



## PHASE 1 AIA HERITAGE SCREENER BORROW PITS STERKSPRUIT EASTERN CAPE

PROPOSED DEVELOPMENT OF BORROW PITS ALONG ROADS  
DR08606 AND DR08515, FARM 301 RE/88, STERKSPRUIT,  
SENQU LOCAL MUNICIPALITY,  
JOE GQABI DISTRICT MUNICIPALITY,  
EASTERN CAPE PROVINCE.

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**Declaration of independence:**

We, Jan Engelbrecht and Heidi Fivaz, partners of UBIQUE Heritage Consultants, hereby confirm our independence as heritage specialists and declare that:

- we are suitably qualified and accredited to act as independent specialists in this application;
- we do not have any vested interests (either business, financial, personal or other) in the proposed development project other than remuneration for the heritage assessment and heritage management services performed;
- the work was conducted in an objective and ethical manner, in accordance with a professional code of conduct and within the framework of South African heritage legislation.



**Signed:**

**Date:** 2020-06-28

J.A.C. Engelbrecht, H. Fivaz & S. Fairhurst  
UBIQUE Heritage Consultants

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## SUMMARY OF SPECIALIST EXPERTISE

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Jan Engelbrecht is accredited by the Cultural Resources Management section of the Association of Southern African Professional Archaeologists (ASAPA) to undertake Phase1 AIAs and HIAs in South Africa. He is also a member of the Association for Professional Archaeologists (ASAPA). Mr Engelbrecht holds an honours degree in archaeology (specialising in the history of early farmers in southern Africa (Iron Age) and Colonial period) from the University of South Africa. He has 12 years' experience in heritage management. He has worked on projects as diverse as the Zulti South HIA project of Richards Bay Minerals, research on the David Bruce heritage site at Ubombo in Kwa-Zulu Natal, and various archaeological excavations and historical projects. He has worked with many rural communities to establish integrated heritage and land use plans and speaks Zulu fluently. Mr Engelbrecht established Ubique Heritage Consultants during 2012. The company moved from KZN to the Northern Cape and is currently based at Askham in the Northern Cape within the Dawid Kruiper Local Municipality in the Kgalagadi region. He had a significant military career as an officer, whereafter he qualified as an Animal Health Technician at Technikon RSA and UNISA. He is currently studying for his MA Degree in Archaeology.

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ARCHAEOLOGIST &  
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## EXECUTIVE SUMMARY

### Project description

UBIQUE Heritage Consultants were appointed by Isipho Environmental Consultants as independent heritage specialists in accordance with Section 38 of the NHRA and the National Environmental Management Act 107 of 1998 (NEMA), to conduct a cultural heritage screening desktop study to determine the probability of impact of the proposed establishment of three borrow pits for road construction, undertaken by the Eastern Cape Department of Transport, near Sterkspruit, in the Senqu Local Municipality, Joe Gqabi District Municipality, in the Eastern Cape Province, on any possible sites, features, or objects of cultural heritage significance.

### Findings of Heritage Screener and Probable Impact on Heritage Resources

Very few Heritage and Archaeological Impact Assessments have been undertaken within a 50 km radius of the development area, with only five studies conducted around Sterkspruit, and none within a 5 km radius of the borrow pit sites. The background study revealed that little Stone Age material had been documented through impact assessments near the study area. In one instance single MSA occurrences were recorded about 30 km from the current study area, these have, however, been graded as low heritage significance. Nevertheless, the Eastern Cape is known for numerous Stone Age sites (many of which have been excavated/documentated in the past). Documented sites are predominantly situated within rocky shelters, with a few instances of open-air sites. The possibility of open-air Stone Age sites/occurrences in the development area should not be disregarded.

Numerous rock-art sites have been recorded throughout the region; however, these can mainly be found in rock shelters. The probability of such sites located in the development area is scarce, but again, it should not be overlooked.

No Iron Age sites have been recorded near the development area, which would suggest that the likelihood of such sites being present in the development area is low.

Archaeological features that are most sensitive appear to be the colonial-era structures recorded in the wider region. Structures that have heritage significance have been predominantly attributed to regional colonial farming history and some to historic railway networks of the region. The digital survey revealed that there are two structural features located northeast of proposed borrow Pit 2 (BP2), as well as possible structural features situated south and southeast of Borrow Pit 5a (BP5a) and Borrow Pit 5b (BP5b). The significance and extent, as well as the historical and archaeological context of the structures, are unknown.

Graves and informal cemeteries can be expected anywhere in the landscape. Isolated graves have been recorded within homestead areas near the current development area. Informal graveyards consisting of stone cairns, as well as family graves and cemeteries, can be anticipated close to farmsteads. Due to the current houses situated near BP2, the high probability of isolated graves and family graves in the vicinity of the borrow pits should not be ignored.

Limitations of this heritage screener are determined by the amount of information available on the South African Heritage Resources Information System (SAHRIS), and the clarity of satellite imaging. Archaeological features like surface artefact scatters, middens, overgrown foundations and graves will not show up in a digital survey. Surface or sub-surface archaeological sites, graves and informal cemeteries could be directly impacted during the proposed construction of the borrow pits. The minimal amount of surveys done in the general area means that we do not have an adequate baseline from which to assess the impact on heritage resources within the area thoroughly, and it is, thus, recommended that a field study should be done.

## Recommendations

This scoping study has revealed that a range of heritage sites occur in the wider region and the presence of similar sites should be anticipated within the study area. Every site is relevant to the Heritage Landscape, but it is projected that only a few sites in the study area could have conservation value. These recommendations are based on studies undertaken in the broader area of the proposed development. The following conclusions apply:

1. The scoping report has revealed that several Stone Age occurrences/sites have been recorded in the region. No studies have been conducted on the property or immediate vicinity (less than 5 km radius) of the development footprints. The possibility of open-air Stone Age sites/occurrences in the development area is highly probable. However, we expect occurrences to be of low to medium significance based on evidence from the region. We recommend that a field study should be undertaken to ground-truth our findings.
2. Various colonial/historical structures have been recorded in a  $\pm 50$  km radius of the development area. No studies have been conducted on the property or immediate vicinity (less than 5 km radius) of the development footprints. The structural features recorded during the digital survey could (if older than 60 years) be linked to the colonial farming history of the region. It is anticipated that the development will not impact the two structures located near BP2; however, the possible structure near BP5a and 5b would likely be impacted negatively by the development. It is recommended that a field survey be done to determine the age, extent, context, and heritage significance of these structural features so that the correct mitigation measures may be implemented. If significant, a 50 m buffer/safety zone could be recommended, once the archaeological extent of the site has been established.
3. Formal and informal graveyards, which include pre-colonial burials, occur widely across southern Africa. Isolated graves and cemeteries have been recorded northwest of the development area (with the closest being  $\pm 6$  km from the proposed borrow pits). It is thereby likely that similar graves/graveyards could be present closer to the development footprint. It is commonly recommended that these sites are preserved from development. The presence of any grave sites must be confirmed during a field survey and public consultation. Any graveyard(s), grave(s) or burial(s) found close to the proposed borrow pits' development footprint would likely be of High Local Significance. If present, it is recommended that they are fenced off with the inclusion of a 50 m buffer/safety zone.
4. Should it be impossible to avoid graveyard(s), grave(s) or burial(s) sites during the construction of the proposed borrow pits, mitigation in the form of grave relocation could

be undertaken. This is, however, a lengthy and costly process. Grave relocation specialists should be employed to manage the liaison process with the communities and individuals who by tradition or familial association might have an interest in these graves or burial ground; as well as manage the permit acquisition from the SAHRA Burial Grounds and Graves (BGG) Unit and the arrangements for the exhumation and re-interment of the contents of the graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

5. This scoping report represents an estimation of the probability of heritage sites/artefacts located on/near the development footprint, based on available data. Due to the lack of substantial data and previous Heritage Assessments within the area, the likelihood of archaeological sites/occurrences located in the development area is considered as highly probable. **Ground-truthing the findings of this report with a field survey of the area, before the commencement of construction activities, is highly recommended.**
  
6. This scoping report reflects the specialists' estimation of the likely impacts that may occur on said resources by the proposed development. The extent and significance of identified probable resources are unknown. **The final decision whether the submission of a full impact assessment is required lies with the responsible heritage resources authorities, South African Heritage Resources Agency (SAHRA) & Eastern Cape Provincial Heritage Resources Agency (ECPHRA), if there is reason to believe that heritage resources will be affected by construction activities and events.**
  
7. Hidden or sub-surface sites may exist in the area. No sub-surface testing may be conducted without a permit, and therefore sites may be missed during the field assessment. We recommend that if any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are uncovered during mining, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. If unmarked human burials are discovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. A professional archaeologist or palaeontologist must be contracted as soon as possible to inspect the findings. If the newly unearthed heritage resources are of high significance, a Phase 2 rescue operation may be required with permits issued by SAHRA. UBIQUE Heritage Consultants and its personnel will not be held liable for such oversights or costs incurred as a result of such oversights.

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## ABBREVIATIONS

AIA:	Archaeological Impact Assessment
ASAPA:	Association of South African Professional Archaeologists
BIA:	Basic Impact Assessment
CRM:	Cultural Resource Management
ECO:	Environmental Control Officer
ECHRA:	Eastern Cape Heritage Resources Agency
EIA:	Environmental Impact Assessment*
EIA:	Early Iron Age*
EMP:	Environmental Management Plan
ESA:	Earlier Stone Age
GPS:	Global Positioning System
HIA:	Heritage Impact Assessment
IA:	Iron Age
LSA:	Later Stone Age
MEC:	Member of the Executive Council
MIA:	Middle Iron Age
MPRDA:	Mineral and Petroleum Resources Development Act
MSA:	Middle Stone Age
NEMA:	National Environmental Management Act
NHRA:	National Heritage Resources Act
OWC:	Orange River Wine Cellars
PRHA:	Provincial Heritage Resource Agency
SADC:	Southern African Development Community
SAHRA:	South African Heritage Resources Agency
SAHRIS:	South African Heritage Resources Agency

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

## GLOSSARY

Archaeological:	<p>material remains resulting from human activity which are in a state of disuse and are in or on land and are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;</p> <ul style="list-style-type: none"> <li>– 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 is older than 100 years (as defined and protected by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999) including any area within 10 m of such representation;</li> <li>– wrecks, being any vessel or aircraft, or any part thereof, which were wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), 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;</li> <li>– features, structures and artefacts associated with military history, which are older than 75 years and the sites on which they are found.</li> </ul>
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Stone Age:	The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.
Earlier Stone Age:	>2 000 000 - >200 000 years ago
Middle Stone Age:	<300 000 - >20 000 years ago
Later Stone Age:	<40 000 - until the historical period
Iron Age:	(Early Farming Communities). Period covering the last 1800 years, when immigrant African farmer groups brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age. Early Iron Age: AD 200 - AD 900 Middle Iron Age: AD 900 - AD 1300 Later Iron Age: AD 1300 - AD 1850
Historic:	Period of arrival of white settlers and colonial contact. AD 1500 to 1950
Historic building:	Structures 60 years and older.
Fossil:	Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.
Heritage:	That which is inherited and forms part of the National Estate (historic places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).
Heritage resources:	These mean any place or object of cultural significance, tangible or intangible.
Holocene:	The most recent geological period that commenced 10 000 years ago.
Palaeontology:	Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site that contains such fossilised remains or traces
Cumulative impacts:	"Cumulative Impact", in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity that may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities.
Mitigation:	Anticipating and preventing negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

- A 'place':
- a site, area or region;
  - a building or other structure which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure;
  - a group of buildings or other structures which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures;
  - an open space, including a public square, street or park; and
  - in relation to the management of a place, includes the immediate surroundings of a place.
- 'Public monuments and memorials': mean all monuments and memorials—
- erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government; or
  - which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual;
- 'Structures': any building, works, device or other facility made by people and which are fixed to land, and include any fixtures, fittings and equipment associated therewith.

