Heritage Impact Assessment Report

Heritage Impact Assessment Report for the Proposed Umzimkhulu to Summerfield Water Pipeline

Prepared By:

Prepared For:

CREDIT SHEET

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Report Author

STEPHAN GAIGHER

Disclaimer; *Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. G&A Heritage and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

Statement of Independence

As the duly appointed representative of G&A Heritage, I Stephan Gaigher, hereby confirm my independence as a specialist and declare that neither I nor G&A Heritage have any interests, be it business or otherwise, in any proposed activity, application or appeal in respect of which the Environmental Consultant was appointed as Environmental Assessment Practitioner, other than fair remuneration for work performed on this project.

SIGNED OFF BY: STEPHAN GAIGHER

EXECUTIVE SUMMARY

Site name and location: Proposed construction of the Umzimkhulu to Summerfield Pipeline.

Municipal Area: Umzimkhulu Local Municipality

Developer: Umzimkhulu Local Municipality

Consultant: G&A Heritage, PO Box 522, Louis Trichardt, 0920, South Africa.
38A Vorster Str. Louis Trichardt, 0920

Date of Report: 05 August 2015

The purpose of the management summary is to distil the information contained in the report into a format that can be used to give specific results quickly and facilitate management decisions. It is not the purpose of the management summary to repeat in shortened format all the information contained in the report, but rather to give a statement of results for decision making purposes.

This study encompasses the heritage impact investigation. A preliminary pipeline alignment has been supplied to lead this phase of the study.

The purpose of this study is to determine the possible occurrence of sites with cultural heritage significance within the study area. The study is based on archival and document research combined with fieldwork investigations of indicated alignments.

ARCHIVAL RESEARCH

Scientific publications

Several publications on heritage related work in this area could be sourced. These include, but are not limited to;

Historic Maps

Especially during the evaluation of historic structures, the use of archived historic maps is very handy. They give a direct chronological reference for such sites and also lead the investigation on the ground.

The following historic map sets are relevant for this study:

- 3029 BD 1965
- 3029 BD 1986
- 3029 BD 2004

SAHRA STUDIES

- Prins, F. 2013. Heritage Survey of the Proposed Umzimkhulu Community Health Care Centre (CHC), located on Portion 420 of the Farm Clydesdale, Umzimkhulu Local Municipality, Sisonke District Municipality, KwaZulu-Natal.
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- Whitelaw, G. 2013. The Proposed Forestry projects by Mbanjwa, B.W. (40h) in respect of the same activity occurring on several locations in Bedford 180ES Portion A Farm in Umzimkhulu and Ubuhlebezwe Local Municipalities with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by W.P. Mahlawe (40ha) occurring in location Vlakplaats 110ES Portion 10 (a Portion of 2) Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.

- Whitelaw, G. 2013. The Proposed Forestry projects by S.R. Ntanzi (40ha) in respect of the same activity occurring in several locations in Roodewal 148ES Portion 12 Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Eucalyptus Forestry projects proposed by V.V. Mnyembane (25ha) in respect of the same activity occurring in several location on Driefontein 147ES Portion 3 Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
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Findings
One area with several dilapidated western style, granite brick buildings as well as graves and the foundation remains of huts were noticed. It is likely that these structures are associated with the Clydesdale Mission.

Recommendations
Where possible it is recommended that the proposed alignment of the pipeline be altered to avoid damage to any of the identified heritage sites.

If the pipeline cannot be altered to completely avoid the heritage site, it is recommended that a qualified heritage practitioner be employed to be on site during the excavation of the pipeline to direct the process and so prevent any further damage to the site.

Fatal Flaws
No fatal flaws were identified.

