HERITAGE IMPACT ASSESSMENT

(REQUIRED UNDER SECTION 38(8) OF THE NHRA (No. 25 OF 1999)

FOR THE PROPOSED MINING PERMIT TO MINE STONE AGGREGATE/ GRAVEL ON A PORTION OF REMAINING EXTENT OF FARM 89, NGQUZA HILL LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE

Type of development:

Mining

Client:

Greenmined Environmental

Applicant:

Henred Trading (Pty) Ltd

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APPROVAL PAGE

Project Name	Ghanja Quarry
Report Title	Heritage Impact Assessment for the proposed mining permit to mine stone aggregate/ gravel on a portion of Remaining Extent of Farm 89, Ngquza Hill Local Municipality, Eastern Cape Province
Authority Reference Number	TBC
Report Status	Draft Report
Applicant Name	Henred Trading (Pty) Ltd

Responsibility	Name	Qualifications and Certifications	Date
Fieldwork	Ruan van der Merwe - Archaeologist	Hons Archaeology ASAPA #667	May 2024
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Date	Report Reference Number	Description of Amendment

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REPORT OUTLINE

Appendix 6 of the GNR 326 EIA Regulations published on 7 April 2017 provides the requirements for specialist reports undertaken as part of the Environmental Authorisation process. In line with this, Table 1 provides an overview of Appendix 6 together with information on how these requirements have been met.

Table 1. Specialist Report Requirements.

Requirement from Appendix 6 of GN 326 EIA Regulation 2017	Chapter
(a) Details of - (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae.	Section a
(b) Declaration that the specialist is independent in a form as may be specified by the competent authority.	*Declaration of Independence*
(c) Indication of the scope of, and the purpose for which, the report was prepared.	Section 1
(cA) An indication of the quality and age of base data used for the specialist report.	Section 3.4.
(cB) A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change.	Section 9
(d) Duration, Date and season of the site investigation and the relevance of the season to the outcome of the assessment.	Section 3.4
(e) Description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used.	Section 3
(f) Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of site plan identifying site alternatives.	Section 7, 8 and 9
(g) Identification of any areas to be avoided, including buffers.	Section 7,8 and 9
(h) Map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers.	Section 8
(I) Description of any assumptions made and any uncertainties or gaps in knowledge.	Section 3.7
(j) A description of the findings and potential implications of such findings on the impact of the proposed activity including identified alternatives on the environment or activities.	Section 1.3
(k) Mitigation measures for inclusion in the EMPr.	Section 9.1 and 9.5
(l) Conditions for inclusion in the environmental authorisation.	Section 9. 1 and 9.5
(m) Monitoring requirements for inclusion in the EMPr or environmental authorisation.	Section 9.6
(n) Reasoned opinion - (i) As to whether the proposed activity, activities or portions thereof should be authorised; (iA) Regarding the acceptability of the proposed activity or activities; and (ii) If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan.	Section 9.3
(o) Description of any consultation process that was undertaken during the course of preparing the specialist report.	Section 5
(p) A summary and copies of any comments received during any consultation process and where applicable all responses thereto.	Refer to the BA report
(q) Any other information requested by the competent authority.	No other information requested at this time

Executive Summary

Henred Trading (Pty) Ltd, is applying for a mining permit to mine stone aggregate/ gravel on a portion of Remaining Extent of Farm 89. The Project area is situated within the Ngquza Hill Local Municipality within the O.R. Tambo District of the Eastern Cape Province. Trading (Pty) Ltd, appointed Greenmined Environmental as the independent environmental assessment practitioner (EAP) to apply for Environmental Authorization for the Project. Greenmined Environmental, in turn, appointed Beyond Heritage to conduct a Heritage Impact Assessment (HIA) for the Project and the study area was assessed through a desktop assessment and by a non-intrusive pedestrian field survey. Key findings of the assessment include:

- The Project area is situated on elevated terrain with thick grass cover visible across the Project area;
- The archaeological record of the area is incomplete with most research within the larger region being that of archaeological surveys. No significant heritage sites are situated near the Project area;
- The Project area is considered to be of low heritage potential which was confirmed during the survey whereby no heritage resources were identified within both the MP and Stockpile areas;
- According to the South African Heritage Resource Authority (SAHRA) Paleontological sensitivity map the study area is of low palaeontological sensitivity and no palaeontological studies are required however a protocol for finds is required.

The impact on heritage resources is expected to be low, and the Project can be authorised provided that the recommendations in this report are adhered to and based on the SAHRA's approval.

Recommendations:

The following recommendations for Environmental Authorisation apply and the Project may only proceed after receiving comment from SAHRA:

- Mining and development activities must be confined to the approved development footprint only;
- Monitoring of the Project area by the ECO during pre-construction and construction phases for heritage and palaeontology chance finds, if chance finds are encountered to implement the Chance Find Procedure for the Project as outlined in Section 9.

Declaration of Independence

Specialist Name	Lara Lucija Kraljević
Declaration of Independence	I declare, as a specialist appointed in terms of the National Environmental Management Act (Act No 107 of 1998) and the associated 2014 Environmental Impact Assessment (EIA) Regulations (as amended), that I: • I act as an independent specialist in this application; • I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant; • I declare that there are no circumstances that may compromise my objectivity in performing such work; • I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity; • I will comply with the Act, Regulations and all other applicable legislation; • I have no, and will not engage in, conflicting interests in the undertaking of the activity; • I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority; • All the particulars furnished by me in this form are true and correct; and • I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 49 A of the Act.
Signature	
Date	13/05/2024

a) Expertise of the specialist

Lara Kraljević completed her masters in archaeology at the University of Pretoria specialising in chemical and mineralogical studies of Iron Age ceramics. Lara is an accredited member of the Association of South African Professional Archaeologists (ASAPA) (#661). She has co-authored over 100 impact assessments in Gauteng, Limpopo, Mpumalanga, Northern Cape, Eastern Cape, and North West Provinces in South Africa.

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ABBREVIATIONS

ASAPA	Association of South African Professional Archaeologists
BGG	Burial Ground and Graves
CFPs	Chance Find Procedures
CMP	Conservation Management Plan
CoGHSTA	Co-operative Governance, Human Settlements and Traditional Affairs
CRR	Comments and Response Report
CRM	Cultural Resource Management
DFFE	Department of Fisheries, Forestry and Environment,
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment*
EIA	Early Iron Age*
EAP	Environmental Assessment Practitioner
EMPr	Environmental Management Programme
ESA	Early Stone Age
ESIA	Environmental and Social Impact Assessment
GIS	Geographical Information System
GPS	Global Positioning System
GRP	Grave Relocation Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
LSA	Late Stone Age
MEC	Member of the Executive Council
MIA	Middle Iron Age
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
MSA	Middle Stone Age
NCHM	National Cultural History Museum
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NID	Notification of Intent to Develop
NoK	Next-of-Kin
PRHA	Provincial Heritage Resource Agency
SADC	Southern African Development Community
SAHRA	South African Heritage Resources Agency

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

GLOSSARY

Archaeological site	Remains of human activity over 100 years old
Earlier Stone Age	~ 2.6 million to 250 000 years ago
Middle Stone Age	~ 250 000 to 40-25 000 years ago
Later Stone Age	~ 40-25 000, to the historic period
The Iron Age	~ AD 400 to 1840
Historic	~ AD 1840 to 1950
Historic building	Over 60 years old

1 Introduction

Greenmined Environmental, appointed Beyond Heritage to conduct a Heritage Impact Assessment (HIA) for the proposed mining permit to mine stone aggregate/ gravel on a portion of the Remaining Extent of Farm 89. The Project area is situated within the Ngquza Hill Local Municipality, within the O.R. Tambo District Municipality of the Eastern Cape Province of South Africa (Figure 1.1 to 1.3). The report forms part of the Basic Assessment (BA) and Environmental Management Programme (EMPr) for the development.

