and they are not aware of any cultural site or activity associated with the site. The study team also consulted the Robert Moffat Museum in Kuruman for any reference to heritage material in the project site. The consultation assisted in verifying the potential of any archaeological and heritage resources on the proposed development site.

culture history background of the project area

Stone Age Archaeology

Stone Age archaeology is prevalent in the larger geographical area, especially to the south and east of the study area but generally, the Dithakong area does not seem to have attracted much of habitation, save for the two Late Stone Age rock shelters that occur north and south of GaMohaana hills. Perhaps the lack of large rock-shelters, the domination of exposed environments and the lack of preferred stone raw materials for tools, dissuaded early man (ESA ~ 2.6 million to 250 000 years ago) from occupying this part of the area. Further to the southwest and southeast of this area, the ESA is very well represented at sites such as Kathu Pan 1, Kathu Townlands, Bestwood 1 (Wilkins and Chazan 2012; Chazan et al. 2012; Walker et al. 2014) and Wonderwerk Cave (Thackeray et al. 1981). All of the above sites produced well-made Acheulean hand axes and cleavers, as well as Fauresmith lithic materials that are transitional between the Acheulean (ESA) and the MSA.

It must be stressed that ESA sites are not only limited to areas that are south of the study area but also occur to the northwest, especially close to Black Rock and Gloria Mines near the town of Hotazel (Kusel et al. 2009; Pelsner and Van Vollenhoven 2011).

The ESA is generally associated with the earlier Oldowan industry (marked by crude choppers and other unifacial core tools), followed by the still large but better fashioned hand axes and cleavers of the Acheulean technocomplex (Deacon and Deacon 1999). The Fauresmith Industry is characterized by a prepared core technology that produced both blades and points, making it transitional between the ESA and the MSA (~ 250 000 to 40-25 000 years ago) (Porat et al. 2010; Wilkins and Chazan 2012; Walter et al. 2014). Until recently, the Fauresmith Industry was poorly defined, being mostly identified based on the co-occurrence of Levallois points and handaxes (Beaumont and Vogel 2006: 224), and prepared cores, blades, and 'side-scrapers on flakes' (Beaumont 1990:79).

The MSA is better understood as a flake-technological stage characterized by faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology (Barham and Mitchell 2008). In the area under study, MSA material mostly occur on the same sites with ESA material, suggesting longer sequences of occupation that have allowed researchers to probe into the behavioural changes that influenced these technological developments (Porat *et al.* 2010; Walker et al. 2014). Thus, characteristic MSA have been reported at sites such as Kathu Pan 1 (Wilkins and Chazan 2012), Wonderwerk Cave (Beaumont and Vogel 2006), but they also have been reported in isolated clusters (van Vollenhoven and Pelsner 2012). At Wonderwerk Cave, the MSA component was associated with pieces of haematite and several incised stone slabs, most with curved parallel lines that add to the behavioural shifts that went beyond stone tools and ushered in the appreciation of art (Beaumont and Vogel 2006).

More technological and behavioural changes than those witnessed in the MSA, occurred during the LSA (~ 40-25 000, to recently, 100 years ago), which is also associated with Homo Sapiens (Barham and Mitchell 2008). For the first time there is evidence of people's activities derived from material other than stone tools (ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments) (Deacon and Deacon 1999). The LSA people are also credited with the production of rock art (engravings and paintings), which is an expression of their complex social and spiritual beliefs (Parkington et al. 2008). In the area under study, the two LSA rock shelters to the south and the north of GaMohaam Hill are the only known archaeological remains that are closer to the study area (van der Walt 2013). Not much is known about these rock shelters, save for the fact that they have LSA material that include rock paintings (Morris 2010; van der Walt 2013: 18).

In terms of characterization, the lithic succession at Wonderwerk Cave serves as a benchmark for the Stone Age sequence of the Northern Cape (Beaumont and Vogel 2006; Kusel et al. 2009). The sequence comprises an uppermost LSA sequence that contains Ceramic LSA, Wilton and Oakhurst industries. Some researchers have named the earlier LSA industry of the region as the Oakhurst industry (some have labelled this local variant the Kuruman), characterized by rare retouched artefacts, most of which are large scrapers that are oblong with retouch on the side. However, it is not necessary to belabour the descriptions of these industries, especially because no LSA remains were recovered on the proposed development footprint. All the same, variants of the LSA industries were located at other sites such as Kathu Pan 1 (Porat et al. 2013) have been reported. At this site, ostrich eggshell fragments, beads and lithic artifacts attributed to Wilton and Albany industries were found. It also important to note that, it is still possible to encounter isolated finds during construction and when this happens, the procedure (described in detail below) for reporting chance finds must be followed.