## 1. INTRODUCTION

### 1.1. Scope of study

The project involves the proposed establishment of three borrow pits for road construction undertaken by the Eastern Cape Department of Transport, near Sterkspruit, in the Senqu Local Municipality, Joe Gqabi District Municipality, in the Eastern Cape Province. UBIQUE Heritage Consultants were appointed by Isipho Environmental Consultants as independent heritage specialists per the National Environmental Management Act 107 of 1998 (NEMA), and in compliance with Section 38 of the National Heritage Resources Act 25 of 1999 (NHRA), to conduct an initial desktop/ heritage scoping study as part of the cultural heritage assessment (AIA/HIA) process of the development area.

The heritage screening assessment aims to identify and report any heritage resources that may fall within the development footprint. Since no field survey has been conducted, we can only speculate on the impact the proposed development will have on any sites, features, or objects of cultural heritage significance. Without a field survey, we cannot accurately assess the significance of any identified resources. Once a field study has been done we will assist the developer in managing the documented heritage resources in an accountable manner, within the framework provided by the National Heritage Resources Act (Act 25 of 1999) (NHRA).

South Africa's heritage resources are both rich and widely diverse, encompassing sites from all periods of human history. Resources may be tangible, such as buildings and archaeological artefacts, or intangible, such as landscapes and living heritage. Their significance is based upon their aesthetic, architectural, historical, scientific, social, spiritual, linguistic, economic or technological values; their representation of a time or group; their rarity; and their sphere of influence.

The integrity and significance of heritage resources can be jeopardised by natural (e.g. erosion) and human (e.g. development) activities. In the case of human activities, a range of legislation exists to ensure the timeous and accurate identification and effective management of heritage resources for present and future generations.

The result of this investigation is presented within this heritage screening report. It comprises the recording of previously identified heritage resources present/absent and offers recommendations for the management of these resources within the context of the proposed development.

### 1.2. Assumptions and limitations

It is assumed that the description of the proposed project, as provided by the client, is accurate. Furthermore, it is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is comprehensive and does not have to be repeated as part of the heritage impact assessment.

The significance of the sites, structures and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects. Cultural significance is site-specific and relates to the content and context of the site. The methods employed to determine significance are a combination of in-field inspection and grading and extensive desktop research. This desktop study is therefore limited in its ability to assign significance to sites, without a ground-truthing component.

Although all possible care has been taken during the intensive desktop study to identify sites of cultural importance within the development area, it is essential to note that some heritage sites may have been missed due to the limitations of the digital survey. The digital survey is dependent on available data sources and the visibility of heritage resources in satellite imagery. Heritage/cultural sites, features, and artefacts that may not be visible on satellite imagery include, but are not limited to: graves, graveyards, rock art, archaeological material pertaining to the Stone Age, Iron Age and Historical/Colonial period (e.g. surface scatters of lithics, ceramics, metal objects, beads), middens, as well as structural features that are partially below the surface or hidden by vegetation. No field survey has been conducted as part of this assessment, and all heritage sites/possibility of heritage features mentioned in this heritage screening report are based on the desktop study and digital survey.

Assumptions made on the likelihood of heritage resources present in the vicinity of the study area are based on the artefacts/sites recorded in previous HIA/AIA reports on the broader region. The assessment of the impact of development on heritage resources is limited to conjecture and speculation, based on the artefacts/sites recorded in previous HIA/AIA reports on the broader region. The field ratings and mitigation measures for the artefacts/sites in the table are currently unknown, as we cannot be certain whether these artefacts/sites are present at the development footprint, without ground-truthing. The Heritage Screener is not a final Heritage Impact Assessment, and should not be treated as such.

No sub-surface investigations (i.e. excavations or sampling) will be undertaken since a permit from SAHRA is required for such activities. Therefore, should any heritage features and/or objects such as architectural features, stone tool scatters, artefacts, human remains, or fossils be uncovered or observed during construction, operations must be stopped, and a qualified archaeologist contacted for an assessment of the find. 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 assess the significance of the site (or material) in question.

As a result of the current Covid-19 pandemic lockdown measures, the project has been divided into two stages. The first stage is a heritage scoping report, and the second is the field study. The fieldwork will commence only if deemed necessary by the outcome of the heritage screening. Furthermore, fieldwork will only be able to commence once the lockdown level restrictions allow trans-provincial travel. UBIQUE Heritage Consultants retains the right to act in a manner that ensures the safety of our staff.

## 2. TERMS OF REFERENCE

An HIA/AIA and screening report must address the following key aspects:

- the identification and mapping of all heritage resources in the area affected;
- an assessment of the significance of such resources in terms of heritage assessment criteria set out in regulations;
- an assessment of the impact of the development on 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;
- 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 completion of the proposed development.

In addition, the HIA/AIA and screening report should comply with the requirements of NEMA, including providing the assumptions and limitations associated with the study; the details, qualifications and expertise of the person who prepared the report; and a statement of competency.

### 2.1. Statutory Requirements

#### 2.1.1. General

The Constitution of the Republic of South Africa Act 108 of 1996 is the source of all legislation. Within the Constitution the Bill of Rights is fundamental, with the principle that the environment should be protected for present and future generations by preventing pollution, promoting conservation and practising ecologically sustainable development. With regard to spatial planning and related legislation at national and provincial levels the following legislation may be relevant:

- Physical Planning Act 125 of 1991
- Municipal Structures Act 117 of 1998
- Municipal Systems Act 32 of 2000
- Development Facilitation Act 67 of 1995 (DFA)

The identification, evaluation and management of heritage resources in South Africa are required and governed by the following legislation:

- National Environmental Management Act 107 of 1998 (NEMA)
- KwaZulu-Natal Heritage Act 4 of 2008 (KZNHA)
- National Heritage Resources Act 25 of 1999 (NHRA)
- Minerals and Petroleum Resources Development Act 28 of 2002 (MPRDA)

### 2.1.2. National Heritage Resources Act 25 of 1999

The NHRA established the South African Heritage Resources Agency (SAHRA) together with its Council to fulfil the following functions:

- coordinate and promote the management of heritage resources at the national level;
- set norms and maintain essential national standards for the management of heritage resources in the Republic and to protect heritage resources of national significance;
- control the export of nationally significant heritage objects and the import into the Republic of cultural property illegally exported from foreign countries;
- enable the provinces to establish heritage authorities which must adopt powers to protect and manage certain categories of heritage resources; and
- provide for the protection and management of conservation-worthy places and areas by local authorities.

### 2.1.3. Heritage Impact Assessments/Archaeological Impact Assessments

Section 38(1) of the NHRA of 1999 requires **the responsible heritage resources authority to notify the person who intends to undertake a development that fulfils the following criteria to submit an impact assessment report if there is reason to believe that heritage resources will be affected by such event:**

- 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 that will change the character of a site—
  - exceeding 5000m<sup>2</sup> 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 rezoning of a site exceeding 10 000m<sup>2</sup> in extent; or
- any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

### 2.1.4. Definitions of heritage resources

The NHRA defines a heritage resource as any place or object of cultural significance, i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. These include, but are not limited to, the following wide range of places and objects:

- living heritage as defined in the National Heritage Council Act No 11 of 1999 (cultural tradition; oral history; performance; ritual; popular memory; skills and techniques; indigenous knowledge systems; and the holistic approach to nature, society and social relationships);
- Ecofacts (non-artefactual organic or environmental remains that may reveal aspects of past human activity; definition used in KwaZulu-Natal Heritage Act 2008);
- places, buildings, structures and equipment;
- places to which oral traditions are attached or which are associated with living heritage;

- historical settlements and townscapes;
- landscapes and natural features;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds;
- public monuments and memorials;
- sites of significance relating to the history of slavery in South Africa;
- movable objects, but excluding any object made by a living person; and
- battlefields.

Furthermore, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

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

#### 2.1.5. Management of Graves and Burial Grounds

- **Graves younger than 60 years** are protected in terms of Section 2(1) of the Removal of Graves and Dead Bodies Ordinance 7 of 1925 as well as the Human Tissues Act 65 of 1983.
- **Graves older than 60 years, situated outside a formal cemetery administered by a local Authority** are protected in terms of Section 36 of the NHRA as well as the Human Tissues Act of 1983. Accordingly, such graves are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of NHRA) 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.

The **protocol for the management of graves older than 60 years situated outside a formal cemetery administered by a local authority** is detailed in Section 36 of the NHRA:

(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.

## 3. STUDY APPROACH AND METHODOLOGY

### 3.1. Desktop study

The first step in the methodology was to conduct a desktop study of the heritage background of the area and the site of the proposed development. This entailed the scoping and reading of historical texts/records as well as previous heritage studies and research around the study area.

By incorporating data from previous HIA/AIA reports done in the area and an archival search, the study area is contextualised. The objective of this is to extract data and information on the area in question, looking at archaeological sites, historical sites, and graves in the area.

No archaeological site data was available for the project area. A concise account of the archaeology and history of the broader study area was compiled from available sources, including those listed in the bibliography.

#### 3.1.1. Literature review

A survey of the literature was undertaken to obtain background information regarding the area. Through researching the SAHRA APM Report Mapping Project records and the SAHRIS online database (<http://www.sahra.org.za/sahris>), it was determined that several other archaeological or historical studies had been performed within the broader vicinity of the study area. Sources consulted in this regard are indicated in the bibliography.

### 3.2. Field study

No field study has been conducted yet. However, for the completion of Phase 1 (AIA/HIA), a field study is required that entails the following:

#### 3.2.1. Systematic survey

A systematic survey of the proposed project area to locate, identify, record, photograph, and describe sites of archaeological, historical, or cultural interest, should be completed.

UBIQUE Heritage Consultants offers to inspect the proposed development and surrounding areas employing a controlled-exclusive, pre-planned, pedestrian survey within the estimated timeline provided by the client. It is necessary to note that the fieldwork may only commence once the current lockdown restriction for trans-provincial travel has been eased/lifted.

We will conduct an inspection of the surface of the ground, wherever the surface is visible. This will be done with no substantial attempt to clear brush, sand, deadfall, leaves or other material that may cover the surface and with no effort to look beneath the surface beyond the inspection of rodent burrows, cut banks and other exposures fortuitously observed.

The survey will be tracked with a handheld Garmin global positioning unit (Garmin eTrex 10).

### 3.2.2. Recording significant areas

GPS points of identified significant areas will be recorded with a handheld Garmin global positioning unit (Garmin eTrex 10). Photographs will be taken with a Canon Ixus 190 20-megapixel camera. Detailed field notes will be taken to describe observations. The layout of the area and plotted GPS points, tracks, and coordinates will be transferred to Google Earth, and QGIS and maps will be created.

### 3.2.3. Determining significance

Levels of significance of the various types of heritage resources observed and recorded in the project area will be determined to the following criteria:

#### *Cultural significance:*

- Low                      A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium                 Any site, structure or feature being regarded less important due to several factors, such as date and frequency. Likewise, any important object found out of context.
- High                     Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorised as of a high importance. Likewise, any important object found within a specific context.

#### *Heritage significance:*

- Grade I                 Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II                Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III                Other heritage resources of local importance and therefore worthy of Conservation

#### *Field ratings:*

- i.            National Grade I                      significance should be managed as part of the national estate

- |      |                             |  |
|------|-----------------------------|--|
| ii.  | Provincial Grade II         | significance should be managed as part of the provincial estate                              |
| iii. | Local Grade IIIA            | should be included in the heritage register and not be mitigated (high significance)         |
| iv.  | Local Grade IIIB            | should be included in the heritage register and may be mitigated (high/ medium significance) |
| v.   | General protection A (IV A) | site should be mitigated before destruction (high/ medium significance)                      |
| vi.  | General protection B (IV B) | site should be recorded before destruction (medium significance)                             |
| vii. | General protection C (IV C) | phase 1 is seen as sufficient recording and it may be demolished (low significance)          |

*Heritage value, statement of significance:*

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

### 3.2.4. Assessment of development impacts

A heritage resource impact may be defined broadly as the net change, either beneficial or adverse, between the integrity of a heritage site with and without the proposed development. Beneficial impacts occur wherever a proposed development actively protects, preserves or

enhances a heritage resource, by minimising natural site erosion or facilitating non-destructive public use, for example. More commonly, development impacts are of an adverse nature and can include:

- destruction or alteration of all or part of a heritage site;
- isolation of a site from its natural setting; and / or
- introduction of physical, chemical or visual elements that are out of character with the heritage resource and its setting.