The aim of the study was to survey the proposed development footprint to understand the cultural layering of the area, and if heritage features are found, to assess their importance within local, provincial, and national context. It further served to assess the impact of the proposed Project on non-renewable heritage resources. The study will submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. Recommendations are included to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act No 25 of 1999) (NHRA).

The report outlines the approach and methodology utilized before and during the survey, which includes:

- Phase 1, review of relevant literature;
- Phase 2, the physical surveying of the area on foot and by vehicle;
- Phase 3, reporting the outcome of the study.

During the survey, no heritage resources were recorded in the study area. General site conditions and features in the study area were recorded by means of photographs, GPS locations and descriptions. Possible impacts were identified, and mitigation measures are proposed in this report.

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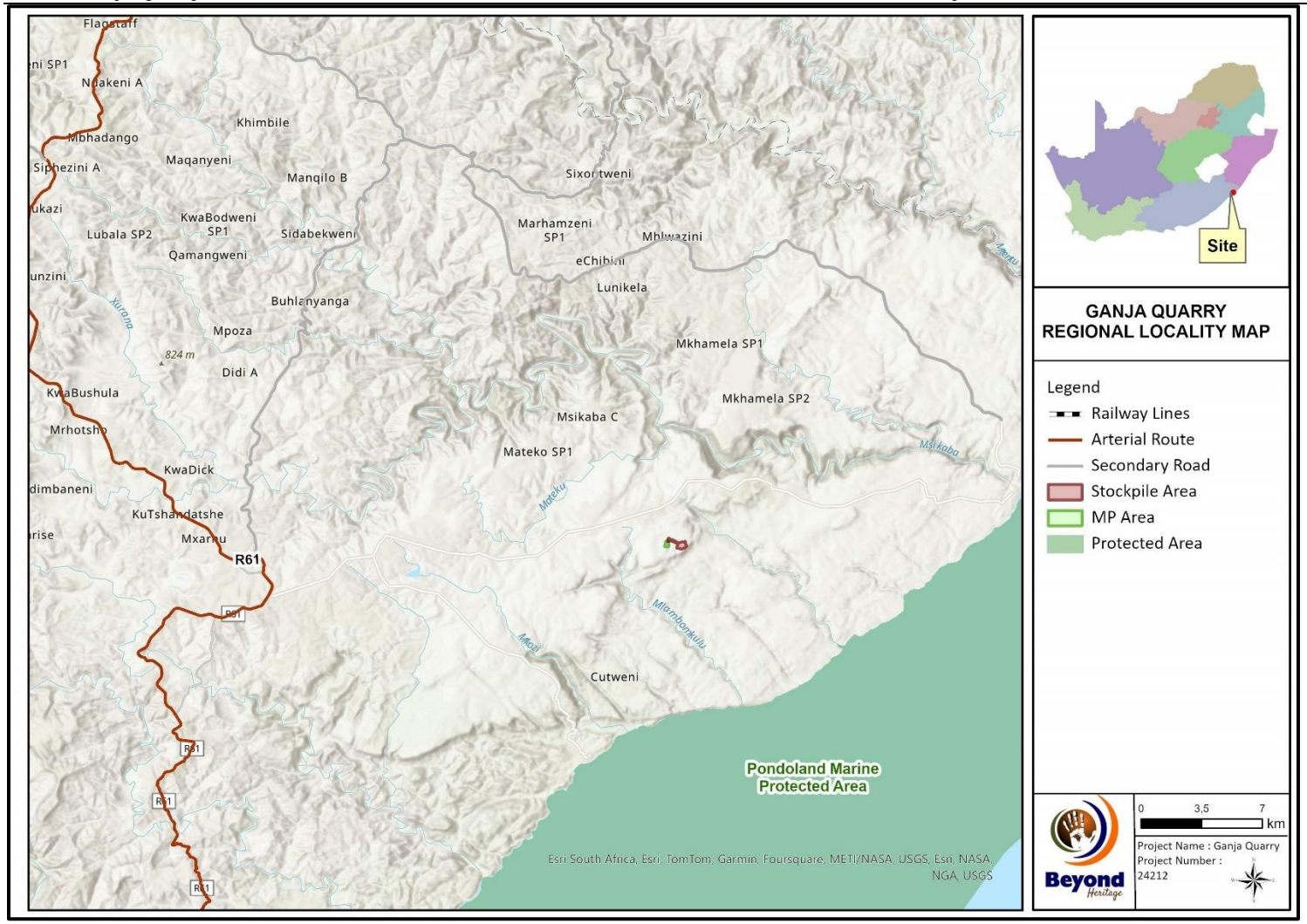

Figure 1.1. Regional setting of the Project.