Iron Age Archaeology 10

Agriculturalist communities entered southern Africa from West and East Africa around AD 200 and brought with them settled agriculture, metal working, animal husbandry, pottery making and social stratification (Huffman 2007). The view that all of these activities were introduced to southern Africa by these agriculturalists communities is still contested. The movement and spread of these EIA (~ AD200-1000) people within southern Africa seem to have been restricted to the summer rainfall (because of sorghum and millet farming) and they did not occupy much of the central interior Highveld area in South Africa. This perhaps explains the paucity of EIA sites in the study area. Ecologically, EIA preferred to settle on the alluvial soils near rivers for agricultural purposes and access to water. It was not until the mid second millennium AD that serious Iron Age occupation began in the larger geographical area (excluding the study area) of this part of the Northern Cape.

The study area falls known within the fringes of the distribution of LIA (~ AD1100-1840) people who made Olifantspoort facies (ancestral Sotho-Tswana speakers) dated between AD1500 and AD1700 (Huffman 2007: 191). Olifantspoort facies represents the second phase of the Moloko sequence and settlements with people that made this type of ceramics are distributed in the area to the northeast of the study area, between the Vaal River and Pretoria. The people, just like the markers of Thabeng facies (third phase of the Moloko sequence AD1700-1840), settled in aggregated clusters where space was also demarcated by extensive stone walling. The extensive walled settlements around Kuruman are historically associated with the Tswana people such as the Rolong, Tlharo and Thlaping (De Jong 2010; Pelsler 2012; Fourie 2013). Typologically, this type of walling is called Type Z, which is prevalent in the Free State and mark the most southerly expansion of Sotho-Tswana speakers, up to the edge of a viable farming environment (Nkhasi 2008). Type Z settlement units have large compact central primary enclosures, "usually from three to eight in number and often so close as to be touching' but they also have smaller primary enclosures which may be linked by secondary walling (Maggs, 1976: 40).

The nature of the interaction between the emigrant Tswana groups and Khoesan people who were already in this area is complex but there indications of acculturation (Breutz 1981) and intensive trading (Goodwin 1956). Some of the activities that formed the locus for trade and interaction between the Tswanas and the Khoesan groups in this area are specularite mining and ivory hunting. For instance, at sites such Blinkklipkop (about 80km to the south of the study area), a Khoesan specularite mine sites dating to as early as AD800, there is evidence of either trade with or occupation of the mine by the Thlaping peoples around 1801 (Thackeray et al. 1983). Specularite was used for non-metallurgical purposes such as pottery decoration and bodily adornment (Hall 1985), and was a prized trade commodity, together with ivory and other items during the second millennium trade boom in this part of southern Africa. Thus by the mid 19th century (and probably earlier), the Thlaping people were purchasing glass beads, iron, copper, tin and bronze wares from other northern Sotho-Tswana groups such as the Kwena and Hurutse, and exchanging these items with the Khoesan groups to the southwest (Goodwin, 1956: 256).

Of the Tswana groups around the present study area, the Thlaping might be of interest because of their connections with the site of Dithakong near Kuruman (De Jong 2010: 35-36; Pelsler 2012). This site, which at one point was a Thlaping capital, appears to be the only area in which there is direct archaeological evidence for settlement in the form of stone walling (Maggs 1972; Magoma 2013: 28). Socio-political tensions and permutations necessitated the shifting of most Tswana capital of which Dithakong was no exception. For instance, during the Batlhaping capital was first at Nokaneng around the year 1775, before it was moved to Dithakong on the Mashoweng River, and then at Kuruman in 1801. At around 1806 they returned to Dithakong but settled a short distance from the previous site. In 1812 people were contemplating returning to Nokaneng with an intermediate stop at Kuruman, where they re-established themselves in 1817. Thus in 1820 when Kuruman was

the capital and comprised 25 wards, Dithakong was of similar size. Thus, the capital had moved three times in twenty years and suffered one major split which removed about half of its population. The reasons for these movements are not clear. This mobility presents a problem in the interpretation of the archaeological evidence and it helps to explain why many Iron Age sites have shallow accumulation of waste material (Maggs 1972).