Beneficial and adverse impacts can be direct or indirect, as well as cumulative, as implied by the examples. Although indirect impacts may be more difficult to foresee, assess and quantify, they must form part of the assessment process. The following assessment criteria have been used to assess the impacts of the proposed development on possible identified heritage resources:

Criteria	Rating Scales	Notes
Nature	Positive	An evaluation of the type of effect the construction, operation and management of the proposed development would have on the heritage resource.
	Negative	
	Neutral	
Extent	Low	Site-specific affects only the development footprint.
	Medium	Local (limited to the site and its immediate surroundings, including the surrounding towns and settlements within a 10 km radius);
	High	Regional (beyond a 10 km radius) to national.
Duration	Low	0-4 years (i.e. duration of construction phase).
	Medium	5-10 years.
	High	More than 10 years to permanent.
Intensity	Low	Where the impact affects the heritage resource in such a way that its significance and value are minimally affected.
	Medium	Where the heritage resource is altered, and its significance and value are measurably reduced.
	High	Where the heritage resource is altered or destroyed to the extent that its significance and value cease to exist.
Potential for impact on irreplaceable resources	Low	No irreplaceable resources will be impacted.
	Medium	Resources that will be impacted can be replaced, with effort.
	High	There is no potential for replacing a particular vulnerable resource that will be impacted.

Criteria	Rating Scales	Notes
Consequence, (a combination of extent, duration, intensity, and the potential for impact on irreplaceable resources).	Low	A combination of any of the following: - Intensity, duration, extent and impact on irreplaceable resources are all rated low. - Intensity is low and up to two of the other criteria are rated medium. - Intensity is medium, and all three other criteria are rated low.
	Medium	Intensity is medium, and at least two of the other criteria are rated medium.
	High	Intensity and impact on irreplaceable resources are rated high, with any combination of extent and duration. Intensity is rated high, with all the other criteria being rated medium or higher.
Probability (the likelihood of the impact occurring)	Low	It is highly unlikely or less than 50 % likely that an impact will occur.
	Medium	It is between 50 and 70 % certain that the impact will occur.
	High	It is more than 75 % certain that the impact will occur, or it is definite that the impact will occur.
Significance (all impacts including potential cumulative impacts)	Low	Low consequence and low probability. Low consequence and medium probability. Low consequence and high probability.
	Medium	Medium consequence and low probability. Medium consequence and medium probability. Medium consequence and high probability. High consequence and low probability.
	High	High consequence and medium probability. High consequence and high probability.

### 3.3. Oral history

Where possible, people from local communities will be interviewed to obtain information relating to the surveyed area.

### 3.4. Report

The results of the desktop research are compiled in this report. The identified heritage resources and anticipated and cumulative impacts that the development of the proposed project may have on the identified heritage resources is presented objectively. Alternatives,

should any significant sites be impacted adversely by the proposed project, are offered. All effort will be made to ensure that all studies, assessments and results comply with the relevant legislation and the code of ethics and guidelines of the Association of South African Professional Archaeologists (ASAPA). The report aims to assist the developer in managing the documented heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

## 4. PROJECT OVERVIEW

UBIQUE Heritage Consultants were appointed by Isipho Environmental Consultants as independent heritage specialists in accordance with Section 38 of the NHRA and the National Environmental Management Act 107 of 1998 (NEMA), to conduct a desktop heritage screener as part of the cultural heritage assessment process to determine the impact of the proposed establishment of three borrow pits near Sterkspruit, in the Senqu Local Municipality, Joe Gqabi District Municipality, in the Eastern Cape Province, on any sites, features, or objects of cultural heritage significance. The three borrow pits occur to the east of Sterkspruit along the DR08606 and DR08515 roads and will be utilised for road construction undertaken by the Eastern Cape Department of Transport. The development footprints are estimated at 0.67 ha (BP2), 1.34 ha (BP5a) and 1.34 ha (BP5b).

### 4.1. Technical information

Project description	
Project name	The proposed establishment of two borrow pits near Sterkspruit, in the Senqu Local Municipality, Joe Gqabi District Municipality, in the Eastern Cape Province.
Description	The proposed project involves construction for the proposed establishment of three borrow pits east of Sterkspruit along the DR08606 and DR08515 roads, in the Senqu Local Municipality, Joe Gqabi District Municipality, in the Eastern Cape Province, for road construction undertaken by the Eastern Cape Department of Transport.
Developer	
Eastern Cape Department of Transport	
Contact information	
Development type	Transport Services Infrastructure: Roads
Landowner	
Senqu Local Municipality	
Contact information	
Consultants	
Environmental	Isipho Environmental Consultants
Heritage and archaeological	UBIQUE Heritage Consultants
Paleontological	Unknown
Property details	
Province	Eastern Cape
District municipality	Joe Gqabi District Municipality
Local municipality	Senqu Local Municipality
Topo-cadastral map	1:50 000 3027CB and 3027DA
Farm name	301 RE/88
Closest town	Sterkspruit
GPS Co-ordinates	Borrow pit 2: 30° 36'5.78"S; 27° 29'33.37"E Borrow pit 5a: 30° 34'13.81"S; 27° 31'22.36"E Borrow pit 5b: 30° 34'11.88"S; 27° 31'25.74"E
Property size	7185.74 ha
Development footprint size	Borrow pit 2: 0.67 ha Borrow pit 5a: 1.34 ha Borrow pit 5b: 1.34 ha
Land use	
Previous	None/Vacant land
Current	None/Vacant land



Rezoning required	No
Sub-division of land	No
<b>Development criteria in terms of Section 38(1) NHRA</b>	
	<b>Yes/No</b>
Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length.	No
Construction of bridge or similar structure exceeding 50m in length.	No
Construction exceeding 5000m <sup>2</sup> .	Yes
Development involving three or more existing erven or subdivisions.	No
Development involving three or more erven or divisions that have been consolidated within the past five years.	No
Rezoning of site exceeding 10 000m <sup>2</sup> .	No
Any other development category, public open space, squares, parks, recreation grounds.	No



**Figure 1** Locality of the development footprint for Borrow Pit 5a, 5b and Borrow Pit 2, 301 RE/88, Sterkspruit, indicated on Google Earth Satellite imagery.

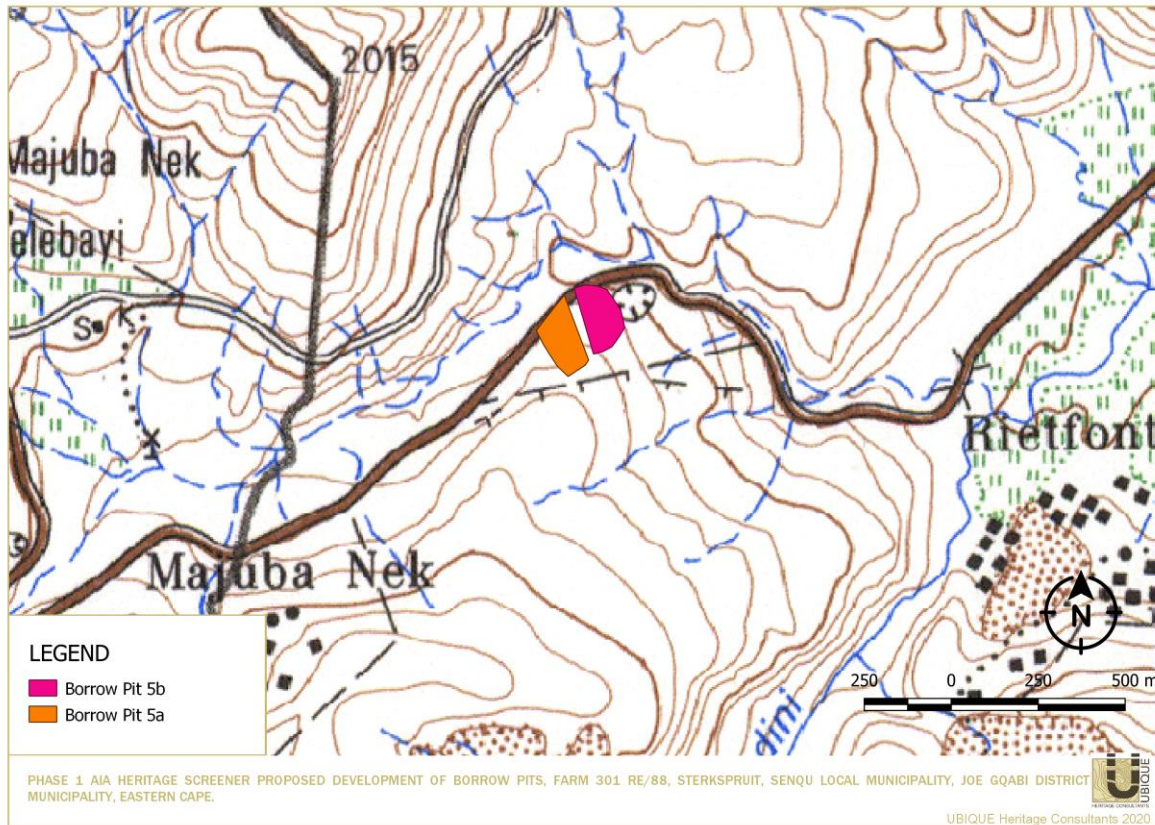


Figure 2 Locality of the development footprint for Borrow Pit 5a and 5b, 301 RE/88, Sterkspruit. 1:50 000 Topo-cadastral map 3027DA.



Figure 3 Locality of the development footprint for Borrow Pit 5a and 5b, 301 RE/88, Sterkspruit, indicated on Google Earth Satellite imagery.

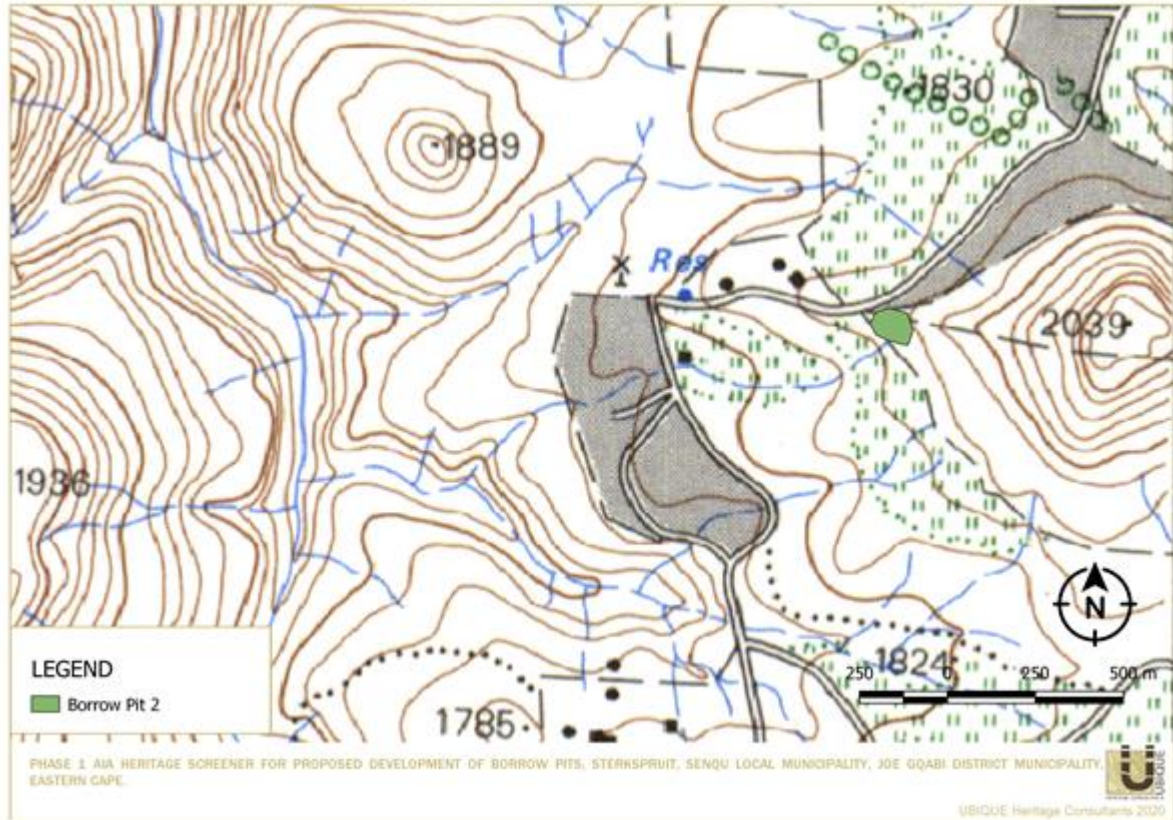


Figure 4 Locality of the development footprint for Borrow Pit 2, 301 RE/88, Sterkspruit. 1:50 000 Topo-cadastral map 3027CB.