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List of Abbreviations

Bp ..... Before Present

DRC ..... Dutch Reformed Church

EIA ..... Early Iron Age

ESA ..... Early Stone Age

Fm ..... Femtometre (10^{-15}m)

GPS ..... Geographic Positioning System

HIA ..... Heritage Impact Assessment

LIA ..... Late Iron Age

LSA ..... Late Stone Age

MYA ..... Million Years Ago

MSA ..... Middle Stone Age

NHRA ..... National Heritage Resources Act no 22 of 1999

SAHRA ..... South African Heritage Resource Agency

S&EIR ..... Scoping & Environmental Impact Reporting

Um ..... Micrometre (10^{-6} m)

WGS 84 ..... World Geodetic System for 1984

Chapter 1

PROJECT RESOURCES

Heritage Impact Report

Heritage Impact Assessment Report for the Proposed Umzimkhulu to Summerfield Pipeline

Introduction

Legislation and methodology

G&A Heritage was appointed by *Gedezar Consulting* to undertake a heritage impact assessment (HIA) for the proposed development of the proposed *Umzimkhulu to Summerfield Pipeline.* Section 38 (A) and 3 (2) of the South African Heritage Resources Act (25 of 1999) requires that a heritage study be undertaken for:

(a) Construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
(b) Construction of a bridge or similar structure exceeding 50 m in length; and
(c) Any development, or other activity which will change the character of an area of land, or water –
  (1) Exceeding 10 000 m^2 in extent;
  (2) Involving three or more existing erven or subdivisions thereof; or
  (3) Involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or
(d) The costs of which will exceed a sum set in terms of regulations; or
(e) Any other category of development provided for in regulations.

A heritage impact assessment is not limited to archaeological artefacts, historical buildings and graves. It is far more encompassing and includes intangible and invisible resources such as places, oral traditions and rituals. A heritage resource is defined as any place or object of cultural significance i.e. of aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This includes the following:

(a) Places, buildings, structures and equipment;
(b) Places to which oral traditions are attached or which are associated with living heritage;
(c) Historical settlements and townscapes;
(d) Landscapes and natural features;
(e) Geological sites of scientific or cultural importance;
(f) Archaeological and paleontological sites;
(g) Graves and burial grounds, including –
  (1) Ancestral graves,
  (2) Royal graves and graves of traditional leaders,
  (3) Graves of victims of conflict (iv) graves of important individuals,
  (4) Historical graves and cemeteries older than 60 years, and
  (5) Other human remains, which are not covered under the Human Tissues Act, 1983 (Act No.65 of 1983 as amended);

(h) Movable objects, including;
(1) Objects recovered from the soil or waters of South Africa including archaeological and paleontological objects and material, meteorites and rare geological specimens;
(2) Ethnographic art and objects;
(3) Military objects;
(4) Objects of decorative art;
(5) Objects of fine art;
(6) Objects of scientific or technological interest;
(7) Books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings; and
(8) Any other prescribed categories, but excluding any object made by a living person;
(i) Battlefields;
(j) Traditional building techniques.

A '**place**' is defined as:
(a) A site, area or region;
(b) A building or other structure (which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure);
(c) 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); and (d) 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.

'**Structures**' means any building, works, device, or other facility made by people and which is fixed to land and any fixtures, fittings and equipment associated therewith older than 60 years.

'**Archaeological**' means:
(a) 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;
(b) Rock art, being a 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 including any area within 10 m of such representation; and
(c) Wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land or in the maritime cultural zone referred to in section 5 of the Maritime Zones Act 1994 (Act 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which are older than 60 years or which in terms of national legislation are considered to be worthy of conservation;
(d) Features, structures and artefacts associated with military history, which are older than 75 years and the sites on which they are found.

'Palaeontological' means 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 which contains such fossilised remains or trace.

'Grave' means a place of interment and includes the contents, headstone or other marker of and any other structures on or associated with such place. The South African Heritage Resources Agency (SAHRA) will only issue a permit for the

alteration of a grave if it is satisfied that every reasonable effort has been made to contact and obtain permission from the families concerned.

The removal of graves is subject to the following procedures as outlined by the SAHRA:

- Notification of the impending removals (using English, Afrikaans and local language media and notices at the grave site);
- Consultation with individuals or communities related or known to the deceased;
- Satisfactory arrangements for the curation of human remains and / or headstones in a museum, where applicable;
- Procurement of a permit from the SAHRA;
- Appropriate arrangements for the exhumation (preferably by a suitably trained archaeologist) and re-interment (sometimes by a registered undertaker, in a formally proclaimed cemetery);
- Observation of rituals or ceremonies required by the families.