Nonetheless, in the 1920s, the capital of the Batlhaping was permanently moved to Kuruman. All the same, none of these LIA sites were identified in the study area.



Plate 12: Photo 12: 'A view in the Town of Litakun' (Dithakong), a southern Tswana town near present-day Kuruman.

An engraved and coloured reproduction of an original drawing made by William Burchell in July 1812 (From Burchell, W.J., 1824, *Travels in the Interior of Southern Africa*. V II, London: Longman, Hurst, Orme, Brown and Green) <http://www.apc.uct.ac.za/news/tuning-obo#sthash.PkrFm3EY.dpuf> (accessed on 30 August 2015).

Contemporary heritage

Southern Africa was networked with the literate world for several centuries, but the period of written history in the study area corresponds to the arrival of white travellers, hunters, missionaries and adventurers from the Cape in the 1800s. Notable amongst them include PJ Truter's, William Somerville, Robert Moffat, Andrew Smith and John Campbell. The first arrivals in to the study area may be PJ Truter's and William Somerville who in 1801 reached Dithakong at Kuruman (Pelser 2012). Some of later travellers into this area kept diaries that today form part of invaluable history about indigenous communities whom they travellers interacted with (see Figure 5 and 6).

European explorers such as Dr. Hinrich Lichtenstein (in 1805) and Dr. Andrew Smith (in 1835) reached Kuruman and met Tswana-speaking people (Bergh 1999). It should be noted that most of the early African-colonial interaction in this area centred around the nearly two-century old London Mission Society station at Kuruman, established by James Read in 1817 but popularized by Robert Moffat and his wife, three years later. Since the arrival of the Moffats in 1820, the mission has been known as The Moffat Mission Station (Figure 5, plate 12).