Figure 5 Locality of the development footprint for Borrow Pit 2, 301 RE/88, Sterkspruit, indicated on Google Earth Satellite imagery.

## 4.2. Description of the affected environment

The development areas fall within the Senqu Montane Shrubland. It is restricted to steep, boulder-strewn slopes of valleys and deep gullies which supports open-canopy montane shrubland (Mucina & Rutherford 2006). According to Mucina & Rutherford (2006), the Senqu Montane Shrubland vegetation is typically dominated by evergreen shrubs, namely Besembos (*Rhus erosa*), wild olive (*Olea europaea*) and Firesticks (*Diospyros austro-africana*). In a few sheltered inaccessible areas, the shrubland turns into thickets with Wild peach (*Kiggelaria Africana*), Oldwood (*Leucosidea sericea*) and Dogwood (*Rhamnus prinoides*).

The remote sensing/digital survey of the development areas revealed that several shrubs/trees are visible near BP2, whereas BP5a and 5b appear to have very little thick vegetation. From satellite images, anthropogenic disturbances can be seen to the northeast of BP5b and in the centre of BP2, where existing excavations are present. Previous excavation adjacent to BP5b predates 1982. The potential borrow pits are situated close to secondary roads that provide easy access to the sites. To the immediate north, northwest of BP2 a series of structures are located. Worked fields are seen opposite the road to the far north of BP2. The field survey of the development footprints might, however, prove otherwise. The study areas are not isolated and pristine. Heritage resources, if present, might already be affected and disturbed.



**Figure 6** Satellite Image of affected environment BP5a & BP5b



Figure 7 Satellite Image of affected environment BP2

## 5. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

South Africa has a very long and varied history of human occupation (Deacon & Deacon 1999). This occupation date to approximately 2mya (million years ago) (Mitchell 2002). Briefly, the archaeology of South Africa can be divided into three "major" periods, namely: the Stone Age, the Iron Age and the Historical period. Numerous archaeological and historical sites have been identified and documented throughout South Africa. Due to the sites' proximity to Lesotho, this section includes relevant archaeology and background from sites within Lesotho.

### 5.1. Region

The Eastern Cape Province's as well as Lesotho's archaeological history dates back to around 2mya ago, and possibly even older (Lombard et al. 2012; Kruger 2015, 2017). The archaeological heritage of the Eastern Cape and Lesotho spans from the ESA, MSA and LSA. However, there is also evidence of pastoralism and IA farmers in the Eastern Cape. The Eastern Cape and Lesotho regions are also rich in rock art, specifically throughout the Southern Drakensberg Mountains. The Eastern Cape is historically significant because the region was a frontier between hunter-gatherers, pastoralist Nguni-speaking farming communities and European settlers (Kruger 2015; 2017). According to Rossouw (2015), the archaeological footprint of the Eastern Cape region includes Stone Age and rock art sites, stone-walled remnants and cave dwellings of early indigenous farming communities as well as historical structures related to missionary activities and early trek-farmers.

#### 5.1.1. Stone Age

In southern Africa, the Stone Age can be divided into three periods. It is, however, critical to note that dates are relative and only provide a broad framework for interpretation. The division of the Stone Age, according to Lombard et al. (2012) is as follows:

- Earlier Stone Age: >2 000 000 - >200 000 years ago
- Middle Stone Age: <300 000 - >20 000 years ago
- Later Stone Age: <40 000 - until the historical period.

In short, the Stone Age refers to humans that mainly utilised stone as their technological marker. Each of the sub-divisions represents a group of industries where the assemblages share attributes or common traditions (Coertze & Coertze 1996; Lombard et al. 2012). The ESA is characterised by flakes produced from pebbles, cobbles and percussive tools, as well as objects created later during this period such as large hand axes, cleavers and other bifacial tools (Klein 2000). The MSA is associated with small flakes, blades and points. The aforementioned is generally inferred to have been made and utilised for hunting activities and had numerous functions (Wurz 2013). Lastly, the LSA is characterised by microlithic stone tools, scrapers and flakes (Binneman 1995; Lombard et al. 2012). The LSA is also associated with rock art.

The research conducted on Stone Age localities in the Eastern Cape and Lesotho, especially sites with evidence of long occupation periods, provides essential information and data on the cultural responses to environmental change across the Pleistocene/Holocene boundary (Mitchell 1992).

Humans inhabited the Eastern Cape region from the ESA onwards (Kruger 2017). The majority of Stone Age finds in the Eastern Cape region have been classified as isolated surface occurrences and can mainly be attributed to the Middle Stone Age (Kruger 2017). A few prominent ESA sites have been recorded in the Ciskei, as well as the Middledrift commonage, and vast flood plain along the Keiskamma River. Streams and erosion channels have also revealed ESA material on silcrete sandstone. ESA stone tools have been documented and recorded near sites at Indwe and at sites in the former Transkei (Kruger 2015).

Kruger (2015) notes that several MSA artefacts occur throughout the Eastern Cape region with MSA occupation at the Southern Drakensberg area before 29 000 BP. A site situated in the foothills of the Southern Drakensberg known as Strathallan Cave B (believed to have been occupied from between 28 000 to 22 000 years ago) yielded artefacts and occupation floors dating to the MSA. The artefacts recorded here include slender blades and wooden tools. Moreover, surface scatters of MSA stone artefact industries occur widely as the former Ciskei and Transkei (Kruger 2015). Several isolated and low-density MSA surface scatters have been recorded near Indwe and Barkley East (Kruger 2015).

LSA sites in the Eastern Cape are located either at the coast or inland as cave deposits in rock shelters and shell deposits (Kruger 2017). LSA sites recorded in the Eastern Cape have been dated to the past 10 000 years when San hunter-gatherers inhabited the landscape, living in rock shelters, caves and the open landscape. However, open-air sites are often difficult to find because they are in the open veld and regularly covered by vegetation and sand. These latter sites are usually identified by a few stone tools and fragments of bone (Kruger 2017). The Southern Drakensberg was occupied by hunter-gatherers before 10 000 BP, but was eventually abandoned in the Holocene after ca. 6 000 BP, and re-occupied by 3 000 BP. On account of the ecological evidence, it is suggested that the Southern Drakensberg may have been too dry to support the hunter-gatherer's animals and plants between 6 000 BP and some time before 3 000 BP. The north-eastern Cape forms a link between the drier west of South Africa and the wetter eastern half. It is believed that the wettest conditions existed around 2 700 BP, which, which could probably explain the increase in human occupation in the Southern Drakensberg. The abandonment of the area followed during the drier phases of preceding millennia (Kruger 2017).

The LSA artefact industries within the Drakensberg region and north-eastern Cape demonstrates the resources of this area. These areas were exploited throughout the end-Pleistocene and Holocene (Kruger 2017). Opperman (1982) comments that stone-tool analysis revealed that the cultural stratigraphic sequence in the Colwinton rock shelter is similar to that recorded in Lesotho, the middle Orange River basin and the Eastern and Southern Cape.

Some of the more well-known/documented sites in the Eastern Cape are: the Bonawe rock shelter situated below the escarpment about 7 km west of the town of Elliot; the Te Vrede rock shelter situated below the escarpment near Ugie; the sites of Ravenscraig, Colwinton, Wartail and Prospect are situated above the escarpment within the Barkly East district. These sites contained end-Pleistocene and Holocene materials such as faunal remains, stone artefacts and pottery (Kruger 2017; Opperman 1982). The stone tool analysis has revealed a sequence of three industries in the cultural sequence of the southern and eastern Cape, Lesotho, and Middle Orange River (Kruger 2017).

Today a vast amount of data is available on the Stone Age archaeology of Lesotho. Archaeological research in Lesotho was minimal before 1969 (Mitchell 1992) founded on the research of early missionaries and travellers who had travelled into the interior of southern Africa during the 1860s. These early travellers and missionaries had recorded stone tools from open-air sites, river terraces and rock shelters in the Lesotho region. During the late 1960s/1970s, Pat Carter had 'initiated archaeological research' in the highlands of Lesotho. He excavated several large shelters including Ha Soloja and Moshebi's Shelter in the Sehlabathebe Basin, and at Melikane and Sehonghong on tributaries of the Orange River (Mitchell 1992). These sites mainly contained LSA deposits that were underlain by extensive MSA occupation. Carter and Patricia Vinnicombe recorded over 300 sites during their surveys.

Carter's long-term project focused on the eastern part of Lesotho. Excavations were also conducted at the shelters in the Leribe District by Vivian Ellenberger. Contract archaeology's contribution to the archaeological data set of Lesotho began when Parkington et al. (1978) had surveyed the footprint of the Southern Perimeter road. Furthermore, numerous heritage resources were documented and mitigated preceding the infrastructural development of the Lesotho Highlands Water Project (Van Schalkwyk 2015). In 1988 excavations were initiated and complemented a systematic rock art recording project undertaken through the ARAL (Analysis Rock Art Lesotho) project. Peter Mitchell had also conducted several excavations throughout Lesotho during the 1990s. Extensive excavation and sampling programmes were done on various sites which allowed for a reconstruction of the organisation of LSA lithic technologies in the Caledon River Valley. Excavations have also been done at sites such as Sehonghong Shelter and Lehaha-la-Masekou in the eastern Lesotho highlands; in southern Lesotho Bolahla, Ha Mototane; in southwestern Lesotho and Mount Moorosi; in the Phuthiatsana-ea-Thaba Bosiu Basin (PTB), Central Lesotho Lowlands at Leqhetsoana and 2927DA11 (Van Schalkwyk 2015).

In Lesotho, ESA occurrences are rare and usually located in river valleys. Several ESA sites have been recorded at/near Leribe and Botha Bothe and usually consist of medium-sized quartzite hand axes and large flakes (Van Schalkwyk 2015). ESA Acheulean and MSA artefacts have been recorded from the terraces along the Makhaleng River and open-air sites near Leribe by Barry Malan. Moreover, MSA assemblages have been documented in Lesotho at open-air sites and rock shelters. The rock shelters have been recorded to have deep stratigraphic occupation sequences. Van Schalkwyk (2015) states that the MSA assemblages of Lesotho are dominated by quartzite, hornfels and dolerite, as well as cryptocrystalline silicas. The sites of Leribe and Botha Bothe have also yielded MSA localities. The typology of these latter localities is characteristic of MSA technologies. In other words, the occupants had made use of the prepared core technique to obtain primary flaked products that were used to produce formal tool types such as points, knives and scrapers (Van Schalkwyk 2015). Other significant MSA sequences and deposits have been recorded at localities in the Caledon Basin at sites such as Ntloana Tsoana and Ha Makotoko in Lesotho (Van Schalkwyk 2015).