The limitations and assumptions associated with this scoping study are as follows;

- Sites were evaluated by means of description of the cultural landscape and analysis of written sources and available databases as well as fieldwork sessions.
- It was assumed that the layout as provided by *Gedazar* were accurate.
- We assumed that the public participation process performed as part of the Scoping and Environmental Impact Reporting (S&EIR) process would be sufficiently encompassing not to be repeated in the Heritage Impact Phase.

Table 1. Impacts on the NHRA Sections

Act	Section	Description	Possible Impact	Action
National Heritage Resources Act (NHRA)	34	Preservation of buildings older than 60 years	Possible Impact	Site monitoring by heritage expert
	35	Archaeological, paleontological and meteor sites	Possible Impact	Recommendations
	36	Graves and burial sites	Possible Impact	Re-alignment of pipeline to avoid graves
	37	Protection of public monuments	No impact	None
	38	Does activity trigger a HIA?	Yes	HIA

Table 2. NHRA Triggers

Action Trigger	Yes/No	Description
Construction of a road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length.	Yes	Pipeline construction
Construction of a bridge or similar structure	No	N/A

exceeding 50m in length.		
Development exceeding 5000 m^2	No	N/A
Development involving more than 3 erven or sub divisions	No	N/A
Development involving more than 3 erven or sub divisions that have been consolidated in the past 5 years	No	N/A
Re-zoning of site exceeding 10 000 m^2	No	N/A
Any other development category, public open space, squares, parks or recreational grounds	No	N/A

Background Information

Umzimkhulu to Summerfield Pipeline

Project Description

The Umzimkhulu Local Municipality proposes the development of the 2.530km pipeline from a raw water abstraction point on the Mzimkhulu River, west of Clydesdale in the Umzimkhulu Local Municipality. The proposed pipeline traverses through some human settlements and potentially sensitive heritage features.

Site Location

The proposed pipeline will be approximately 2.530km long, located south east of the Umzimkhulu Town approximately 3-4km from Clydesdale.

Figure 1. Location Map

Methodology

This study defines the heritage component of the EIA process being undertaken for the proposed Umzimkhulu to Summerfield Pipeline. It is described as a Heritage Impact Assessment (HIA). This report attempts to evaluate the accumulated heritage knowledge of the area. In as far as investigations into the heritage sensitivity of the area

are concerned, the most prolific heritage component in the area seemed to be informal burial sites and historic colonial structures (outside of an official cemetery). Although many such sites were noted in proximity to the route, only three graves seemed in possible danger of being affected by the proposed construction.

Impact Assessment Components

The evaluation of this site was performed in three phases;

1. **Archival and database research**
   This component involved the identification of previous studies in the area, accumulation of scientific and popular publications on the area and the evaluation of historic map sets.

2. **Field investigations**
   This component involves the physical investigation of the study area on the ground and aims at identifying any sites of heritage potential visually. The field investigations were performed on 29 July 2015 by a professional archaeologist and an experienced fieldworker. Where sites were identified it was documented photographically and plotted using GPS with the WGS 84 datum point as reference.

3. **Reporting**
   This is the phase of the investigation in which the results of the previous two phases of investigation is reported on and evaluations are given regarding the heritage sensitivity of the area as well as recommendations on further actions needed.

Archival Research

Three main sources of information regarding the heritage sensitivity of this area could be identified. These were;

- Scientific publications on heritage related research in the area
- Previous heritage studies in the area as per the SAHRIS database
- National and Provincial Heritage Site Lists as per the SAHRA database
- Historic maps and figures as available in the National Archive

Scientific, popular and heritage publications

Several publications on heritage related work in this area could be sourced. These include, but are not limited to;