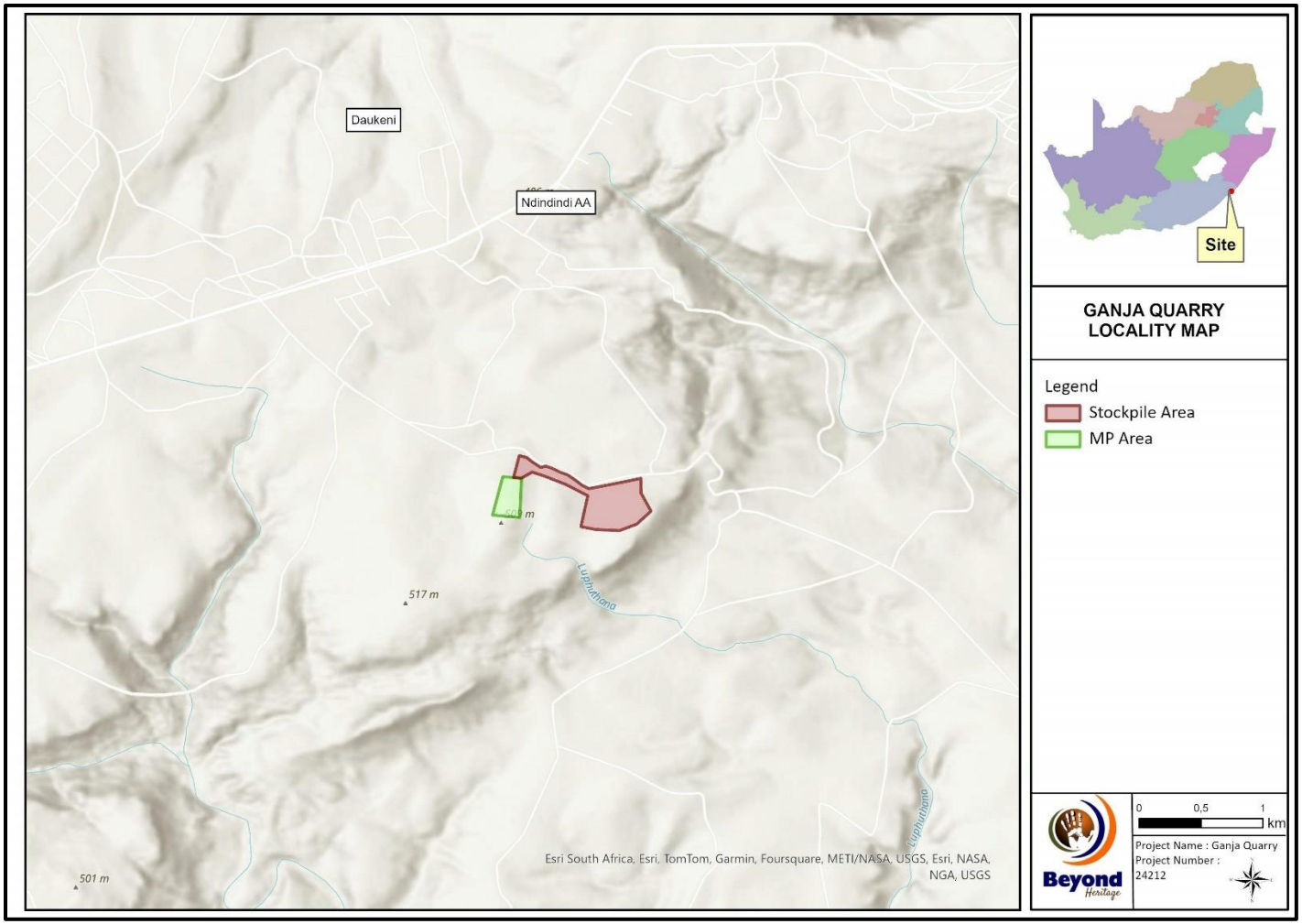

Figure 1.2. Local setting of the Project.

Figure 1.3. Aerial image of the Project area and surrounds.

1.1 Terms of Reference

The following Terms of Reference were adhered to in conducting this HIA.

Field study

Conduct a field study to: (a) survey the development footprint to understand the heritage character of the impact area; b) record GPS points of sites/areas identified as significant areas; c) determine the levels of significance of the various types of heritage resources affected by the proposed development.

Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed Project activity may have on the identified heritage resources for all 3 phases of the project, i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with the relevant legislation, SAHRA minimum standards and the code of ethics and guidelines of Association of South African Professional Archaeologists (ASAPA).

Recommendations are provided to assist the developer in managing the discovered 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 No 25 of 1999).

1.2 Project Description

Project components and the location of the Ghanja Quarry Project are outlined in Tables 2 and 3.

Table 2: Project Description

Magisterial District	Ngquza Hill Local Municipality within the O.R Tambo District Municipality
Central co-ordinate of the development	MP Area: 31°21'1.32"S; 29°46'58.16"E Stockpile Area: 31°21'4.27"S; 29°47'25.14"E
1:50 000 Topographic Map Number	3129BD_3130AC

Table 3: Infrastructure and project activities

Type of development	Mining

Project Details:

Project description for the MP

Henred Trading (Pty) Ltd (hereinafter referred to as "the Applicant") intends on applying for a mining permit to mine stone aggregate/ gravel on a portion of Remaining Extent of Farm 89, Ngquza Hill Local Municipality, Eastern Cape Province.

The proposed mining footprint will be 5 ha and will be developed over an undisturbed area of the farm. The mining method will make use of blasting in order to loosen the hard rock; the material will then be loaded and hauled to the crushing plant where it will be screened to various sized stockpiles. The aggregate will be stockpiled until it is transported from site using tipper trucks. All mining related activities will be contained within the approved mining permit boundaries.

The proposed mining area is approximately 5 ha in extent and the applicant, Henred Trading (Pty) Ltd, intents to win material from the area for at least 2 years with a possible extension of another 3 years. The aggregate to be removed from the quarry will be used for local road construction and building projects in the vicinity. The proposed quarry will therefore contribute to the upgrading / maintenance of road infrastructure, the N2 highway and building contracts in and around the Lusikisiki area.

The mining activities will consist out of the following:

- Stripping and stockpiling of topsoil;
- Blasting;
- Excavating;
- Crushing;
- Stockpiling and transporting;
- Sloping and landscaping upon closure of the site; and
- Replacing the topsoil and vegetation the disturbed area.

The mining site will contain the following:

- Drilling equipment;
- Excavating equipment;
- Earth moving equipment;
- Mobile crushing and screening plants
- Access Roads;
- Site Office (Containers);
- Site vehicles;
- Parking area for visitors and site vehicles;
- Vehicle service area;
- Wash bay;
- Workshop (Containers);
- Salvage Yard;
- Bunded diesel and oil storage facilities;
- Generator on bunded area;
- Ablution Facilities (Chemical Toilets);
- Weigh Bridge; and
- Demarcated general and hazardous waste area.

The proposed project will not require any additional electricity connections, as power will be supplied, when needed, by generators. All diesel storage will be below the threshold as mentioned in the EIA regulations of the National Environmental Management Act, 1998 (Act No 107 of 1998) as amended 2017.

Access to the proposed mining area will be via the Ghanja Road, making use of the existing internal/haul roads to access the mining area. Haul roads will be extended as the open cast mining progresses and will be rehabilitated as part of the final reinstatement of the area. Trucks delivering the materials to the destinations will take the existing gravel roads in the area.

Project description for stockpile area

Henred Trading (Pty) Ltd (hereafter referred to as the applicant) applied for a mining permit (DMRE ref no: EC 30/5/1/3/2/10843 MP) to mine aggregate from a 5-ha area on a portion of Remaining Extent of Farm 89, Ngquza Hill Local Municipality, Eastern Cape Province.

In addition to the mining permit application that will be submitted to the DMRE, the Applicant also proposes to establish an area for stockpiling and crushing (if needed) of the material that will be mined at the quarry, on 19 hectares of the abovementioned property. The establishment of the stockpiling area needs a (separate) environmental authorization to be approved by the Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA) (separate application than the DMRE one).

The infrastructure to be used on site will all be of temporary and mobile nature. Containers will be used for office and storage purposes, a weigh bridge will be established (temporary), and a dirt road of <600m will be developed from Ghanja Road to the quarry area to gain access to the mining permit area as well as the stockpile area. The storage of fuel (if any) will be below the threshold of the NEMA EIA listed activities. The proposed activity is situated within 100m from a water resource which necessitates a Water Use License Application (WULA) that must be submitted to the Department of Water and Sanitation. The proposed stockpile area, and the plant will be powered with generators. The ablution facilities will be chemical toilets that will be serviced by registered suppliers. The office and storage containers, weigh bridge and ablution facilities will most likely be placed at the entrance to the site, while the crushing equipment will be of mobile nature, moving around the site as needed.

During the site establishment phase the applicant will clear the topsoil from the stockpiling area to allow the stockpiling of the material. Upon stripping, the topsoil will be stockpiled along the boundaries of the area to be used during the rehabilitation phase. The material will then be transported from the quarry into the stockpile area where it will be screened/crushed if needed and stockpiled until removed from site.

Should this application be successful, the Applicant intends to:

1. demarcate the boundaries of the stockpile area;
2. strip the topsoil off the earmarked area and stockpile it for later use in rehabilitation;
3. stockpile the processed material (dolerite product) in various size categories within the boundaries of the approved area;
4. process the material through crushing and screening;
5. load and transport the material from the stockpiles onto trucks

Considering this, the Applicant intends to establish the following infrastructure within the boundaries of the proposed area:

- Mobile crushing and screening infrastructure;
- Mobile containers that will be used for offices and storage purposes; and
- Ablution facilities to be used by all employees.