Many parts of Lesotho were inhabited during the latter part of the Holocene. The LSA occupations in Lesotho are characterised by the utilisation of rock art localities and rock shelters (Van Schalkwyk 2015). Many hunter-gatherer groups had survived in Lesotho until the late 19th-century (Mitchell 1992). Some of these groups had still lived on farms during this time. During the late 1920s, Van Riet Lowe had interviewed one of them on his knowledge of stone tools. Another contribution to the ethnographic observations was when Patricia Vinnicombe had interviewed two older adults who lived near Sehonghong in 1971. These two men provided information on their lifestyle, interactions with black farmers, and skirmishes with them (Van Schalkwyk 2015). The excavations completed at Ha Makotoko and Ntloana Tsoana also revealed that these sites contained long LSA sequences relating to the Pleistocene/Holocene transition (Van Schalkwyk 2015).



Excavations done at the largest of several shelters in western Lesotho, Tloutle rock shelter in the Roma Valley, yielded a representative Holocene lithic sequence. Other archaeological excavations were also conducted at three shelters in western Lesotho. These three shelters are Muela, Lithakong and Liphofung. Muela and Lithakong were both "subsequently drowned" however, Liphofung is currently a protected site. Liphofung was the first excavated shelter in this part of Lesotho. This site provided evidence for the presence of hunter-gatherers during the second half of the Holocene (Van Schalkwyk 2015). Approximately 30 rock shelters, 29 with rock paintings and three with substantial deposits were recorded by Arthur and Mitchell (2010) during their assessment of archaeological resources of the area impacted by the Metolong Dam in western Lesotho. During their project, revisited 27 rock art sites that were recorded by Smits (1983), they had also documented additional open-air lithic scatters (Van Schalkwyk 2015).

As previously noted, the LSA is also associated with rock art. The renowned San rock paintings of the Drakensberg region have been dated to between 4000 years ago and about 120 years ago. In southern Africa, rock paintings are predominantly found in caves and rock shelters. The southern Drakensberg, north-eastern Cape, the entire Drakensberg range stretching into KwaZulu-Natal and Lesotho are prolific in rock paintings. Kruger (2017) does note, however, that rock engravings are limited to the Karoo and Northern Cape regions and do not generally occur within the North-Eastern Cape region and former Transkei region. Some of the well-known rock art sites include Maclear, Tsolo, Barkly East, Ugie, Dordrecht and the wider region and extent of the Drakensberg range and Maluti Mountains (Kruger 2017).

### 5.1.2. Iron Age

The Iron Age (IA) is characterised by the use of metal (Coertze & Coertze 1996: 346). There is some controversy about the periods within the IA. Van der Ryst & Meyer (1999) have suggested that there are two phases within the IA, namely:

- Early Iron Age (EIA) 200 – 1000 AD
- Late Iron Age (LIA) 1000 – 1850 AD

However, Huffman (2007) suggests that there are three periods within the Iron Age:

- Early Iron Age (EIA) 200 – 900 AD
- Middle Iron Age (MIA) 900 – 1300 AD
- Late Iron Age (LIA) 1300 – 1850 AD.

Thomas Huffman believes that a Middle Iron Age should be included within this period; his dates have been widely accepted in the IA field of archaeology.

The South African Iron Age consists of farming communities who had domesticated animals, cultivated plants, manufactured, and made use of ceramics and beads, smelted iron for weapons and manufactured tools (Hall 1987). Iron Age people were often mixed farmers/agropastoralists. These agropastoralists generally chose to live in areas with sufficient water for domestic use along with arable soil that could be cultivated with an iron hoe. Most Iron Age (IA) settlements were permanent settlements, consisting of features such as houses, raised grain bins, storage pits and animal kraals/byres this is in contrast to the temporary camps of pastoralists and

hunter-gatherers (Huffman 2007). It is evident in the archaeological record that IA groups had migrated with their material culture (Huffman 2002).

Only a small portion of the research on the IA of southern Africa focussed on the IA of the Eastern Cape (Kruger 2017). EIA sites have been recorded in the Eastern Cape such as Kulubele situated in the Kei River Valley near Khomga, Ntsitsana situated in the interior Transkei, 70 km west of the coast, along the Mzimvubu River, and Canasta Place situated on the west bank of the Buffalo River. EIA sites have been recorded in the Great Kei River Valley and south of East London. Most EIA sites are generally large settlements, but the archaeological visibility may often be difficult to see due to the organic nature of the homesteads (Kruger 2017).

LIA sites in the Eastern Cape province occur not only adjacent to the major rivers in low lying river valleys but also along the ridge crests above the 800 m contour (Kruger 2017). It has been suggested that some of the stone-walled sites in the Eastern Cape, especially those that incorporated caves or shelters, were constructed, and inhabited by heterogeneous Nguni/San groups. During the LIA trade had played a significant role in the economies of these societies. Many LIA groups had traded locally and over long distances. The trading led to the growth of trade wealth and the establishment of economically driven centres. Metalworking activities, crop cultivation and the keeping of domestic animals continued with a change in the organisation of economic activities. The Albany Museum has formally recorded LIA settlements. The LIA settlements in the region cover a relatively extended area in comparison with the EIA settlement patterns (Kruger 2017).

During the 1820s, the period known as the *Difaqane/Mfeqane* caused wide-spread conflict, allowing a series of raids and wars to take place by communities of displaced and wandering Nguni-and Southern Sotho-speaking groups after the rise of Shaka's Zulu empire. Refugee communities had, during this period, fled over the Drakensberg mountain passes. Small Nguni and Southern Sotho communities had occupied the Caledon River Valley and the foothills of the Maluti Mountains. These groups subsequently branched off into numerous antagonistic communities which were scattered along the Caledon River and Upper Orange River Valleys (Rossouw 2015).

### 5.1.3. Historical period

Kruger (2017) comments that the first Europeans in the region would have been the 'trekboers'. The lack of sufficient space for proper stock farming during the 1700s had forced farmers to move deeper into the interior of the Cape Colony. These farmers were referred to as the 'trekboers' (migrant farmers) (SAHO 2018). In short, the 'trekboers' were looking for grazing land for their cattle. These farmers had moved around the area for about 20 to 30 years before they had founded their first settlements. The landscape was divided into numerous farms by the white settlers since the middle of the 19th-century. Many of these farms today continue to form the framework for agricultural, residential, and other forms of development (Kruger 2017).

Conflict arose in the Eastern Cape between the Dutch and British settlers on the one side and the Xhosa on the other. Between 1779 and 1878 a total of nine wars were fought. This period of conflict is known as the hundred-year war (100-year war). The 100-year war started in 1778 when the Dutch governor of the Cape made the Great Fish River the eastern boundary of the Cape Colony. The Xhosa and 'trekboers' fought over grazing land and cattle theft. By 1802 three

frontier wars had taken place between the Xhosa and Dutch settlers. When the British took over the Cape in 1806, the situation became worse. British soldiers were sent to remove Xhosa people from the land that they had been living on for many years; the British argued that the Xhosa had stolen cattle from the settlers (SAHO 2017).

Dutch speaking settlers had taken up farms during the 18th century. However, it was only with the arrival of the 1820 settlers that the population had increased. Van Schalkwyk (2011) remarks that the architecture of the farmsteads arising in the Eastern Cape after 1820. can be described as a modified English vernacular. The conflicts between the local people and later settlers resulted in many of these farmsteads being fortified. Numerous forts were also established, presumably to defend the British colony from the invading Xhosa (Van Schalkwyk 2011).

One of the most well-known sites in Lesotho is Ha Makoanyane. This site was occupied from around 1881 until the 1960s. The site offers a window on a significant period of transition in Lesotho's colonial history, in terms of the economy of the region as well as the role of traditional authority (King et al. 2014).

## 5.2. Local

Very few impact assessments have been conducted near (within a 50 km radius) of the current study area. The majority focused on projects in/near Sterkpruit, Barkly East, Lady Grey and Herschell. Previous AIA/HIA reports recorded little to no archaeological material, as well as little to no rock art sites, prehistorical structures, or historical buildings older than 60 years.

In and around Sterkspruit town Dreyer (2008) conducted an HIA for a new solid-waste landfill site, Rossouw (2014) conducted the HIA for the construction of a new wastewater treatment works and associated pipeline infrastructure, and Mngomezulu (2014) applied for an exemption for the construction of the Further Education Training (FET) College in Sterkspruit.

Approximately 7-8 km north from the proposed borrow pits 5a and 5b, near the village of Musong. Rossouw (2015) noted during his impact assessment that there is no indication of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape within the vicinity of the respective development footprints. Furthermore, Rossouw (2015) commented that there are also no signs of rock art, prehistoric structures, visible graves or historic structures within the boundaries of the respective development footprint areas.

Along Road DR08606, approximately 5.2- 12.7 km northwest of BP5a and 5b, Booth (2019<sup>1</sup>) recorded five areas containing graves as well as the remains of a stone packed structure which could have been a kraal. She documented no other heritage resources, such as stone age material or rock art.

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<sup>1</sup> Report provided by client, currently unavailable on SAHRIS.

Heritage resources recorded within the 50 km radius to the proposed borrow pit sites are discussed in more detail below.

### 5.2.1. Stone Age

Kruger (2017) comments that Stone Age material occurs abundantly in the Eastern Cape Landscape. Stone Age remains associated with caves, outcrops, hills, and river courses are known to exist in the region. The presence of Stone Age people in the Eastern Cape landscape can be attributed to the abundance of locally available raw material that was utilised for the manufacture of stone tools. The Eastern Cape is also known for the evidence of hominin and/human occupation (Kruger 2017).

Unfortunately, due to the lack of impact studies done in and around the development area, little Stone Age material has been documented. Most of the impact reports within a 50 km radius of the current study area recorded no Stone Age sites/artefacts (Dreyer 2008; Kitto 2013; Kruger 2015; Rossouw 2014). During Kruger's (2017) survey for the proposed Herschel Regional Landfill Site Development, he recorded isolated MSA artefacts at the site in areas where erosion exposed underlying calcrete sub-surface (this is approximately 30 km northwest of the current study area). The artefacts he recorded consist of a flaked core, a broken blade, and a large side scraper. He notes that the artefact context has been lost and the low amount of tool frequencies would imply a low heritage significance rating (Kruger 2017).

It has been recorded that human occupation by LSA hunter-gatherers occurred in the greater Langkloof-Sterkspruit region with artefacts and charcoal remains from fires dating to 11 853 BP at Ravenscraig (Opperman 1982). Opperman (1982) notes that excavations have been undertaken in the Barkly East district at the sites Colwinton, Prospect, Wartrail and Ravenscraig. Moreover, unconsolidated sediments, deposited by fluvial processes and which occur in river valleys that drain northwards down the dip of the slope of the escarpment of the Drakensberg to enter the Kraai River in Barkly East have been recorded by Lewis (2005). Palaeosols have occasionally been present in the region, which are critical for understanding LSA habitation. Palaeosols were identified in the Dinorben headwaters of the Langkloof and at various sites in the Sterkspruit drainage systems-Glenmore, Tantallon, Kilchurn, and Athol (Lewis 2005).

#### 5.2.1.1. Rock Art

Numerous rock art sites have been recorded in the Eastern Cape. Around three-quarters of the rock art sites contain surface scatters of stone artefacts relating to the LSA. The area which immediately surrounds the town of Rhodes (the town of Rhodes is approximately 49 km southeast from the current development area) is known to have various rock art sites, some of which are open to the public (Kitto 2013a). Two of the sites located close to the town of Rhodes are Martindell and Buttermeade. Martindell lies within the Martinshoek Valley. The site is situated high up on a rock overhand. The paintings at Martindell farm are regarded as some of the best-preserved in southern Africa (Nightjar Travel 2017). At Buttermeade rock shelter are polychrome images of eland, some of which are superimposed over earlier paintings (Nightjar travel 2017). Kitto (2013b) notes that thirty-eight rock art shelters have been recorded in the Barkly East area. Rock art localities have also been recorded in the Herschel district, which includes several cave sites containing rock paintings (Rossouw 2015).