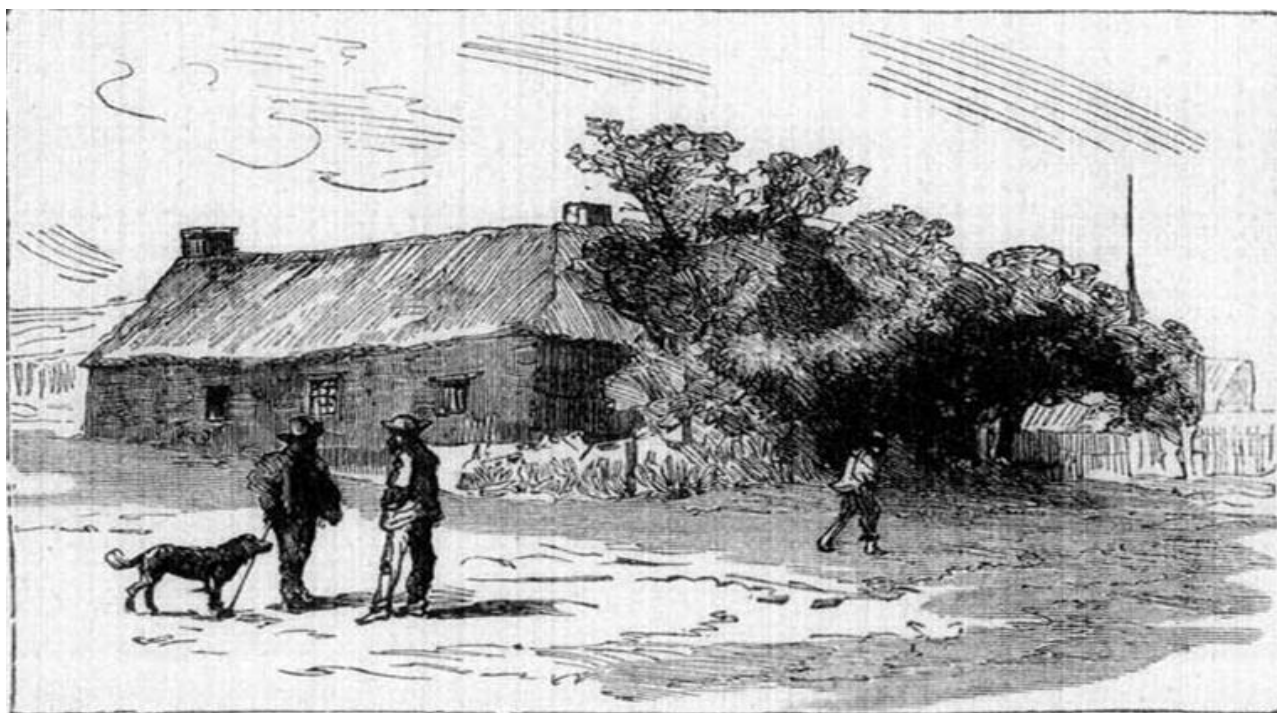


Plate 13: Photo 12: Photo A&B shows a drawing of the Old Mission House at Lattakoo which is now known as Kuruman (David J. Deane 2005. Robert Moffat: The Missionary Hero of Kuruman. March 16, 2005 [EBook #15379]http://www.gutenberg.org/files/15379/15379-h/15379-h.htm#CHAPTER_IV accessed 30 August 2015.

Besides the isolated incursions by traders, hunters, and missionaries permanent and mass-movement of white settlers only took root in the late 1800s with the arrival of Dutch speaking farmers (Voortrekkers) who were protesting and escaping British rule in the Cape Colony (Ross 2002: 39). Yet even this incursion was not permanent as yet because by 1897 most of them white settlers around the Kuruman River had moved away (Fourie 2013). It took the great drought of 1907 and 1908 for many farmers of the then Cape Colony to move into these areas along the edge of the Kalahari Desert in search of better grazing for their cattle (Smit 1966). Nonetheless, significant urban development in this area has been focused around the 'Eye' and the water course springing from it leading to the evolution of the town of Kuruman, from the late nineteenth century (Morris 2010). When in 1885 Britain declared a Protectorate over Bechuanaland and the Kalahari (on 23 March) and then divided the Protectorate was divided into two parts (on 30 September 1885), the area south of the Molopo (including the study area) became the Crown Colony of British Bechuanaland with its capital at Vryburg (Fourie

2013) (Tlou and Campbell 1997). Ten years later this area was included in the Cape Colony accordance to Act 31 of 1895 (Smit 1966) and the Lower Kuruman Native Reserves well as a number of other so-called native reserves were established by virtue of Bechuanaland Proclamation No. 220 of 1895 . The study area lies on the fringes of this Lower Kuruman Native Reserve.