- Prins, F. 2013. Heritage Survey of the Proposed Umzimkhulu Community Health Care Centre (CHC), located on Portion 420 of the Farm Clydesdale, Umzimkhulu Local Municipality, Sisonke District Municipality, KwaZulu-Natal.
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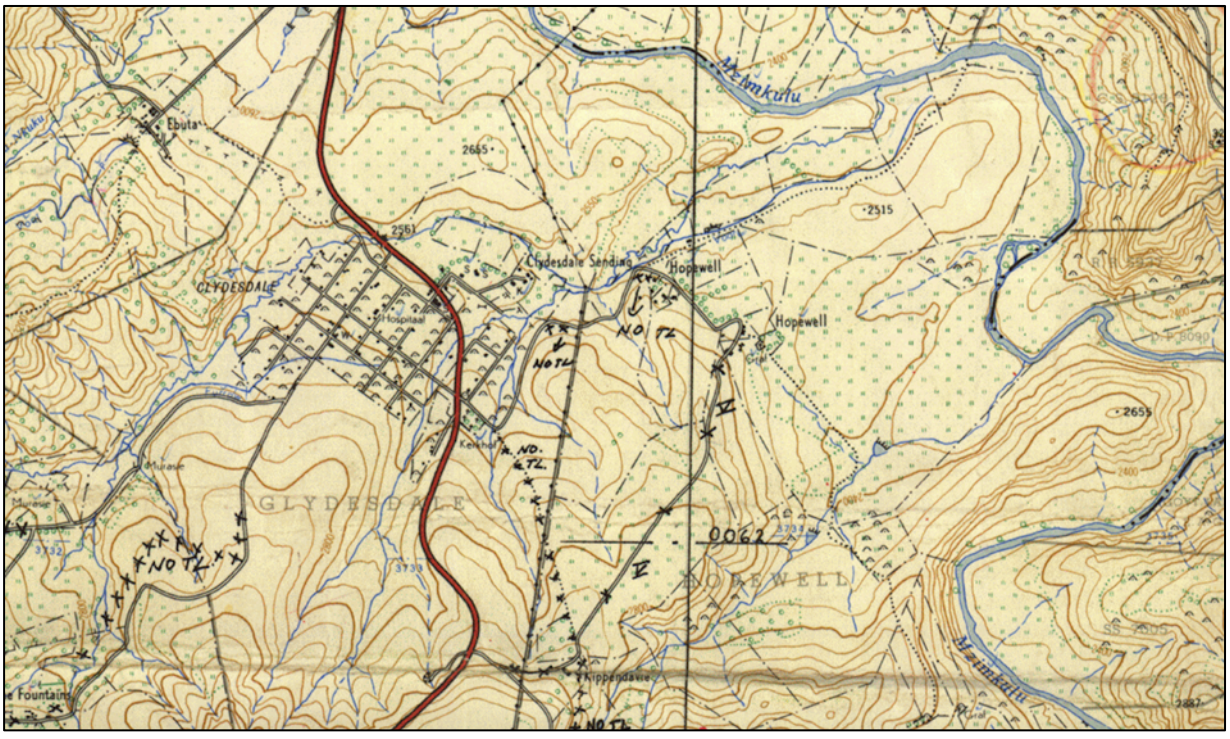