1.3 Alternatives

No alternatives were provided, but the area assessed allows for siting of the development to avoid impacts to heritage resources.

2 Legislative Requirements

The HIA, as a specialist study to the BA, is required under the following legislation:

- National Heritage Resources Act ((NHRA), Act No. 25 of 1999)
- National Environmental Management Act ((NEMA), Act No. 107 of 1998 - Section 23(2)(b))

A Phase 1 HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Assess the negative and positive impact of the development on these resources; and
- Make recommendations for the appropriate heritage management (or avoidance) of these impacts.

The HIA should be submitted, as part of the impact assessment report or EMPr, to the Provincial Heritage Resource Agency (PHRA) or to The South African Heritage Resources Agency (SAHRA). SAHRA will ultimately be responsible for the evaluation of Phase 1 HIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 HIA reports and additional development information, as per the impact assessment report and/or EMPr, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 HIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

SAHRA as a commenting authority under section 38(8) of the NHRA require all environmental documents, compiled in support of an EA application as defined by the National Environmental Management Act (NEMA) (Act No 107 of 1998) to be submitted to SAHRA for commenting. Environmental Impact Assessment (EIA) Regulations section 40 (1) and (2). The Environmental Impact Assessment Regulations, Government Notice Regulation (GN) R.982 were published on 04 December 2014 and promulgated on 08 December 2014. Together with the EIA Regulations, the Minister also published GN R.983 (Listing Notice No. 1), GN R.984 (Listing Notice No. 2) and GN R.985 (Listing Notice No. 3) in terms of Sections 24(2) and 24D of the NEMA, as amended) Upon submission to SAHRA the project will be automatically given a case number as reference. As such the BA report and its appendices must be submitted to the case as well as the EMPr, once it's completed by the Environmental Assessment Practitioner (EAP).

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level). Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 HIAs are primarily concerned with the location and identification of heritage sites situated within a proposed development area. Identified sites should be assessed according to their significance (refer to Section 3.5). Relevant conservation or mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Section 3 of the NHRA distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

- Its importance in/to 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;
- Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- Sites of significance relating to the history of slavery in South Africa

Conservation or mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision-making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement. After mitigation of a site, a destruction permit must be applied for with SAHRA by the applicant before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36 and GNR 548 as well as the SAHRA BGG Policy 2020. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 of the National Heritage Resources Act (NHRA), as well as the National Health Act of 2003 and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925) re-instituted by Proclamation 109 of 17 June 1994 and implemented by CoGHSTA as well as the National Health Act 2003 and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under the National Health Act of 2003.

3 METHODOLOGY

3.1 Literature Review and background study

A brief survey of available literature was conducted to extract data and information on the area in question to provide general heritage context into which the development would be set. This literature search included published material, unpublished commercial reports and online material, including reports sourced from the South African Heritage Resources Information System (SAHRIS). Findings are included in Section 6.1 and 6.2.

3.2 Genealogical Society and Google Earth Monuments

Google Earth and 1:50 000 topographic maps of the area were utilised to identify possible places of heritage sensitivity might be located; these locations were marked and visited during the fieldwork phase. The database of the Genealogical Society of South Africa (GSSA) was consulted to collect data on any known graves in the area. Results are included in Section 6.3.

3.3 Public Consultation and Stakeholder Engagement:

Stakeholder engagement is a key component of any BA process, it involves stakeholders interested in, or affected by the proposed development. Stakeholders are provided with an opportunity to raise issues of concern (for the purposes of this report only heritage related issues will be included). The aim of the public consultation process undertaken by the EAP was to capture and address any issues raised by community members and other stakeholders. Results are included in Section 5 and the final BA report.

3.4 Site Investigation

The aim of the site visit was to:

a) survey the proposed Project area to understand the heritage character of the area and to record, photograph and describe sites of archaeological, historical or cultural interest;

b) record GPS points of sites/areas identified as significant areas;

c) determine the levels of significance of the various types of heritage resources recorded in the Project area.

Table 4: Site Investigation Details

	Site Investigation
Date	8 May 2024
Season	Autumn – The time of year influenced the survey as the thick grass cover hindered surface visibility. Access to the Project area was an issue and the manager of the Pondoland Quarry assisted with accessing the Project area. The Project area was sufficiently covered to understand the heritage character of the area (Figure 3.1).

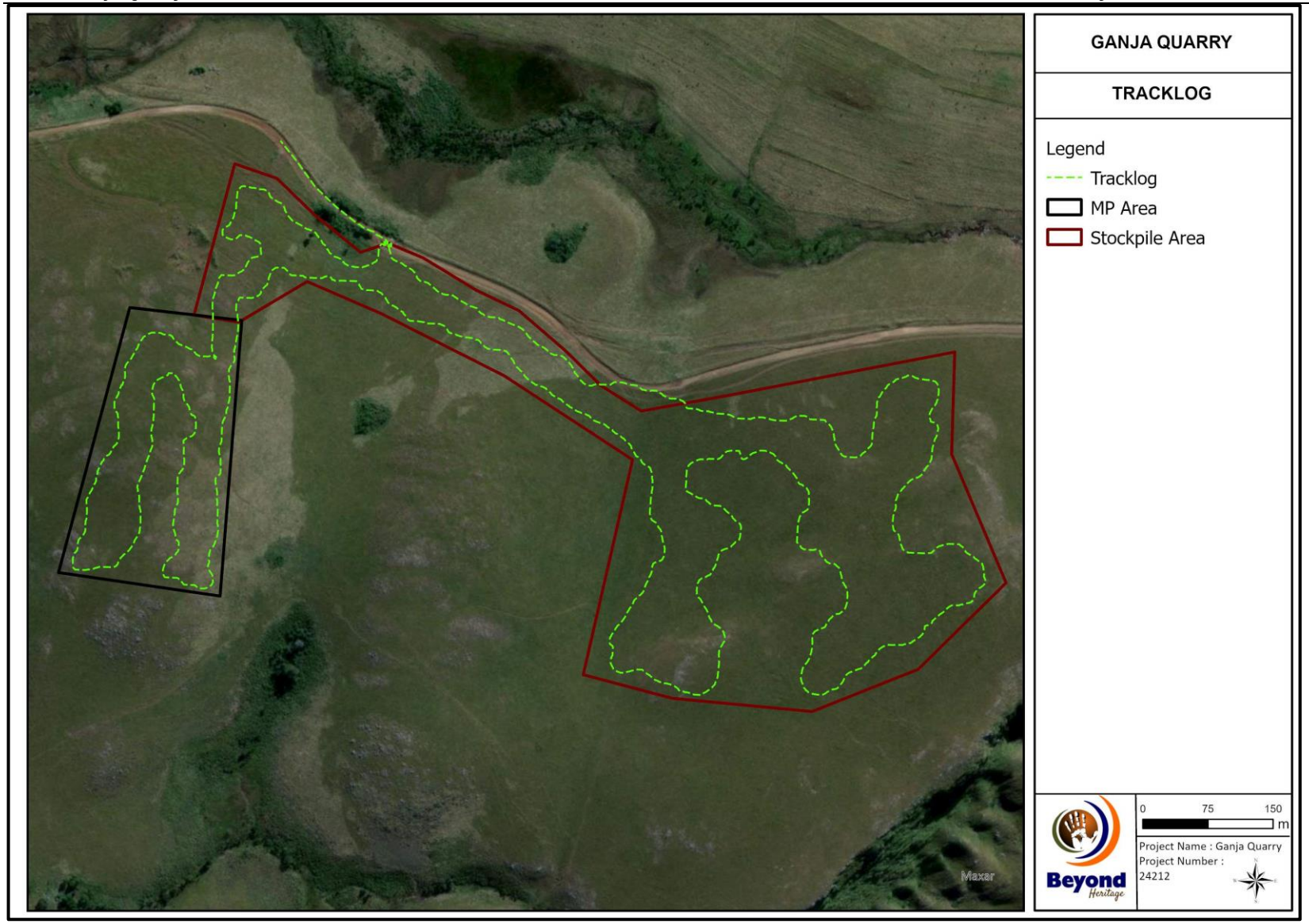

Figure 3.1. Tracklog of the survey path in green.