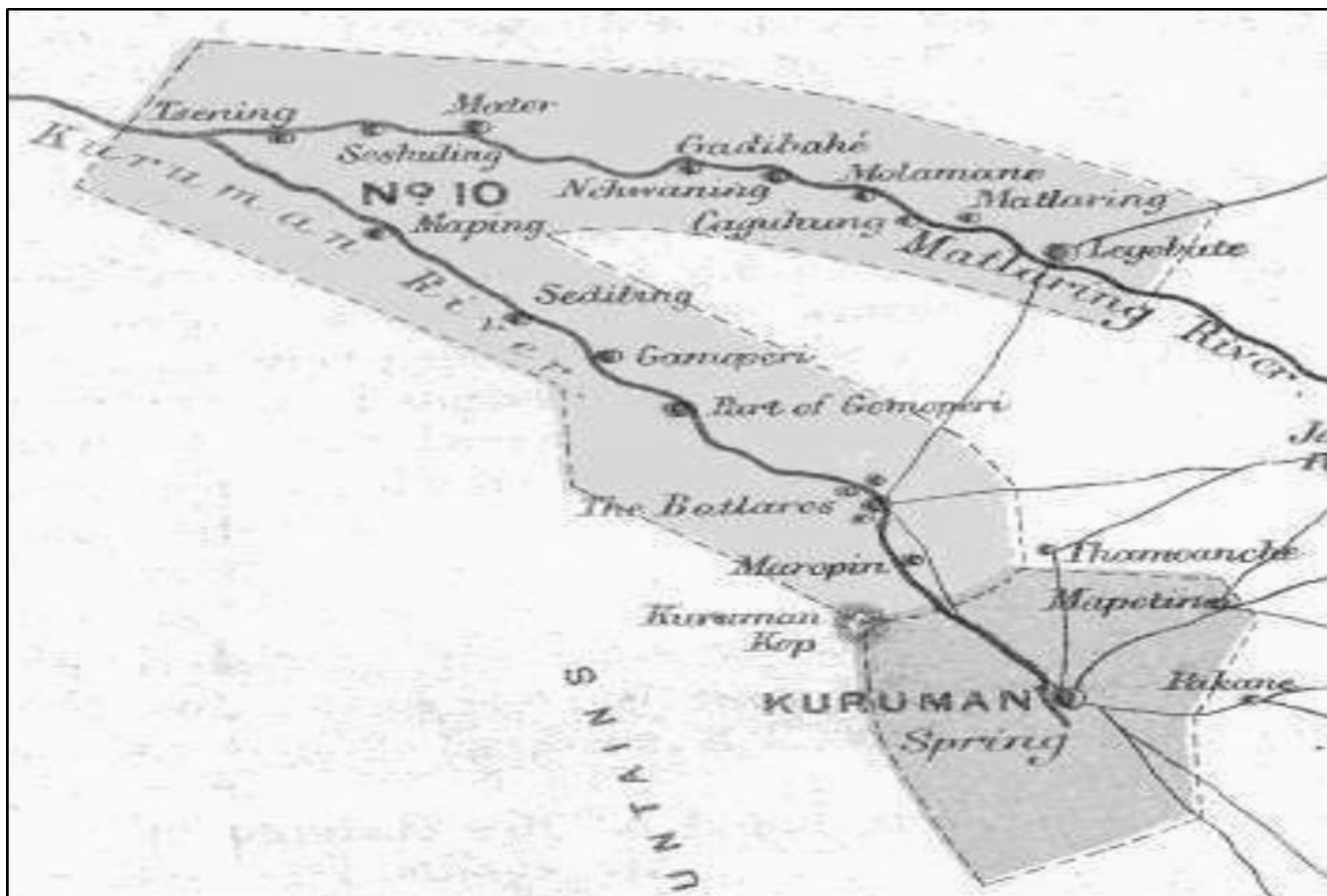


Figure 4: Map showing the original demarcation of the Lower Kuruman Native Reserve (Fourie 2013: 35)

Another impetus for the occupation of the Kuruman area was related to events that were ignited outside the African continent. Thus, when the First World War (1914-1918) broke out, and the South African Union Government joined the coalition forces and attacked German South West Africa (now Namibia). To sustain the Union troops along the way, a number of boreholes were sunk along the banks of the Kuruman River at places such as Eensaam, Kameelrus, Murray, Springputs and Van Zylsrus (Van der Merwe 1949; Smit 1966;). After the war, even more boreholes were sunk by the Department of Lands as opportunistic white farmers established themselves at these localities as borehole watchmen so that they could be allowed free grazing rights on the surrounding land (Smit 1966). All of this history produced heritage landmarks along the Kuruman River but it is significant to note that none of these resources are located closer to the area of the proposed development. Parallel to the urban development is the history of manganese mining that the surrounding region is well known

for today. Manganese is used in the manufacture of carbon steel, and has been mined at such places as Hotazel and Black Rock (Fourie 2013). These mines are however, located far away from the development footprint and no mining heritage has been located during the study.

Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus intangible heritage is better defined and understood by the particular group of people that uphold it. In the present study area, very little intangible heritage is anticipated on the development footprint because most historical knowledge does not suggest an relationship with the study area per se, even though several other places in the general area such as Old Moffat Mission in Kuruman do have intangible heritage.

SAHRIS Database and Impact assessment reports in the proposed project area

At least four previous CRM projects were conducted in the general vicinity of the study area. The studies include powerline and substation projects completed by van der Walt (2013); Magoma (2013), Bandama (2015). No sites were recorded, but the reports mention that structures older than 60 years occur in the area.