Rock art sites recorded within a 100 km radius of the town of Sterkspruit include not only Buttermeade and Martindell but also the Dinorben rock art, the Storm shelter site, Chamisso and Leliekloof – valley of art (Nightjar Travel 2017).

### 5.2.2. Iron Age

None of the HIA/AIA reports near the study area has recorded IA artefacts/structures.

### 5.2.3. Historical period

Various colonial and local farming communities had settled in the Eastern Cape region and along the foothills of the Drakensberg during the Colonial period (Kruger 2017). Minimal colonial-era features have been recorded in the area. Four Colonial-period structures were recorded during the field assessment of the proposed Zachtvelei Dam Long Term Water Supply Project, near Lady Grey, JGDM, Eastern Cape. These sites date to the period ca.1851 (Van Ryneveld 2017). Van Ryneveld (2017) states that all four sites are of high significance. The remains of a sandstone dwelling were recorded by Kruger (2017) during his survey for the proposed Herschel Regional Landfill site Development project. He also recorded colonial-era porcelain and glass in a deep erosion gully east of the dwelling. The characteristic sandstone building blocks and colonial-era artefacts would suggest that the site is older than 60 years and may have belonged to a Historical period farmer. Kruger (2017) comments that although the site is poorly preserved, it might be of heritage significance in terms of a representation of the regional colonial farming history of this area.

Kruger (2015) also recorded a dilapidated warehouse structure directly north of the N18 during his survey for the AIA of areas demarcated for the Barkly East Bulk Water Supply Upgrade Project. This warehouse structure consists of red brick walls on three sides which are reinforced with concrete columns in all sides. There is no roof present on the structure, and Kruger (2015) notes that the "floor is littered with building rubble". Unfortunately, this building is not well preserved. However, due to the age of the railway network around Barkly East and the architectural style of the building, it is believed that it may be older than 60 years and it is, thus, a protected heritage resource. He also recorded several dilapidated multi-room house structures and buildings, presumably part of old railway housing and infrastructure. The buildings resemble the later Historical Period architecture of Barkly East. Much of the potential historical and architectural attributes of the buildings have been lost. However, buildings are possibly older than 60 years and are thus protected heritage resources (Kruger 2015). Kruger (2015) recorded during his survey, several houses, warehouses, and buildings of possible historical origin. A clear temporal context for the structures are not known but, considering the architectural styles the sites most probably date to the Colonial farming period in Barkly East and, as such, they are most probably older than 60 years and thus protected heritage resources. Moreover, Dreyer (2005) recorded a circular stone structure during his survey for the proposed installation of a Sewer plant at Herschell. The origin and purpose of this structure are not known, and according to its locality Dreyer (2005) believes that it may not be of any high cultural significance.

During the Phase 1 AIA assessment for the proposed road upgrade from Sterkspruit to Mlamli Hospital (Road DR08606, +1-12km) and three associated borrow pits, Booth (2019) identified the remains of a stone packed structure which could have been a kraal.

#### 5.2.4. Graves/burials

In the Eastern Cape, graves and cemeteries are often present within settlements or around homesteads (Kruger 2015). Rossouw (2014) recorded a small graveyard during the survey for the Phase 1 HIA of the proposed new construction of a new Waste Water Treatment Works (WWTW) and associated pipeline infrastructure near the entrance of the proposed WWTW. This is approximately 15-16 km northwest from the proposed borrow pits.

Furthermore, Booth (2019) has also identified several graves along the proposed road upgrade route during her survey. The graves that were recorded along the area for the proposed road upgrade include two isolated graves; several fenced off graves situated about 40 m west from the existing road; two unfenced cemeteries around 30-60 m east of the existing road. Booth (2019) had also identified graves adjacent to the existing road situated on the edge of the existing borrow pit or previous quarrying activities (Booth 2019). The isolated graves are approximately 10-11 km northwest of the current development project, while the closest graveyards/cemeteries are  $\pm 6$  km northwest of the current development footprint.

#### 5.2.5. Oral history

None of the reports included interviews with locals regarding the history of the area.

## 6. IDENTIFIED RESOURCES AND HERITAGE ASSESSMENT

A digital survey was conducted using Google Earth Satellite Imagery and the Chief Surveyor-General Property Search (<https://csg.esri-southafrica.com>) using the NGI 50cm base map in an attempt to identify any possible archaeological features that may be present on/near the proposed development footprint.

### 6.1. Identified heritage resources found during the digital survey

#### POSSIBLE RESOURCES IDENTIFIED ON FARM 301 RE/88

Site Name	Description	Period	Location	Field rating/ Significance
<b>Stone Age</b>				
	Type feature	No visible features/artefacts were recorded during the digital survey, but could be present in the landscape.		
<b>Iron Age</b>				
	Type of feature	No visible features were recorded during the digital survey, but could be present in the landscape.		
<b>Historical</b>				
1. BP2 301RE/88-001	Type of feature	Structural remains	Unknown 30°36'3.04"S 27°29'39.34"E	Field study required in order to determine the significance
2. BP2 301RE/88-002	Type of feature	Structural remains	Unknown 30°36'4.92"S 27°29'39.46"E	Field study required in order to determine the significance
3. BP5a & BP5b 301RE/88-003	Type of feature	Possible structural remains	Unknown 30°34'14.96"S 27°31'26.13"E	Field study required in order to determine the significance
4. BP5a & BP5b 301RE/88-004	Type of feature	Possible structural remains	Unknown 30°34'12.36"S 27°31'34.15 "E	Field study required in order to determine the significance
5. BP5a & BP5b 301RE/88-005	Type of feature	Possible structural remains	Unknown 30°34'13.12"S 27°31'32.81"E	Field study required in order to determine the significance
6. BP5a & BP5b 301RE/88-006	Type of feature	Possible structural remains	Unknown 30°34'18.51"S 27°31'28.06"E	Field study required in order to determine the significance
<b>Graves</b>				
	Grave markers	No visible graves were recorded during the digital survey but could be present in the landscape.		

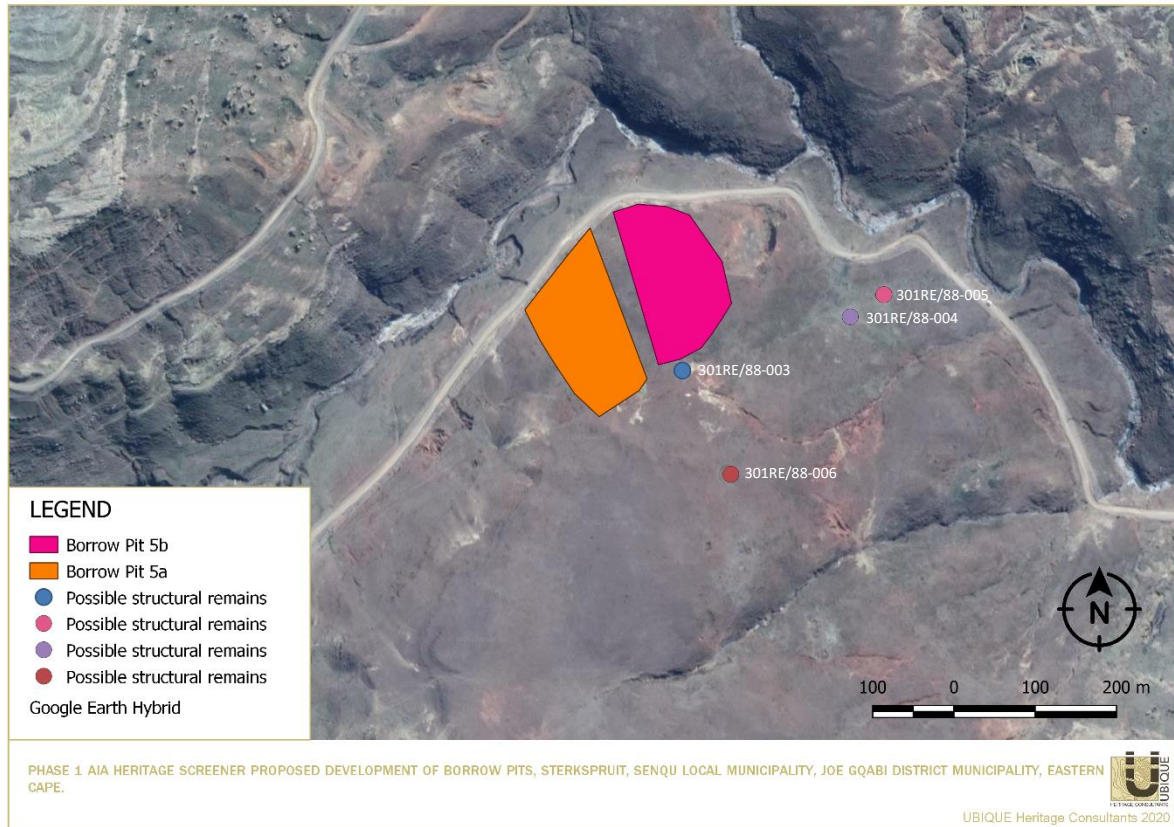


Figure 8 Distribution of identified heritage resources during the digital survey near the development footprint.

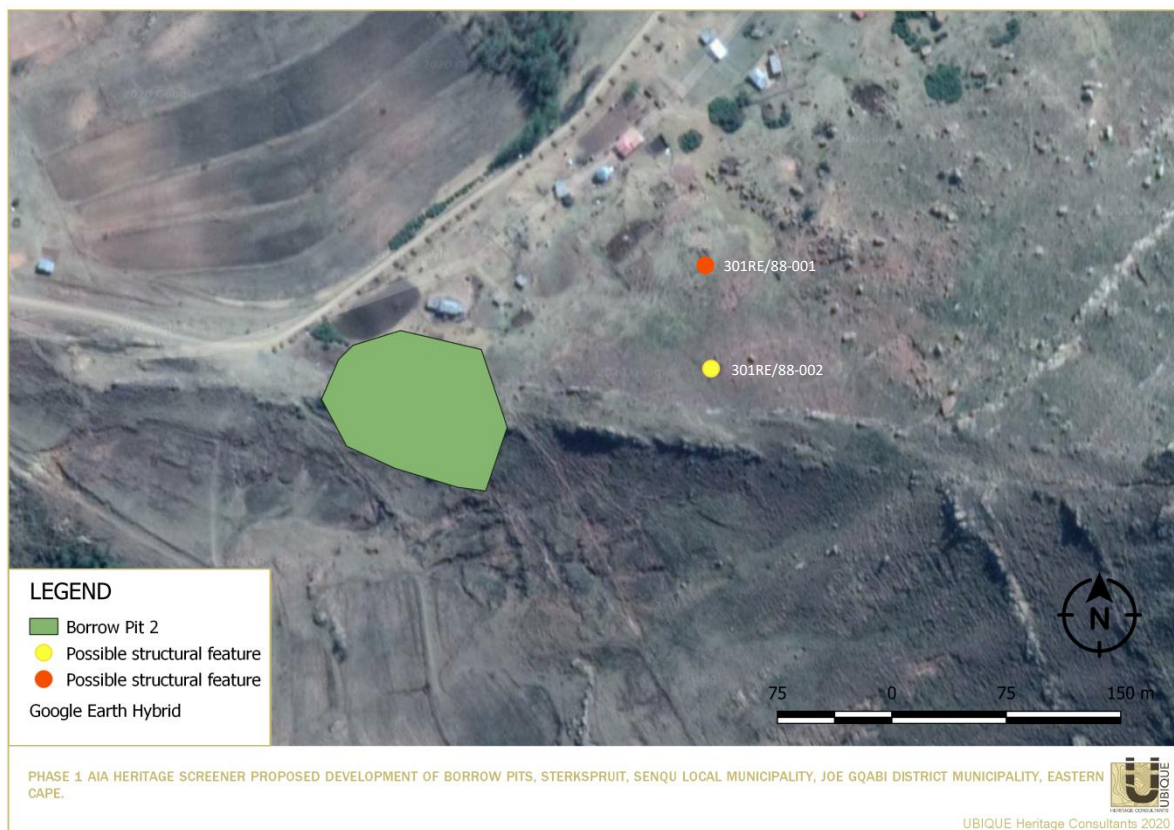


Figure 9 Distribution of identified heritage resources during the digital survey near the development footprint.