3.5 Site Significance and Field Rating

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire Project area, or a representative sample, depending on the nature of the project. In the case of the proposed Project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface. This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance with cognisance of Section 3 of the NHRA:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposits;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined/is known);
- The preservation condition of the sites; and
- Potential to answer present research questions.

In addition to this criteria field ratings prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 9 of this report.

Table 5. Heritage significance and field ratings

FIELD RATING	*GRADE*	*SIGNIFICANCE*	*RECOMMENDED MITIGATION*
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP. A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP. B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

3.6 Impact Assessment Methodology

The criteria below are used to establish the impact rating on sites:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- The **duration**, wherein it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0-1 years), assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years), assigned a score of 2;
  - medium-term (5-15 years), assigned a score of 3;
  - long term (> 15 years), assigned a score of 4; or
  - permanent, assigned a score of 5;
  - The **magnitude**, quantified on a scale from 0-10 where; 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
  - The **probability of occurrence**, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1-5 where; 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
  - The **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
  - the **status**, which will be described as either positive, negative or neutral.
  - the degree to which the impact can be reversed.
  - the degree to which the impact may cause irreplaceable loss of resources.
  - the *degree* to which the impact can be mitigated.

The **significance** is calculated by combining the criteria in the following formula:
S= (E+D+M) P
S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e., where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e., where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- 60 points: High (i.e., where the impact must have an influence on the decision process to develop in the area).

3.7 Assumptions and limitations of the study

- The authors acknowledge that the brief literature review is not exhaustive of the literature of the area.
- Due to the nature of heritage resources and pedestrian surveys, the possibility exists that some features or artefacts may not have been discovered/recorded and the possible occurrence of graves and other cultural material cannot be excluded. This limitation is successfully mitigated with the implementation of a Chance Find Procedure (CFP) and monitoring of the study area by the Environmental Control Officer (ECO).
- This report only deals with the footprint area of the proposed development and consisted of non-intrusive surface surveys.
- Field data were recorded by handheld GPS and Mobile GPS applications. It must be noted that during the process of converting spatial data to final drawings and maps the accuracy of spatial data may be compromised. Printing or other forms of reproduction might also distort the spatial distribution in maps. Due care has been taken to preserve accuracy.
- This study did not assess the impact on medicinal plants and intangible heritage as it is assumed that these components will be highlighted through the public consultation process if relevant. This process is facilitated by the EAP and if not done this can be considered a significant limitation and as a potential Project risk. It is possible that new information could come to light in future, which might change the results of this Impact Assessment.

4 Description of Socio-Economic Environment

In 2001, the population of the municipality was 254 480, which constituted 19,6% of the district population. In 2011, the population rose to 278 481 which is 20,4% of the O.R. Tambo District population. The population comprises 128 974 males, which constitutes 46%. The female population constitutes 54% at 149 507. There is a net outflow of male persons from teenager stage due to schooling and job-seeking opportunities elsewhere. 2,3% of the population stayed in informal dwellings in 2001.This figure dropped to 1,0% in 2011. The proportion of people staying in traditional dwellings in 2001 was 65,9% and dropped to 58% in 2011. This is due to the rural character of the municipality (statssa.gov.za).

5 Results of Public Consultation and Stakeholder Engagement:

In line with the NHRA, stakeholder engagement is a key component of any EA process, it involves stakeholders interested in, or affected by the proposed development. At the time of writing no heritage concerns have been raised.

6 Contextualising the study area

6.1 Archaeological Background

6.1.1 Stone Age

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contains sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. For (CRM) purposes it is often only expected/ possible to identify the presence of the three main phases. Yet sometimes the recognition of cultural groups, affinities or trends in technology and/or subsistence practices, as represented by the sub-phases or industrial complexes, is achievable. The three main phases can be divided as follows;

- Later Stone Age (LSA); associated with Khoi and San societies and their immediate predecessors. - Recently to ~30 thousand years ago.
- Middle Stone Age (MSA); associated with Homo sapiens and archaic modern human - . 30-300 thousand years ago.
- Earlier Stone Age (ESA); associated with early Homo groups such as Homo habilis and Homo erectus. - 400 000-> 2 million years ago.

This region has not been extensively researched and the archaeological record is incomplete for the larger region. No significant Stone Age sites are situated near the Project area. Many stone tools have however been found through surveys especially near watercourses such as rivers. Van Schalkwyk (2007) identified an abundance of lithic debitage and incomplete formal tools within aeolian deflated areas and the Sikombe and Kwanyana Tenement areas. This included ESA lithics on quartzite, MSA tools on hornfels, and LSA tools on quartz and chalcedony. The presence of lithic debitage shows the possibility of a knapping site. It can be assumed that the larger area was occupied throughout the Stone Age but due to the lack of research, the extent and origin of significant Stone Age sites is currently unknown.
The Late Stone Age communities, left behind archaeological evidence in coastal middens. Among these groups were the Strandlopers, who were known to have inhabited the shores of the Eastern Cape. The San later faced subjugation and assimilation initially by the Khoekhoen, who were cattle herders, and later by the amaXhosa and early European settlers.

6.1.2 Iron Age

Bantu-speaking people moved into Eastern and Southern Africa about 2,000 years ago (Mitchell 2002). These people cultivated sorghum and millets, herded cattle and small stock and manufactured iron tools and copper ornaments. Because metalworking represents a new technology, archaeologists call this period the Iron Age. Characteristic ceramic styles help archaeologists to separate the sites into different groups and time periods. The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. It can be divided into three distinct periods:

- The Early Iron Age (EIA): Most of the first millennium AD.
- The Middle Iron Age (MIA): 10th to 13th centuries AD.
- The Late Iron Age (LSA): 14th century to colonial period.

The larger area only saw the expansion of Iron Age occupation between 500 and 1200 years ago when Bantu speakers settled in the region (Huffman 2007). The Nguni, which included the amaXhosa living along the coast, began expanding their territories rapidly. Conflict between the Khoekoen and Nguni was inevitable, resulting in the absorption of the former group. The name "Xhosa" likely originated from the Khoekhoe word //kosa, meaning "kingly men". The three distinctive clicks found in the Xhosa language today are a legacy of the San and Khoi peoples.