Figure 2. 1965 Cadastral Map of study area

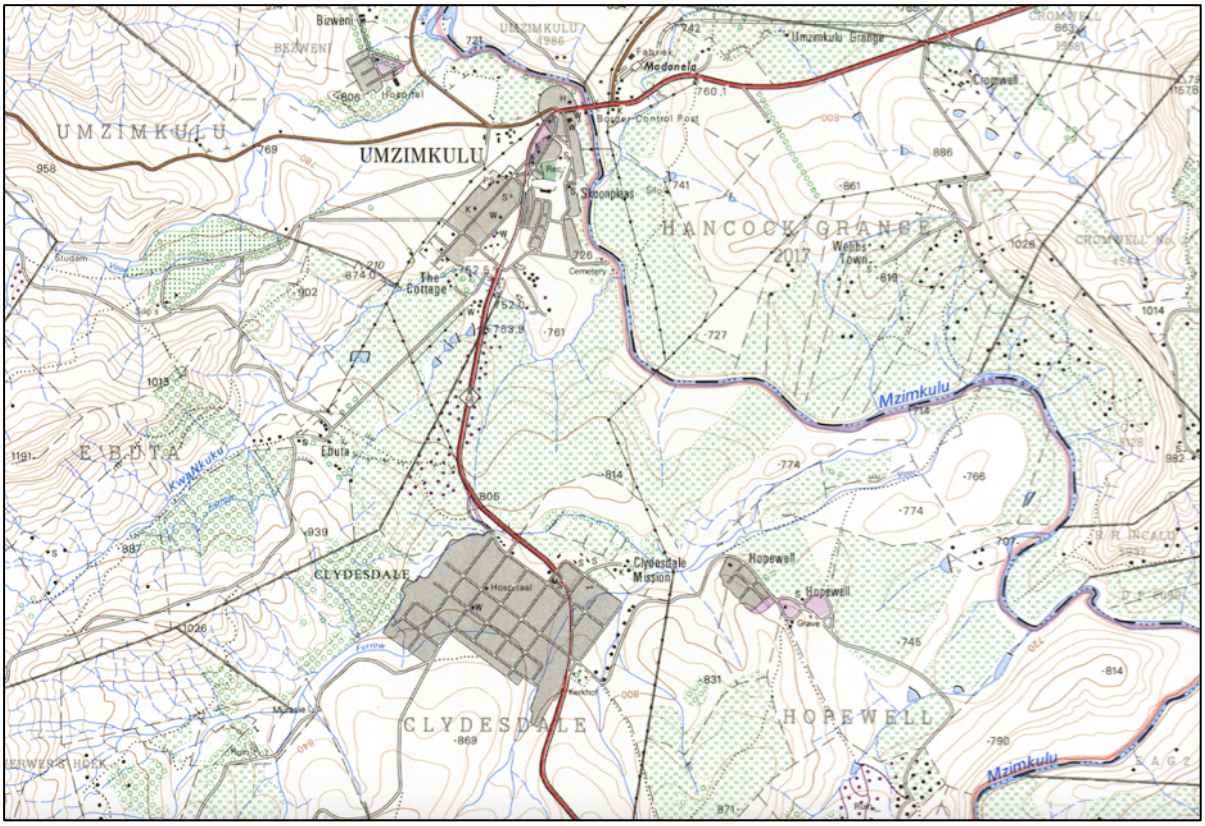

Figure 3. 1985 Cadastral Map of the Study Area

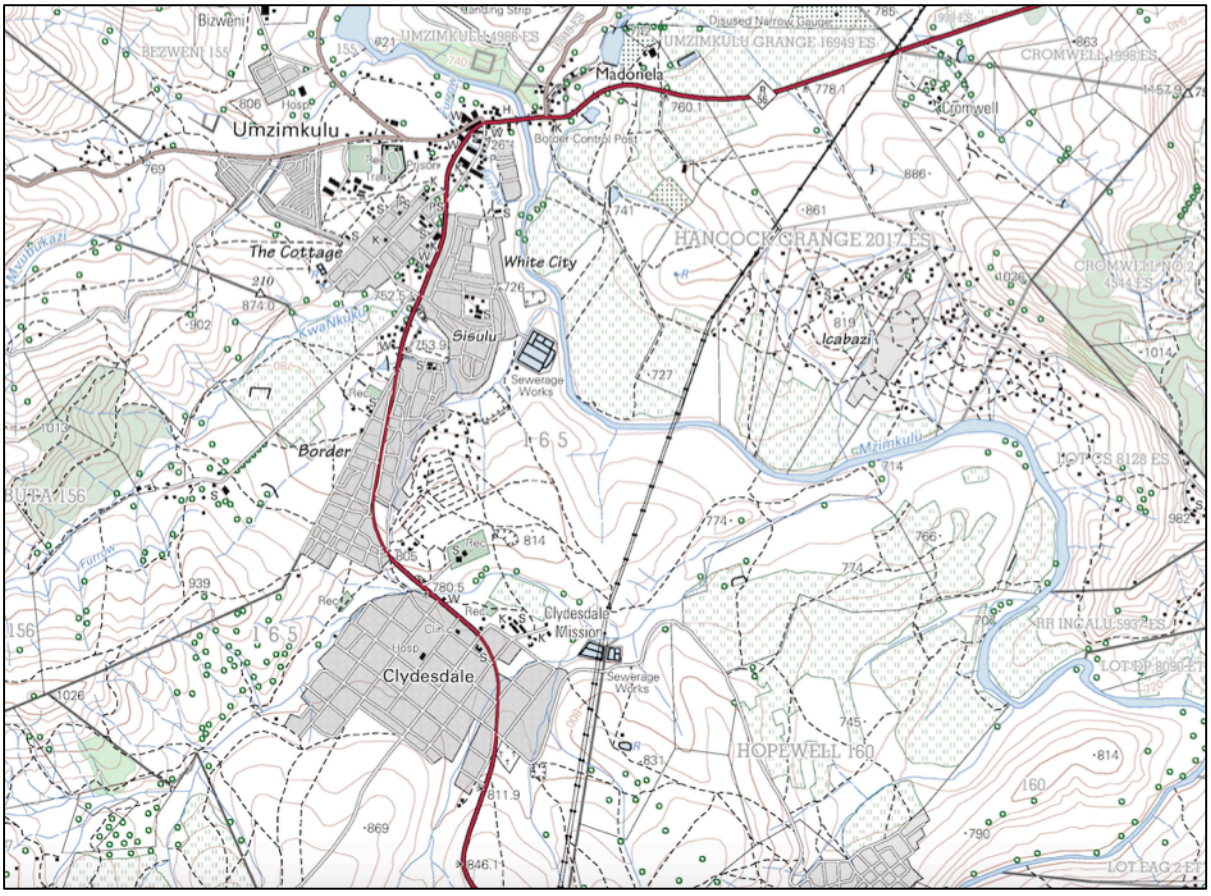

Figure 4. 2004 Cadastral Map of Study Area

Field Investigations

The study area was investigated on 29 July 2015. The areas are largely undeveloped and the route follows a proposed straight alignment.

GPS track paths followed the exact route alignment exactly and it would be superfluous to reproduce these here. The track path information is available on request from G&A Heritage in GPX format.

Chapter 2 PROJECT RESOURCES

"FOR THE EARLIER PERIODS OF HUMAN PREHISTORY NATAL, OWING TO ITS SPECIAL GEOGRAPHICAL AND GEOLOGICAL CONDITIONS, CAN PROVIDE A PATTERN FOR STUDIES IN ALL PARTS OF AFRICA SOUTH OF THE EQUATOR. TO STUDENTS IN THE NORTHERN HEMISPHERE ITS IMPORTANCE IS NATURALLY LESS; BUT THE CORRELATIONS WITH ALGERIA AND MOROCCO, LANDS OF SOMEWHAT SIMILAR FORMATION, PROVIDE A LINE, WHICH ARCHAEOLOGISTS THROUGHOUT AFRICA MAY GRASP. ONE SMALL PROVINCE CANNOT YIELD ALL THE EVIDENCE; BUT THIS SMALL PROVINCE IS ABLE TO GIVE AN UNUSUALLY COMPLETE AND CLEAR RECORD FROM DAYS WHEN MAN, AS A TOOL-MAKING ANIMAL, FIRST BECAME RECOGNISABLY HUMAN, TO THE TIME WHEN, WITH THE INVENTION OF THE BOW, HE ROSE ABOVE HIS BRUTE-SURROUNDINGS AND DONNED COMPLETE HUMANITY." O. DAVIES (1953).

HERITAGE INDICATORS WITHIN THE RECEIVING ENVIRONMENT

REGIONAL CULTURAL CONTEXT

PALEONTOLOGY

It is not anticipated that the excavations will be bedrock intrusive and for this reason a specialist paleontological investigation was not performed.

PALEONTOLOGY

Paleontological remains occur in the Cretaceous layer underlying the study area. These are of high significance but should not be impacted on as the ground intrusion is very limited and bedrock is not expected to be disturbed.

STONE AGE

This area is home to all three of the known phases of the Stone Age, namely: the Early- (2.5 million – 250 000 years ago), Middle- (250 000 – 20 000 years ago) and Late Stone Age (22 000 – 200 years ago). The Late Stone Age in this area also contains sites with rock art from the San and Khoekhoen cultural groups. Early to Middle Stone Age sites are uncommon in this area, however rock-art sites and Late Stone Age sites are much better known.

During the Middle Stone Age, 200 000 years ago, modern man or Homo sapiens emerged, manufacturing a wider range of tools, with technologies more advanced than those from earlier periods. This enabled skilled hunter-gatherer bands to adapt to different environments. From this time onwards, rock shelters and caves were used for occupation and reoccupation over very long periods of time.