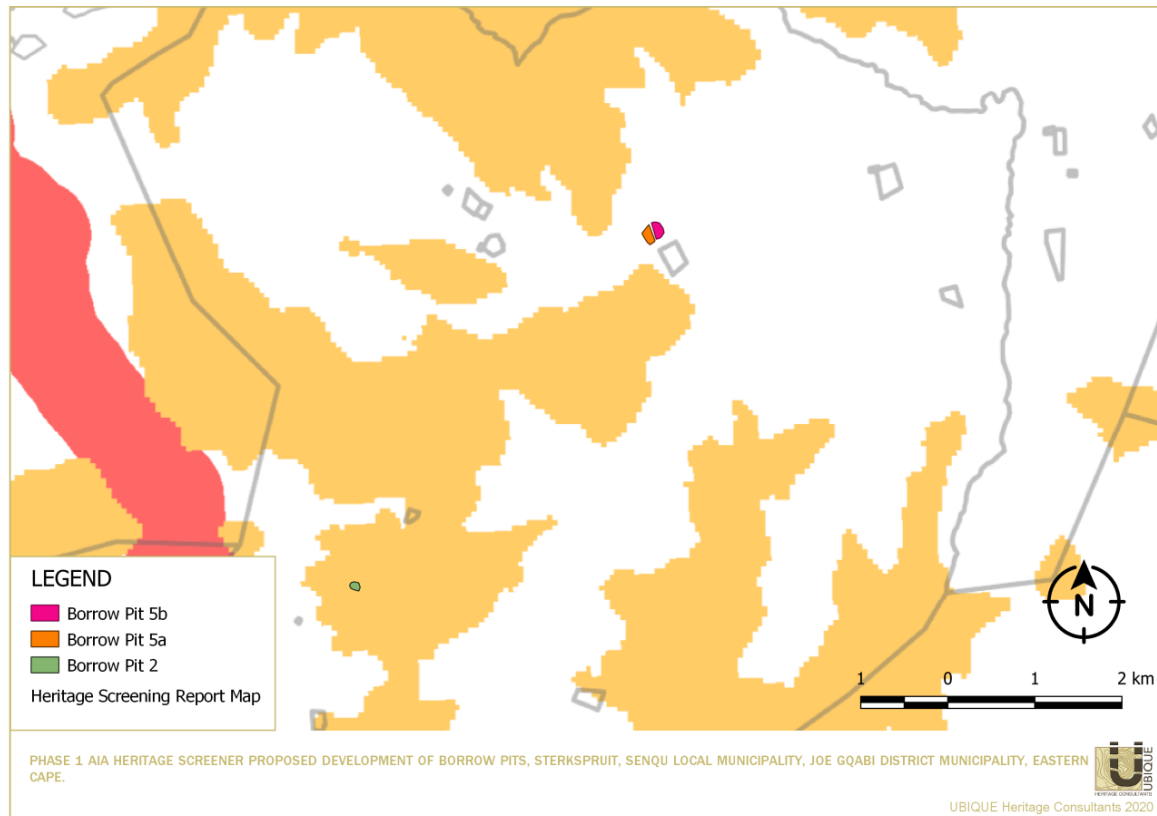


Figure 10 Sensitive heritage areas near development footprint, National Environment Screening tool (<https://screening.environment.gov.za/>).

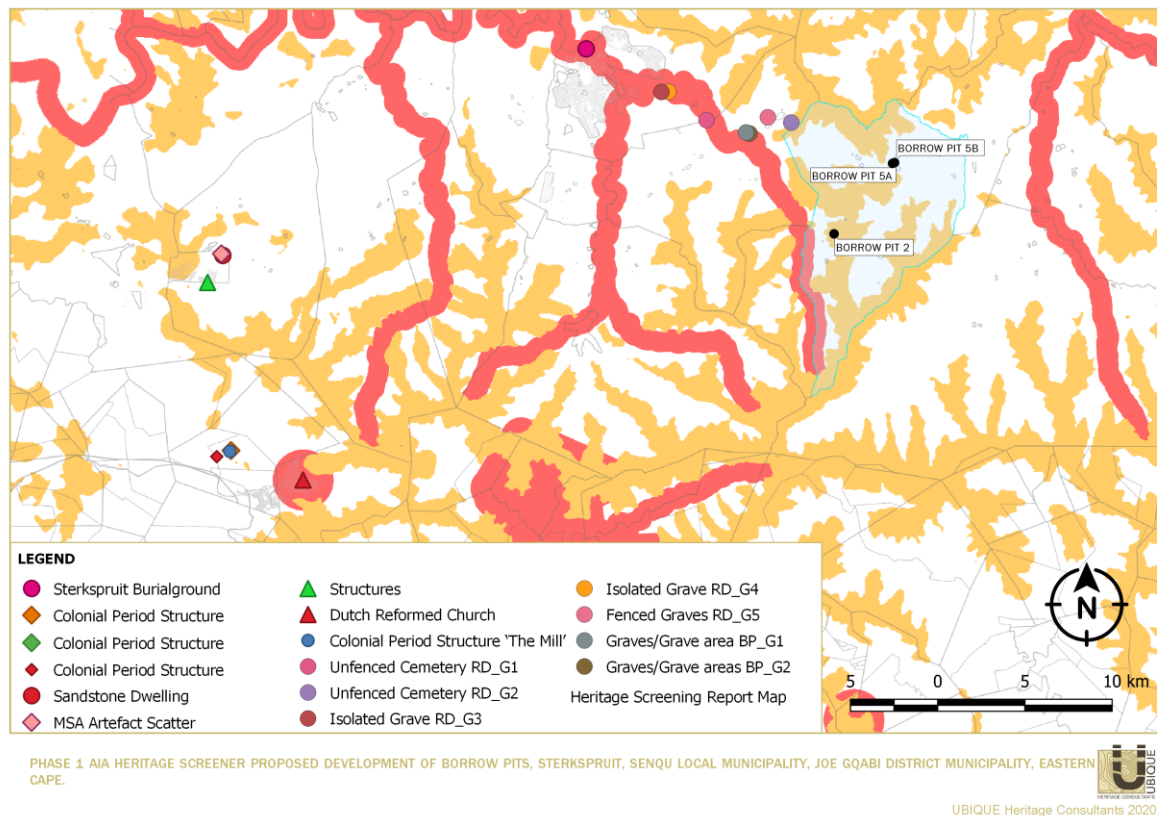


Figure 11 Previous Heritage Impact Assessments and Heritage resources that have been identified near the proposed development area; National Environment Screening tool (<https://screening.environment.gov.za/>).

## 6.2. Heritage sensitivity in the region

The Heritage Screening tool (<https://screening.environment.gov.za/>) was used in order to complement the assessment of the study area's heritage sensitivity. Figure 10 indicates that the area surrounding the proposed borrow pits are of medium sensitivity. Figure 11 indicates the heritage sensitivity in the greater region (ranging from medium to high). Figure 10 also includes some of the previously identified heritage resources around the current development area.

## 6.3. Discussion

### 6.3.1. Archaeological features

There are currently no known archaeological features on the farm 301 RE/88. Desktop research has shown that low-lying river valleys, but also ridge crests above the 800 m contour, as well as proximity to water are landscape features prone to archaeological evidence in the Eastern Cape. These landscape features are present in the affected study area. It is therefore probable that heritage resources may be encountered within the development footprints during an on-site field inspection.

The remote sensing/digital survey revealed that there are two structural features (301RE/88-001, 301RE/88-002) located to the northeast of the proposed BP2, as well as four structural features (301RE/88-003, 301RE/88-004, 301RE/88-005, 301RE/88-006) situated to the south and southeast of BP5a and BP5b. However, their extent and significance can only be determined through in-the-field visual inspection. It is especially vital to understand whether the four structures, 301RE/88-003, 301RE/88-004, 301RE/88-005, and 301RE/88-006, are related to each other and form part of one compound-type site or are unconnected individual sites. If these structures are part of a farmscape complex, damaging one part might alter the significance of the whole. In such an instance, not only the architectural features but also the spaces in between become important. Scattered cultural material may be present that could provide essential context for these structures and aid dating and significance grading.

Previous excavation activity has left disturbances within the BP2 footprint and close to the BP5b footprint. No AIA reports were filed for these, as they most certainly predate legislative requirements of 1998. These disturbances provide the opportunity for the sub-surface inspection of the exposed stratigraphy for archaeological features that might otherwise go undetected. In particular, *in situ* stone age material may be present.

### 6.3.2. Graves

No apparent demarcated graveyards/graves/burials were found during the remote sensing/digital survey. High concentrations of burials may be visible, but isolated gravesites not. It should be noted that burials and graves may be found close to sites of human occupation. They may be found in "lost" graveyards, or even scattered due to prehistoric activity. Such sporadic graves may also be the result of the victims of conflict or crime. Grave markers range from formally inscribed headstones, to informally arranged stone cairns. Unfortunately, through time, graves are often left unmarked, and may not be discovered until the remains are exposed through erosion or excavation (Kruger 2015).

In the Eastern Cape, graves and cemeteries are often present within settlements or around homesteads (Kruger 2015). Several graves/cemeteries/graveyards have been recorded northwest (with the closest being approximately 6 km) of the three proposed borrow pits. Isolated graves have also been identified approximately 10-11 km from the current development footprints (Booth 2019). The possibility of more graves being present on/near the current development area is regarded as high.

### 6.3.3. Intangible Heritage

Intangible heritage may include sites of cultural or religious significance for a community. Intangible heritage, by its very nature, is habitually elusive, particularly via remote sensing, digital survey, and historical research. This heritage scoping report cannot confidently comment on the possible presence, or absence, of intangible heritage within the study area.

## 7. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

Assessing the impact of the development based on desktop research is a mere approximation. This report presents deductions and interpretations from the historical background, the desktop study and the digital survey that can only be verified with an archaeological field survey during the second stage of the Phase 1 AIA. The Heritage Screener is not a final Heritage Impact Assessment.

The desktop research has shown that the Eastern Cape and Lesotho region are known for rock art, stone age sites (including open-air lithic occurrences), Iron Age sites, as well as Colonial/Historical sites. The probability of archaeological sites/occurrences located in the vicinity of the development area is considered as highly probable. The probability that these heritage resources could be affected negatively by the development is also high. Whether the impact is negligible can only be determined by a field survey of the affected area.

The structural features located near BP2 (301RE/88-001, 301RE/88-002) would likely not be directly impacted by the development. The development may impact the (possible) structural features situated near BP5a and BP5b (301RE/88-003, 301RE/88-004, 301RE/88-005, and 301RE/88-006). If these structures are older than 60 years, they will be considered to have heritage significance, and would thus require the correct and corresponding heritage protection. The cultural context within the landscape may help determine this. Mitigation if applicable, will be recommended after a full assessment of the area.

The National Environment Screening tool (<https://screening.environment.gov.za/>) demonstrates that the area around BP2 is of medium heritage sensitivity, which could suggest that there may be archaeological artefacts/sites/features of medium heritage significance. The development footprint of BP5a and BP5b is situated in an area with no apparent heritage sensitivity. It could mean that there is relatively little chance of impact on archaeological features/structures/sites, however, due to the low amount of assessments done in the area, this cannot be said with certainty.