The early history of the former Transkei region primarily relies on oral traditions passed down through generations. Xhosa speakers first encountered Europeans when they encountered individuals who had been shipwrecked. Many of these Europeans who chose to stay behind became known as the "umlungu" clan. There are twelve Xhosa-speaking tribes, of which the amaPondo is one and was largely occupying this region.

In the late 1700s, the amaPondo migrated across the Mtamvuna River due to population pressure from the north, specifically from the expanding Zulu clan. They settled in the region between the Mtamvuna and Mzimvubu Rivers. Faku, one of the most significant rulers of the amaPondo, reigned from 1824 to 1867. Under his leadership, the amaPondo moved westward across the Mzimvubu River, establishing their first capital near the Mngazi River, which later relocated to Qaukeni (Fourie 2011). Until 1867, the amaPondo had a single principal leader governing them? as a united clan. The rightful heir to the kingship, according to tradition, was Mqikela from the great house. However, his brother Ndamase, from the right-hand house, disputed Mqikela's claim to the throne. Ndamase relocated to the west of the Mzimvubu River around 1845. Mqikela's succession to Faku's rule was contested by the colonial powers, leading to the British Colonial government elevating Nqwiliso (Son of Ndamase) to paramount chief in 1878. This action resulted in the division of Pondoland into Eastern and Western Pondoland. The dispute over kingship persisted, with the Commission on Traditional Leadership Disputes and Claims addressing the matter in 2006 and reaching a settlement in 2010, although it did not fully satisfy the Mqikela lineage.

6.1.3 Historical Background

Lusikisiki was originally established as a military outpost circa 1894, coinciding with the annexation of Pondoland by the Cape Colony (Raper 2004). The name is onomatopoeic to represent the sound of reeds rustling in the wind.

In the late 18th century, conflicts over land arose as people fled from Shaka and the Zulus in the north and the expanding British and Dutch from the south. These tensions led to nine wars during the 19th century. A pivotal moment for the Xhosa came with the "cattle killing" in 1856, resulting in famine and eventual submission to colonial rule by 1858, except for the Mpondo chiefdom. The region was initially governed by the British Cape Provincial Administration and later, under the Nationalist party government, separate development policies led to "self-government" in 1963. The Transkei, encompassing many Xhosa-speaking tribes, gained "full independence" in 1976.

The National Government sought to implement the Bantu Authorities Act, using Chief Botha Sigcau as a key figure. This led to widespread resentment, particularly among the Pondo people, who rejected government efforts to change their living conditions. Tensions escalated during public meetings in Bizana, resulting in police intervention and the alienation of the amaPondo chief and his staff. A subsequent meeting on taxation saw a large impi march to Saul Mabude's homestead, where his property was destroyed, and livestock slaughtered. This prompted a ban on meetings, leading to the formation of a secret movement known as Intaba. On June 6, 1960, a gathering on Ngquza Hill was attacked by security forces, resulting in 11 deaths. The struggle gained momentum, leading to a state of emergency declaration by the government in November 1960. Thousands were detained, and between August and October 1961, 30 Pondo individuals were sentenced to death for their involvement in the Pondo Revolt. A memorial now stands on Ngquza Hill in honour of those who were killed.

6.2 Literature Review (SAHRIS)

Very few Cultural Resource Management (CRM) surveys are on record for the general area and the relevant results of these studies are briefly discussed below and outlined in Table 6.

Table 6. Studies consulted for the project.

Author	Year	Project	Findings
Van Schalkwyk, L., Wahl, E.	2003	Cultural Heritage Assessment of the Proposed Eros-Grassridge 400 kV Transmission line, Eastern Cape and Kwazulu Natal, South Africa.	Stone Age sites, EIA and LIA sites, Historical sites.
Van Schalkwyk, L.	2007	Heritage Impact Assessment of Xolobeni Mineral Sands Project, Eastern Cape Province, South Africa.	Living heritage site, ESA, MSA, LSA scatters, Historical artefacts, graves.
Van Schalkwyk, L.	2008	Heritage Impact Assessment of the Proposed N2 Wild Coast Toll Highway.	Stone cairns, graves.
Fourie, W.	2011	Proposed construction of a new police station in Lusikisiki, Ingquza Local Municipality, O.R. Tambo District Municipality, Eastern Cape.	No sites were identified.
Fourie, W.	2012	Environmental Impact Assessment process for the Eros –Vuyani 400kV line towers within 32m of a watercourse in KwaZulu Natal. Heritage Impact Assessment.	No sites were identified.
Mngomezulu, K.	2013	Application For Exemption on The Proposed Construction of Further Education Training (FET) Colleges in Ngqungqushe, Eastern Cape Province.	No sites were identified.
Bennie, J.	2014	Heritage Impact Assessment Mngazi River Bridge: SANRAL proposal for new access roads, bridge and stormwater channels.	No sites were identified.

6.3 Google Earth and the Genealogical Society of South Africa (Graves and Burial Sites)

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological and historical sites might be located. The database of the Genealogical Society of South Africa indicated no known grave sites within the study area.

7 Heritage Baseline

7.1 Description of the Physical Environment

The vegetation of the Project area belongs to the Pondoland-Ugu Sandstone Costal Sourveld of the Indian Ocean Coastal Belt Biome. It is described as coastal peneplains and partly undulating hills with flat tablelands and very steep slopes of river gorges. These sites support natural, species-rich grassland punctuated with scattered low shrubs or small trees (sometimes with bush clumps, especially in small gullies). Rocky outcrops and krantzes are common and dramatic sea-cliffs occur. Proteaceous trees (*Protea*, *Faurea*) can be locally common where conditions allow. Although less important here, the geoxylic suffrutex growth form (so typical of CB 2 Maputaland Wooded Grassland), is also represented in this sourveld (Mucina and Rutherford 2006).

The project area is situated 2km from Ndindindi and 20km from Lusikisiki and also along Ghanja Road. The Project consists of two portions: an MP area and a stockpile area. The project area is an elevated site characterized by a slightly rolling hill landscape with a few rocky outcrops scattered on the landscape. Thick grassland covers the entirety of the Project area. The project area is situated within an open, rural area in which small farmsteads and villages are found across the landscape. General site conditions are indicated in (Figure 7.1 to 7.5).

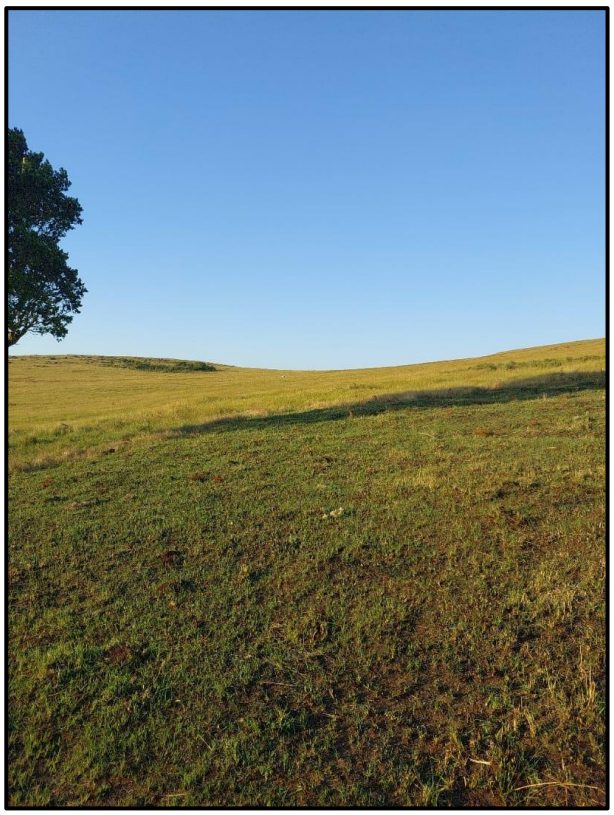

Figure 7.1. General view of the MP area along the western half of the Project area.