RESULTS of THE Archaeological/heritage assessment STUDY

The proposed school development area is located on vacant land at Dithakong Village. The proposed development site has been established through consideration of biophysical, social, technical and cultural aspects. The Basic Assessment process will aim to provide a final site selection of the proposed development site is based on biophysical, social, cultural and technical considerations. The following section presents results of the archaeological and Heritage survey conducted at proposed school development site.

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

Only LSA sites were located north and south of the study area but all of them do not fall on the development as was noted by several other researchers (van der Walt 2013; Magoma 2013). This means that on archaeological grounds, the proposed project is viable.

Geographical co-ordinates

Site	Coordinates	Brief Description	Comment relating to proposed development and Mitigation Measures
Point within the proposed development site	E023°54'09.1" S27°06'36.9"	An open space marked by shrubs and bushies	No significant
Point at school development site	E023°54'09.1" S27 06'46.69"	Open shrub land	No heritage significance
Point along the road servitude	E023°54'09.1" S27 06'46.69"	Vacant grazing land	No heritage significance
Stones arranged in circular form	E023°54'09.1" S27 06'46.69"	Stones arranged in circular form	Low to medium heritage significance
Terminal point of the proposed road servitude	E023°54'09.1" S27 06'46.69"	Vacant grazing land	No heritage significance
Point within school site	E023°54'09.1" S27 06'46.69"	Vacant grazing land	No heritage significance

Archaeological and Heritage Site

The proposed school development site did not yield any confirmable archaeological sites or material. The affected landscaped is heavily degraded from previous and current agricultural land use and from infrastructure developments. There are residential, grazing land, village roads and other associated infrastructures around the entire project area. As such the proposed school will be an additional development on the project area (Figure 2, also see Plates 1 to 10). It is assumed that the chances of recovering significant archaeological materials were seriously compromised and limited due to destructive land use patterns such as deep ploughing and residential developments.

Historical and Recent sites

The proposed school site did not yield any historical sites within the direct school development footprint.

Burial grounds and graves

The field survey did not identify any burial sites within the proposed school development site. Although the possibility of encountering previously unidentified burial sites is low on the proposed school development, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes for more details).

Significance valuation for Burial Ground, Historic Cemeteries and Individual Graves

Although the possibility of encountering previously unidentified burial sites is low along the proposed school development site, should such sites be identified during subsurface construction work, they are still protected by applicable legislations and they should be protected (also see Appendixes for more details). The significance of burial grounds and gravesites is closely tied to their age and historical, cultural and social context. Nonetheless, every burial should be considered as of high socio-cultural significance protected by practices, a series of legislations, and municipal ordinances.

Historical Monuments

There are no sites within the proposed school development footprint that are on the National Heritage List. However it should be noted that there are several Historical Monuments listed on SAHRIS Data base in the Dithakong and Kuruman area. The proposed school development will not impact on any listed heritage sites in the project area.

Cumulative Impacts

Although the project area is degraded by overgrazing and infrastructure developments, the proposed development will add to the cumulative impacts of the existing developments especially the visual impacts of the high standing school structures.

DISCUSSION

Various specialists conducted several Phase 1 studies for various infrastructure developments and mining developments since 2007. Although these studies recorded sites of significance for example van Schalkwyk (van der Walt 2013; Magoma 2013, Bandama 2015), the recorded sites are far from the current proposed development site. The current study should be read in conjunction with previous Phase 1 Impact Studies conducted in the proposed project area. The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of two primary interrelated factors:

1. That proposed school site is located within a heavily degraded area, and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical or burial sites, due to previous disturbances resulting from developments and other land uses in the project area.
2. Limited ground surface visibility on sections of all the proposed school project area that were not cleared at the time of the study may have impeded the detection of other physical cultural heritage site remains or archaeological signatures immediately associated with the school development. This factor is exacerbated by the fact that the study was limited to general survey without necessarily conducting any detailed inspection of specific locations that will be affected by the proposed school development.

The absence of confirmable and significant archaeological cultural heritage site is not evidence in itself that such sites did not exist in the proposed school development area. In addition some sections were not accessible due to thick vegetation cover. Significance of the sites of Interest (school development site) is not limited to presence or absence of physical archaeological sites.