Since many burials are left unmarked on the surface, it is difficult to detect the presence of human remains on the landscape. The South African Heritage Resource Agency (SAHRA) has received numerous complaints about the destruction and desecration of graves from rural communities, conservation bodies, interest groups and families of the deceased throughout the country. Many graves have been desecrated during developments. The majority of the reported cases of the desecration of graves are from settlements where mining activities are granted mining rights, on farms where families were removed and forced to leave the graves of relatives, ancestors and descendants behind (Sadien 2020). It is, thus, vital that all precautions are taken by developers and stakeholders to minimise the impact of development endeavours in regards to graves/graveyards. The probability of graves in the vicinity of the site is high, and the potential impact negative.

**The following table summarises the projected impact of the development on anticipated heritage resources, based on the findings of the desktop study. Because no field study has been conducted, the assessment of the impact of the development is limited and only an estimate.**

Description	Development Impact		Mitigation	Field rating/ Significance
<b>Archaeological: Stone Age</b>				
1. Early/Middle/Late Stone Age sites/lithic scatters and <i>in situ</i> material. The probability of these resources occurring is regarded as high.	Nature	Neutral/ Negative	Unknown  (Any sites recorded should be included in the heritage register and may be mitigated)	No field rating available.  (Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)
	Extent	Low		
	Duration	Low-High		
	Intensity	Low-High		
	Potential of impact on irreplaceable resource	High		
	Consequence	Medium-High		
	Probability of impact	High		
	Significance	Medium-High		
<b>Archaeological: Rock art</b>				
2. Rock shelters/overhangs with rock art. The probability of these resources occurring is regarded as zero to low.	Nature	Neutral	Unknown  (Any sites recorded should be included in the heritage register and may be mitigated)	No field rating available.  (Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)
	Extent	Low		
	Duration	Low		
	Intensity	Low		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low		
	Probability of impact	Low		
	Significance	Low		
<b>Archaeological: Iron Age</b>				
3. Early/Middle/Late Iron Age sites, features, cultural material scatters. The probability of these resources occurring is regarded as low.	Nature	Neutral/ Negative	Unknown  (Any sites recorded should be included in the heritage register and may be mitigated)	No field rating available.  (Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)
	Extent	Low		
	Duration	Low-High		
	Intensity	Low		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low		
	Probability of impact	Low		
	Significance	Low		
<b>Intangible/Cultural Heritage</b>				
4. Cultural and/or religious significant sites/artefacts, of particular importance to the local community. The probability of these resources occurring is regarded as low to medium.	Nature	Unknown	Unknown  (Any sites recorded should be included in the heritage register and may be mitigated)	No field rating available.  (Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)
	Extent	Unknown		
	Duration	Unknown		
	Intensity	Unknown		
	Potential of impact on irreplaceable resource	Unknown		
	Consequence	Unknown		
	Probability of impact	Unknown		
	Significance	Unknown		
<b>Archaeological: Historical/Colonial period</b>				
5. Historical/colonial period features, structures, artefacts. The probability of these resources occurring is regarded as medium to high.	Nature	Neutral/ Negative	Unknown  (Any sites recorded should be included in the heritage register and may be mitigated)	No field rating available.  (Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide
	Extent	Low		
	Duration	Low-High		
	Intensity	Low-High		
	Potential of impact on irreplaceable resource	Low/High		
	Consequence	Medium-High		
	Probability of impact	High		
	Significance	Medium-High		

				the corresponding field rating/significance)
6. 301RE/88-001 Structural remains and possible associated cultural material.	Nature	Neutral	Unknown  Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated	No field rating available.  (Field study required in order to determine the field rating/significance)
	Extent	Low		
	Duration	Low		
	Intensity	Low		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low		
	Probability of impact	Low		
	Significance	Low		
7. 301RE/88-002 Structural remains and possible associated cultural material.	Nature	Neutral	Unknown  Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated	No field rating available.  (Field study required in order to determine the field rating/significance)
	Extent	Low		
	Duration	Low		
	Intensity	Low		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low		
	Probability of impact	Low		
	Significance	Low		
8. 301RE/88-003 A possible compound site with at least four structural remains and possible associated cultural material. Extent, scope, and significance of site unknown.	Nature	Negative	Unknown  Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated	No field rating available.  (Field study required in order to determine the field rating/significance)
	Extent	Low-Medium		
	Duration	Low-High		
	Intensity	Medium-High		
	Potential of impact on irreplaceable resource	High		
	Consequence	Medium-High		
	Probability of impact	Medium-High		
	Significance	Medium-High		
9. 301RE/88-004 A possible compound site with at least four structural remains and possible associated cultural material. Extent, scope, and significance of site unknown.	Nature	Neutral/ Negative	Unknown  Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated	No field rating available.  (Field study required in order to determine the field rating/significance)
	Extent	Low-Medium		
	Duration	Low		
	Intensity	Low-Medium		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low-Medium		
	Probability of impact	Low		
	Significance	Medium-High		
10. 301RE/88-005 A possible compound site with at least four structural remains and possible associated cultural material. Extent, scope, and significance of site unknown.	Nature	Neutral/ Negative	Unknown  Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated	No field rating available.  (Field study required in order to determine the field rating/significance)
	Extent	Low-Medium		
	Duration	Low		
	Intensity	Low-Medium		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low-Medium		
	Probability of impact	Low		
	Significance	Medium-High		

<p>11. 301RE/88-006 A possible compound site with at least four structural remains and possible associated cultural material. Extent, scope, and significance of site unknown.</p>	Nature	Neutral/ Negative	<p>Unknown</p> <p>Note: the structure was recorded during the digital survey, if the structure does have any archaeological/cultural significance it should be included in the heritage register and may be mitigated</p>	<p>No field rating available.</p> <p>(Field study required in order to determine the field rating/significance)</p>
	Extent	Low-Medium		
	Duration	Low		
	Intensity	Low-Medium		
	Potential of impact on irreplaceable resource	Low		
	Consequence	Low-Medium		
	Probability of impact	Low		
	Significance	Medium-High		
<b>Graves</b>				
<p>12. Graveyards/cemeteries. The probability of these resources occurring is regarded as medium to high.</p>	Nature	Negative	<p>Any graves/graveyards/cemeteries should be included in the heritage register and may be mitigated</p>	<p>Not gradable</p> <p>(Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)</p>
	Extent	Medium		
	Duration	High		
	Intensity	High		
	Potential of impact on irreplaceable resource	High		
	Consequence	High		
	Probability of impact	Low-High		
	Significance	High		
<p>13. Isolated grave(s). The probability of these resources occurring is regarded as high.</p>	Nature	Negative	<p>Any graves/graveyards/cemeteries should be included in the heritage register and may be mitigated</p>	<p>Not gradable</p> <p>(Field study required in order to determine whether these archaeological occurrences are present at the development footprint and to provide the corresponding field rating/significance)</p>
	Extent	Medium		
	Duration	High		
	Intensity	High		
	Potential of impact on irreplaceable resource	High		
	Consequence	High		
	Probability of impact	Low-High		
	Significance	High		

## 8. RECOMMENDATIONS

This scoping study has revealed that a range of heritage sites occur in the wider region and the presence of similar sites should be anticipated within the study area. Every site is relevant to the Heritage Landscape, but it is projected that only a few sites in the study area could have conservation value. These recommendations are based on studies undertaken in the broader area of the proposed development. The following conclusions apply:

1. The scoping report has revealed that several Stone Age occurrences/sites have been recorded in the region. No studies have been conducted on the property or immediate vicinity (less than 5 km radius) of the development footprints. The possibility of open-air Stone Age sites/occurrences in the development area is highly probable. However, we expect occurrences to be of low to medium significance based on evidence from the region. We recommend that a field study should be undertaken to ground-truth our findings.
2. Various colonial/historical structures have been recorded in a  $\pm 50$  km radius of the development area. No studies have been conducted on the property or immediate vicinity (less than 5 km radius) of the development footprints. The structural features recorded during the digital survey could (if older than 60 years) be linked to the colonial farming history of the region. It is anticipated that the development will not impact the two structures located near BP2; however, the possible structure near BP5a and 5b would likely be impacted negatively by the development. It is recommended that a field survey be done to determine the age, extent, context, and heritage significance of these structural features so that the correct mitigation measures may be implemented. If significant, a 50 m buffer/safety zone could be recommended, once the archaeological extent of the site has been established.
3. Formal and informal graveyards, which include pre-colonial burials, occur widely across southern Africa. Isolated graves and cemeteries have been recorded northwest of the development area (with the closest being  $\pm 6$  km from the proposed borrow pits). It is thereby likely that similar graves/graveyards could be present closer to the development footprint. It is commonly recommended that these sites are preserved from development. The presence of any grave sites must be confirmed during a field survey and public consultation. Any graveyard(s), grave(s) or burial(s) found close to the proposed borrow pits' development footprint would likely be of High Local Significance. If present, it is recommended that they are fenced off with the inclusion of a 50 m buffer/safety zone.
4. Should it be impossible to avoid graveyard(s), grave(s) or burial(s) sites during the construction of the proposed borrow pits, mitigation in the form of grave relocation could be undertaken. This is, however, a lengthy and costly process. Grave relocation specialists should be employed to manage the liaison process with the communities and individuals who by tradition or familial association might have an interest in these graves or burial ground; as well as manage the permit acquisition from the SAHRA Burial Grounds and Graves (BGG) Unit and the arrangements for the exhumation and re-interment of the contents of the graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.



5. This scoping report represents an estimation of the probability of heritage sites/artefacts located on/near the development footprint, based on available data. Due to the lack of substantial data and previous Heritage Assessments within the area, the likelihood of archaeological sites/occurrences located in the development area is considered as highly probable. **Ground-truthing the findings of this report with a field survey of the area, before the commencement of construction activities, is highly recommended.**
  
6. This scoping report reflects the specialists' estimation of the likely impacts that may occur on said resources by the proposed development. The extent and significance of identified probable resources are unknown. **The final decision whether the submission of a full impact assessment is required lies with the responsible heritage resources authority (South African Heritage Resources Agency (SAHRA) & Eastern Cape Provincial Heritage Resources Agency (ECPHRA) if there is reason to believe that heritage resources will be affected by construction activities and events.**
  
7. Hidden or sub-surface sites may exist in the area. No sub-surface testing may be conducted without a permit, and therefore sites may be missed during the field assessment. We recommend that if any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are uncovered during mining, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. If unmarked human burials are discovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. A professional archaeologist or palaeontologist must be contracted as soon as possible to inspect the findings. If the newly unearthed heritage resources are of high significance, a Phase 2 rescue operation may be required with permits issued by SAHRA. UBIQUE Heritage Consultants and its personnel will not be held liable for such oversights or costs incurred as a result of such oversights.

## 9. CONCLUSION

Discovery probability is the likelihood that, given specific sets of criteria, archaeological features will be encountered. The criteria include archaeological and environmental characteristics, cultural and archaeological context, as well as accumulated knowledge. Few reports have been conducted in the near vicinity of the proposed development project. This Heritage Screener has revealed that a variety of heritage resources do occur in the greater region. The heritage resources in the area range from Stone Age scatters, rock art and sites containing colonial-era structures/artefacts. Several graves and burials have also been documented within a 5 to 20 km radius of the development footprint. Similar resources could be in the development area, and as a result, the possibility of such heritage resources should not be unheeded. The results of the remote sensing/digital survey revealed that there are two possible structural features located northeast of proposed borrow Pit 2 (BP2), as well as several structural features south and southeast of Borrow Pit 5a (BP5a) and Borrow Pit 5b (BP5b). The physical and cultural landscape evident from the digital survey raises the probability of heritage resources present on the ground. The discovery probability is deemed as medium to high.

The gaps in data, with regards to recorded and captured heritage resources of the area on SAHRIS (South African Heritage Resources Information System), severely limits our assessment. It is, therefore, our recommendation, in accordance of Section 38 of the NHRA, that a Phase 1 archaeological field survey be undertaken to determine the presence of any heritage resources occurring in the development area before any construction activities commence. As a result of a field survey, a more accurate assessment of the impact of the development on heritage resources can be completed.

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