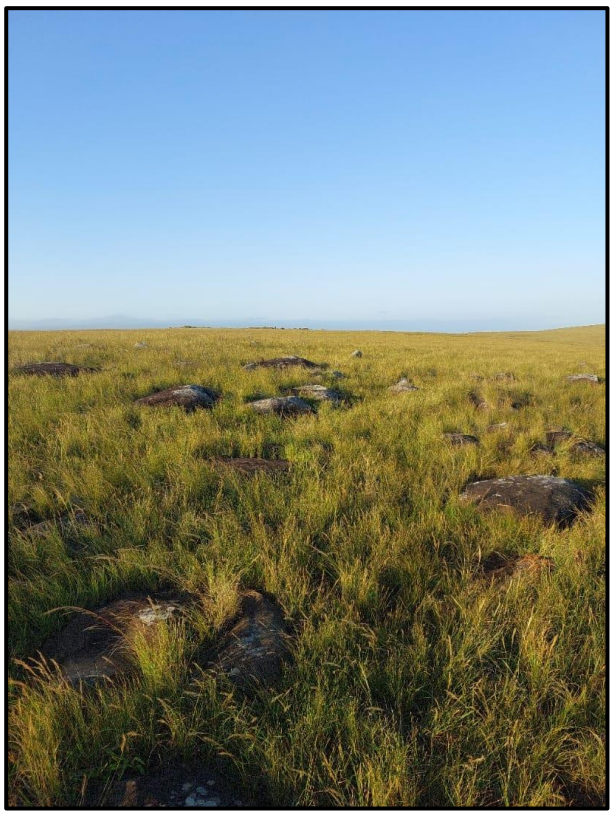

Figure 7.2. General view of the MP area along the southern boundary of the Project area.

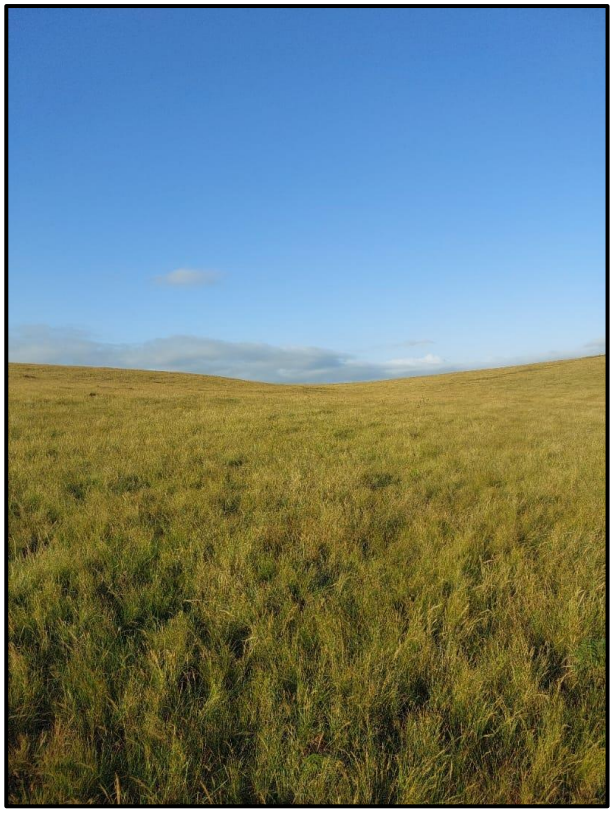

Figure 7.3. General view of the Stockpile area along the eastern half of the Project area.

Figure 7.4. General view of the eastern boundary of the Project area.

Figure 7.5. General view of the surrounding landscape taken along the northern boundary of the project area - Image showing the gravel road used as main access to the site.

7.2 Heritage Resources

The Project area is void of any topographic focal points such as hills and watercourses which would have been favourable for Iron Age occupation. Geologically, the rocks within the Project area are favourable rocks for knapping stone tools. During the survey, no heritage resources were identified within the MP area or the Stockpile area.

7.3 Cultural Landscape

The Project area is situated in a rural and undeveloped landscape. The countryside is rugged, remote, and untamed. The larger area is characterised by rolling hills and wide-open spaces that supports the local people's lifestyle that has remained largely unchanged over the years. The AmaMpondo traditionally live in huts; old-style and beehive shaped. Traditionally they have a love of ornaments and beadwork.

The Heritage Portal (www.theheritageportal.co.za) indicated that towards the coast and to the east of the study area the amaMpondo people who reside in rural communities recognise the threat that proposed mining and toll road developments pose to the larger landscape and to their traditional agrarian way of life, and consequently have organised a fierce resistance campaign against these developments (https://swc.org.za).

7.4 Paleontological Heritage

According to the SAHRA palaeontological sensitivity map, the study area is indicated as low palaeontological sensitivity (Figure 7.9), and no palaeontological studies are required however a protocol for finds is required.

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map

Figure 7.6. Paleontological sensitivity of the approximate study area (yellow polygon) as indicated on the SAHRA Palaeontological sensitivity map.

8 Assessment of impacts

8.1 Impacts on tangible heritage resources.

The main cause of impacts to archaeological resources is physical disturbance of the material itself and its context during removal of topsoil and vegetation as well as the excavations associated with the establishment of infrastructure. Due to the lack of any archaeological finds, there will be no impact to known heritage resources.

The larger area does however boast a rich living heritage consisting of various villages and communities throughout the landscape who have implemented a lifestyle similar to that of Late Iron Age communities. The Project will not impact on any of these communities. It should be noted that project will add an industrial component to the cultural landscape. As the project has a relatively small development footprint and is located in close proximity to an existing road it is not expected that that project will have a high negative impact on the surrounding landscape.

Any additional effects to subsurface heritage resources can be successfully mitigated by implementing a chance find procedure. Mitigation measures as recommended in this report should be implemented during all phases of the project. Impacts of the project on heritage resources is expected to be low during all phases of the development if mitigation measures are followed.

8.1.1 Cumulative impacts

The proposed project will have a low cumulative impact as no significant heritage resources will be adversely affected.

8.2 Impact Assessment Tables

Table 7. Impact assessment for the Project.

Nature: During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological and paleontological material or objects.		
	Without mitigation	**With mitigation (Preservation/ excavation of site)**
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Minor (2)	Minor (2)
Probability	Improbable (3)	Improbable (2)
Significance	**16 (Low)**	**16 (Low)**
Status (positive or negative)	Negative	Negative
Reversibility	Not reversible	Not reversible
Irreplaceable loss of resources?	Yes	Yes
Can impacts be mitigated?	NA	NA
Mitigation: • Monitoring of the Project area by the ECO during pre-construction and construction phases for heritage and palaeontology chance finds, if chance finds are encountered to implement the Chance Find Procedure for the Project as outlined in Section 9.		
Residual Impacts: Although surface sites can be avoided or mitigated, there is a chance that completely buried sites would still be impacted on, but this cannot be quantified.		