Chance finds procedures

It has already been highlighted that sub-surface materials may still be lying hidden from surface surveys. Therefore, absence (during surface survey) is not evidence of absence all together. The following monitoring and reporting procedures must be followed in the event of a chance find, in order to ensure compliance with heritage laws and policies for best-practice. This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. Accordingly, all construction teams must be properly inducted to ensure they are fully aware of the procedures regarding chance finds.

- ❖ If during the construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance, work must cease at the site of the find and this person must

report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.

- ❖ The site manager must then make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area before informing STEC.
- ❖ The client will then contact a professional archaeologist for an assessment of the finds who will in turn inform SAHRA/PHRA.

Cultural Heritage Site Assessment of Significance

The appropriate management of cultural heritage resources is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific or social value for past, present or future generations (Article 1.2). Social, religious, cultural and public significance are currently identified as baseline elements of this assessment, and it is through the combination of these elements that the overall cultural heritage values of the site of interest, associated place or area are resolved.

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken and community values change. This does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest as its environments of the study area is based on the views expressed by the traditional authority and community representatives, consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with particular resonance to the indigenous community. The site of interest considered in this project falls within this realm of broad significance.

Assessment Criteria

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

Aesthetic Value

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

Historic Value

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

Scientific value

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

Social Value

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

Statement of Significance

Aesthetic Value

The aesthetic values of the AIA Study Area and the overall project area are contained in the valley bushveld environment and landscape typical of this part of the Northern Cape Province. The visual and physical relationship between AIA study area and the surrounding historical Cultural Landscape demonstrates the connection of place to the local and oral historical stories of the African communities who populated this region going back into prehistory.

The proposed school development will be situated within an environment and associated cultural landscape, which, although developed by existing settlements, remains representative of the original historical environment and cultural landscape of this part of Northern Cape Province. The local communities consider the project area a cultural landscape linked to their ancestors and history. However, the proposed development will not alter this aesthetic value in any radical way since it will add to the constantly changing and developing settlements.

Historic Value

The Indigenous historic values of the Site of Interest and overall study area are contained in the claim of possible historic homesteads being located on the affected area. The history of generations of the Sotho-Tswana clans is tied to this geographical region. Such history goes back to the pre-colonial period, through the colonial era, the colonial wars and subsequent colonial rule up to modern day Northern Cape Province.

Scientific value

Past settlements and associated roads and other auxiliary infrastructure developments and disturbance within the HIA Study Area associated with the proposed school development has resulted in limited intact landscape with the potential to retain intact large scale or highly significant open archaeological site deposits.

Social Value

The project sites fall within a larger and an extensive Northern Cape cultural landscape that is integrated with the wider inland. The overall area has social value for the local community, as is the case with any populated landscape. Literature review suggests that social value of the overall project area is also demonstrated through local history which associates the area with the coming of European missionaries, explorers and colonialists and the African struggle against settler colonialism in the second half of the 1800s and at the end of the 1800s, the colonial wars of resistance, the century long struggle for democracy that followed colonial subjugation. Several

generations of communities originate from the project area and continue to call it home. As such, they have ancestral ties to the area. The land also provides the canvas upon which daily socio-cultural activities are painted. All these factors put together confirms the social significance of the project area. However, this social significance is unlikely to be negatively impacted by the proposed school development especially given the fact that the development will add value to the human settlements and activities already taking place. Sections of the school development area are covered in thick bushes and vegetation retains social value as sources of important herbs and traditional medicines. As such, they must be considered as significant social value sites.

Recommendations

The study did not find any permanent barrier to the proposed school development. The following recommendations are based on the results of the A/HIA research, cultural heritage background review, site inspection and assessment of significance.

Management & Policy Recommendations

Community Advisory

Should community consultations being held through the project EIA PPP refer to any cultural issues associated with the project area, such matters should be addressed adequately. The proposed development area is associated with existing villages and a heritage or cultural aspirations they have that may potentially be affected by the development should be acknowledged should they be identified in the course of the proposed development. To date, the PPP consultation process has not identified cultural heritage contestation to the project.

Recommendation 1

The Project Public Participation Process should ensure that any cultural heritage related matters for this project are given due attention whenever they arise and are communicated PHRA throughout the proposed project development. This form of extended community involvement would pre-empt any potential disruptions that may arise from previously unknown cultural heritage matter that may have escaped the attention of this study.