The Middle Stone Age (MSA), as defined by Goodwin and Van Riet Lowe (1929), was viewed as a switch in technology from core tools to flake tools, and was thought to represent an intermediate technology between the Earlier and Later Stone Age (LSA). Triangular flakes with convergent dorsal scars and faceted butts distinguished the MSA, and radial and discoidal types, along with single and double platform

examples, dominated cores. The 'type fossil' was considered to be the worked flake point. Due to both the relatively long time span encompassed by the MSA (c. 250 000-20 000BP) and the high degree of regional variation, it has proved difficult to include all MSA assemblages within Goodwin and Van Riet Lowe's criteria. More recent attempts have been made to revise the definition of the MSA (Klein 1970; Beaumont & Vogel 1972; Volman1984) and to establish a cultural sequence but with limited success. As a result identifying and understanding the end of the MSA is still difficult. Disagreement concerning the MSA/LSA transition in southern Africa centres on four issues: 1) the definition of what constitutes final MSA technology; 2) the existence of a transitional MSA/LSAindustry; 3) the dating of the MSA/LSA transition; and 4) the existence of an Early LSA (ELSA) which represents a distinct industry that is not part of the earliest recognized LSA, the Robberg (Clark, 1997).

1985 excavation at Umhlatuzana rock shelter in Natal by Kaplan yielded a long and detailed sequence of stone artefacts, which covered the time range from the Middle Stone Age (MSA) to the Later Stone Age (LSA), including the MSA/LSA transition, and early LSA microlithic bladelet assemblages. The change from the MSA to the beginning of the LSA took place between 35 000 and 25 000 BP. Robberg-like assemblages recovered from Umhlatuzana are the first to be positively identified in Natal. Pre-dating 18 000 BP and post-dating 12 000 BP, they show that assemblages of this nature were produced earlier and later in Natal than elsewhere in the country. Changes in the Umhlatuzana stone artefact assemblages were not the result of the introduction from elsewhere of new types of tools, but took place locally, as the result of a single evolving cultural tradition in a trajectory of cultural and social change (Kaplan, 1986).

Recent research by Wadley on the Middle Stone Age of Sibudu Cave north of Durban indicated that distinctions between the Middle Stone Age and the Late Stone Age based on backed blades could be misleading (Wadley, 2005). Although research on MSA sites is limited, this research illustrates the potential value of investigating Stone Age sites in KZN closer.

The Late Stone Age, considered to have started some 20 000 years ago, is associated with the predecessors of the San and Khoi Khoi. Stone Age hunter-gatherers lived well into the 19th century in some places in SA. Stone Age sites may occur all over the area where an unknown number may have been obliterated by mining activities, urbanisation, industrialisation, agriculture and other development activities during the past decades.

A large representation of Rock-Art sites is located in this area. During 1981 Mazel completed a survey of the Drakensberg and Southern Natal and documented over 400 rock art sites with more than 20 000 paintings (Mazel, 1981). The occurrence of these sites is however subject to very specific environmental parameters, none of which are present in the study area.

Iron Age

During the third century AD, several groups of farming peoples from eastern and south central Africa began to settle along the east coast and river valleys that drain into the Indian Ocean (Maggs 1984a, 1989; Mitchell 2002). In eastern South Africa, these early farmers display a strong preference for settling a savannah environment along major water bodies where annual precipitation from 400 to over 1000mm provided adequate moisture for grain production. Over thirty EIA identified settlements in

the Thukela Basin are clustered on discontinuous patches of rich colluvial soils within a short distance of the edge of the Thukela River or its tributaries. EIA settlements were initially established in the coastal forest in the fifth century AD and later in the savannah woodland belt alongside rivers in the (seventh century AD). The opening of riverine forest and woodlands by EIA farmers is apparent from the palaeobotanical record, current vegetation distribution (Hall 1981) and settlement distribution in the Thukela Basin. All documented sites are found within 100m of the relic canopy fringe (van Schalkwyk 1992).

EIA sites averaging 7 hectares in size are consistently located on the most productive nodes of soils confined to confluences and colluvial slip-off slopes along the major drainage courses, which comprise only about 9 per cent of the landscape (Maggs 1980: 7).