9 Conclusion and recommendations

The Project area is situated along Ghanja Road, approximately 20km from Lusikisiki. The Project area is located on an elevated terrain and thick grasses cover the landscape. Small rocky outcroppings are found scattered throughout the landscape. The general landscape lacks topographic focal points such as hills and watercourses which would have attracted archaeologically significant human occupation. This was verified through the lack of heritage resources identified within both the MP and Stockpile areas. The larger area does however boast a rich living heritage consisting of various villages and communities throughout the landscape who have implemented a lifestyle similar to that of Late Iron Age communities. The Project will not impact on any of these communities.

According to the South African Heritage Resource Authority (SAHRA) Paleontological sensitivity map the study area is of low palaeontological sensitivity and no palaeontological studies are required however a protocol for finds is required.

The impact to heritage resources is expected to be low provided that the recommendations in this report are adhered to, based on the South African Heritage Resource Authority (SAHRA) 's approval.

9.1 Recommendations for condition of authorisation

The following recommendations for Environmental Authorisation apply and the Project may only proceed based on approval from SAHRA:

- Mining and development activities must be confined to the approved development footprint only;
- Monitoring of the Project area by the ECO during pre-construction and construction phases for heritage and palaeontology chance finds, if chance finds are encountered to implement the Chance Find Procedure for the Project as outlined in Section 9.

9.2 Chance Find Procedure

9.2.1 Heritage Resources

The possibility of the occurrence of subsurface finds cannot be excluded. Therefore, if during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find and therefor chance find procedures should be put in place as part of the EMP. A short summary of chance find procedures is discussed below and monitoring guidelines applicable to the Chance Find procedure is discussed below and monitoring guidelines for this procedure are provided in Section 9.5.

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this Project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

9.2.2 Monitoring Programme for Palaeontology – to commence once the excavations / drilling activities begin.

1. The following procedure is only required if fossils are seen on the surface and when drilling/excavations commence.
2. When excavations begin the rocks and discard must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (trace fossils, fossils of plants, insects, bone or coalified material) should be put aside in a suitably protected place. This way the Project activities will not be interrupted.
3. Photographs of similar fossils must be provided to the developer to assist in recognizing the fossil plants, vertebrates, invertebrates or trace fossils in the shales and mudstones (for example see Figure 9). This information will be built into the EMP's training and awareness plan and procedures.
4. Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
5. If there is any possible fossil material found by the developer/environmental officer then the qualified palaeontologist sub-contracted for this Project, should visit the site to inspect the selected material and check the dumps where feasible.
6. Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits.
7. If no good fossil material is recovered, then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the Project has been completed and only if there are fossils.
8. If no fossils are found and the excavations have finished, then no further monitoring is required.

9.3 Reasoned Opinion

The overall impact of the Project with the recommended mitigation measures is acceptable and residual impacts can be managed to an acceptable level through implementation of the recommendations made in this report. The socio-economic benefits also outweigh the possible impacts of the development if the correct mitigation measures are implemented for the Project.

9.4 Potential risk

Potential risks to the proposed Project are the occurrence of intangible features and unrecorded cultural resources (of which graves, and subsurface cultural material are the highest risk). This can cause delays during construction, as well as additional costs involved in mitigation and possible layout changes. The stakeholder engagement process will assess intangible heritage resources further if this is listed as a concern.

9.5 Monitoring Requirements

Day to day monitoring can be conducted by the ECO. The ECO or other responsible persons should be trained along the following lines:

- *Induction training:*
  - Responsible staff identified by the developer should attend a short course on heritage management and identification of heritage resources.
  - Staff should also receive training on the CFP.
- *Site monitoring and watching brief*: As most heritage resources occur below surface, all earth-moving activities need to be routinely monitored in case of accidental discoveries. The greatest potential impacts are from pre-construction and construction activities. The ECO should monitor all such activities. If any heritage resources are found, the chance finds procedure must be followed as outlined above.

Table 8. Monitoring requirements for the Project

Heritage Monitoring					
Aspect	**Area**	**Responsible for monitoring and measuring**	**Frequency**	**Proactive or reactive measurement**	**Method**
Cultural Heritage Resource Chance Find	Entire Project area	ECO	Weekly (Pre construction and construction phase)	Proactively	If risks are manifested (accidental discovery of heritage resources) the chance find procedure should be implemented: 1. Cease all works immediately; 2. Report incident to the Sustainability Manager; 3. Contact an archaeologist to inspect the site; 4. Report incident to the competent authority; and 5. Employ reasonable mitigation measures in accordance with the requirements of the relevant authorities. Only recommence operations once impacts have been mitigated.

9.6 Management Measures for inclusion in the EMPr

Table 9. Heritage Management Plan for EMPr implementation

Area	Mitigation measures	Phase	Timeframe	Responsible party for implementation	Target	Performance indicators (Monitoring tool)
General Project area	Monitoring of the Project area by the ECO during pre-construction and construction phases for chance finds, if chance finds are encountered to implement the Chance Find Procedure for the project	Throughout the Project	Weekly	Applicant Construction Contractor	Ensure compliance with relevant legislation and recommendations from SAHRA under Section 34, 35, 36 and 38 of NHRA	ECO Checklist/Report
General Project Area	Mining and development activities must be confined to the approved development footprint only.	Throughout the Project	Throughout the Project	Applicant Construction Contractor	Ensure compliance with relevant legislation and recommendations from SAHRA under Section 35, 36 and 38 of NHRA	ECO Checklist/Report

10 References

Bennie, J. 2014. Heritage Impact Assessment Mngazi River Bridge: SANRAL proposal for new access roads, bridge and stormwater channels.
Region, Westonaria Magisterial District, Gauteng Province.

Fourie, W. 2011. Proposed construction of a new police station in Lusikisiki, Ingquza Local Municipality, O.R. Tambo District Municipality, Eastern Cape.

Fourie, W. 2012. Environmental Impact Assessment process for the Eros –Vuyani 400kV line towers within 32m of a watercourse in KwaZulu Natal. Heritage Impact Assessment.

Huffman, T.N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa.* University of KwaZulu-Natal Press, Scotsville.

Mngomezulu, K. 2013. Application For Exemption on The Proposed Construction of Further Education Training (FET) Colleges in Ngqungqushe, Eastern Cape Province.

Mucina, L. & Rutherford, M.C. 2006. The vegetation map of South Africa, Lesotho and Swaziland. SANBI, Pretoria.

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

Raper, P.E. 2004. South African place names. Johannesburg: Jonathan Ball Publishers.

Sahra Report Mapping Project Version 1.0, 2009

Van Schalkwyk, L. 2007. Heritage Impact Assessment of Xolobeni Mineral Sands Project, Eastern Cape Province, South Africa.

Van Schalkwyk, L. 2008. Heritage Impact Assessment of the Proposed N2 Wild Coast Toll Highway.

Van Schalkwyk, L., Wahl, E. 2003. Cultural Heritage Assessment of the Proposed Eros-Grassridge 400 kV Transmission line, Eastern Cape and Kwazulu Natal, South Africa.

Electronic sources:

www.statssa.gov.za Cited May 2024
https://www.theheritageportal.co.za/thread/threatened-pre-%E2%80%9Cbetterment%E2%80%9D-amampondo-cultural-community-landscapes
https://swc.org.za/