Indigenous African Cultural Places

There are portions of the development site that are covered by dense vegetation. Such areas retain high social significance associated with ethno-botany, which makes such area potential sources of traditional herbs and medicines.

Recommendation 2

- Location of school infrastructure should be restricted to minimum footprint impact especially where such infrastructure fall within bushy area. Such bushy sections have local ethno-botany significance as sources of traditional herbs and medicines. As such disruption and vegetation clearance should be minimal.
- Preserved bushveld areas should be protected for ethnobotany significance. As such this development should avoid excessive vegetation clearance during the development.

Archaeological Graves and Burial & Cultural Heritage Sites

It is likely that the general project area's extensive history of indigenous activity is such that it is possible that remnant or isolated archaeological and historical artefacts or heritage sites may be present in areas that have minor disturbance and development along the proposed school site.

Recommendation 3

The foot print impact of the proposed school development should be kept to minimal to limit the possibility of encountering chance finds within servitude.

Recommendation 4

- In situations where unpredicted impacts occur (such as accidentally disturbing a previously unknown grave), construction activities should be stopped and the heritage authority notified immediately. In the unlikely event of chance archaeological material or previously unknown human remains being disturbed during subsurface construction, the finds should be left in situ subject to further instruction from the project archaeologist or heritage authorities (refer to Appendixes 1 - 4 for additional details). The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the PHRA and NHRA regulations.

Interpretation & Active Management Recommendations

The African communities have a long and significant connection with project area. Like any other generational society, there are several other cultural activities that take place within the affected settlement areas associated with the proposed school development.

Recommendation 5

Although the possibility of conflict between the community and the proposed development related to culture heritage is unlikely, PHRA should acknowledge on behalf of the community, that the project area is situated in a culturally significant landscape associated with African local history and cultural activities. PHRA may also acknowledge that such significance is not tied to physical sites or archaeological sites only, but to intangible heritage such as popular memories, oral history, ancestral remembrance, religious rituals, aesthetic appreciations, living experiences and folklores. As such, the community retains the right to have their constitutionally guaranteed cultural heritage rights respected and protected without being limited to existence of physical evidence such as archaeological sites. Should such issues arise in association with this proposed development, the proponent, PHRA and community to address them should devote adequate attention?

Recommendation 6

Subject to the recommendations herein made, a palaeontological study is recommended to assess potential palaeontological remains

concluding remarks

The literature review and field research confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. Field survey established that the affected project area is degraded by existing developments. Although the area is degraded, there is a possibility that the HIA Study Area Site of Interest is part of a wider archaeological and historical site within and significant cultural landscape. This report conclude that the proposed school development may be approved by SAHRA to proceed as planned subject to recommendations herein made and heritage monitoring plan being incorporated into the construction EMP (also see Appendices). The measures are informed by the results of the HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

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APPENDIX 1: HERITAGE MANAGEMENT PLAN INPUT INTO the SCHOOL DEVELOPMENT Project EMP

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

		Same as construction phase.
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appendix 2: heritage mitigation measure table

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

APPENDIX 3: LEGAL BACK GROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

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

General principles for heritage resources management

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

- (a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;
 - (b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;
 - (c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and
 - (d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.
- (2) To ensure that heritage resources are effectively managed—
- (a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and
 - (b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.
- (3) Laws, procedures and administrative practices must—
- (a) be clear and generally available to those affected thereby;
 - (b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and
 - (c) give further content to the fundamental rights set out in the Constitution.
- (4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.
- (5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.
- (6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
- (7) The identification, assessment and management of the heritage resources of South Africa must—
- (a) take account of all relevant cultural values and indigenous knowledge systems;
 - (b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
 - (c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
 - (d) contribute to social and economic development;
 - (e) safeguard the options of present and future generations; and
 - (f) be fully researched, documented and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.
- (5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—
- (a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and
- (b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.
- (6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—
- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
- (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.
- (7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.
- (b) The Minister must publish such lists as he or she approves in the Gazette.
- (8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.
- (9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

General policy

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

- (a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and
 - (b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and
 - (c) must review any such statement within 10 years after its adoption.
- (2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.
- (3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.
- (4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.
- (5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.
- (6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.