"*Interpretations of the internal spatial organization of EIA sites in southern Africa are complicated by the relatively long use and frequent reoccupation of sites, often over several hundred years (Maggs 1984b, 1989). These reoccupations of the same places have created a palimpsest of flat, expansive settlements, with both superimposed and laterally displaced stratigraphy (Greenfield et al. 2000). Despite this situation, several large-scale horizontal excavations of settlements in the region have demonstrated a spatial layout of features that are similar to homestead spatial organization derived from nineteenth- and twentieth-century Nguni and Sotho-Tswana ethnography (Kuper 1982), called the Central Cattle Pattern (CCP). This pattern is characterized by domestic residences of the senior man's wives placed in ranked order in an arc or circle around a central area containing livestock pens, the burials of high-status individuals and a court or assembly area where men gather to discuss political matters (Huffman 2001). Archaeologically, a similar pattern is represented by a series of domestic complexes (hut floors, grain bins or pits, ash and other refuse middens) surrounding a series of non-domestic activity areas, including livestock enclosures and specialist activity areas separated by an open space devoid of cultural materials. There is some variation in the size of the open space. At Broederstroom in north-eastern South Africa, the distance between hut floors and a livestock enclosure was as little as 10m (Huffman 1993). At KwaGandaganda in the Mngeni valley in KwaZulu-Natal, the open space was 90m across (Whitelaw 1994), and at Ndondondwane this open space was 60-100m*" (Greenfield and van Schalkwyk 2003) (Huskel J, Greenfield, Kent, D, Fowler, & Leonard O, van Schalkwyk, 2005).

As well, faunal evidence suggests that certain species, such as nyala antelope, were forced to shift the range of their habitat after the woodland was opened (Maggs 1995:175). A considerable number of Late Iron Age, stone walled sites, dating from the 18th and the 19th centuries (some of which may have been occupied as early as the 16th century), occur along and on top of the rocky ridges here These settlements and features in these sites, such as huts, were built with dry stone, reed and clay.

Stone walled settlements are concentrated in clusters of sites and sometimes are dispersed over large areas making them vulnerable to developments of various kinds. A site consists of a circular or elliptical outer wall that is composed of a number of scalloped walls facing inwards towards one or more enclosures. Whilst the outer scalloped walls served as dwelling quarters for various family groups, cattle, sheep and goat were stock in the centrally located enclosures. Huts with clay walls and floors were built inside the dwelling units. Pottery and metal items are common on

the sites. However, iron and copper were not produced locally on these sites.

Many of the Iron Age sites are also associated with Zulu encampments. Due to the often semi-nomadic nature of these and the use of removable huts, these sites are often difficult to identify and short term occupational sites might only manifest in some stone circles, use to anchor these structures to the ground.

The Historic Era

HISTORICAL STUDY OF THE AREA

KWAZULU-NATAL
For thousands of years the undulating grasslands and dependable rivers made the area we now know as KwaZulu Natal an ideal environment for its first inhabitants, the San People. They were hunter-gatherers, living off the land and hunting. From the coast of KwaZulu-Natal, the rising Zulu Nation spread its wings slowly towards the Drakensberg Mountains, claiming land and driving away other tribes in their path.
In 1836, the first European settlers, the Voortrekkers, crossed the Drakensberg Mountains. These Afrikaners defeated the Zulus at the Battle of Blood River in 1838 and thereafter established the Republic of Natal. The territory was short-lived, 1839 – 1843, before the British annexed Natal as a district of the Cape Colony on the 31st of May 1844. The colony then acquired Zululand (the area north of the Tugela River) after the Zulu War of 1879 and the lands north of the Buffalo River was added in 1902. Boer forces entered the area during the South African War (also known as the Second Boer War 1899 to 1902) and laid siege to the town of Ladysmith on the 2nd of November 1899. They failed to build on their initial advantage and for three months the line between the opposing forces followed the course of the Tugela River. In 1910, the colony became a province of the Union of South Africa and in 1961 of the Republic of South Africa.
In 1994, after apartheid, the province was renamed KwaZulu-Natal .
UMZIMKHULU TOWN
Oral legends goes that this area once formed part of the land traditionally reserved as pasture for the herds of cattle of the AmaPondo Kings.
The town of Umzimkhulu owes its origins to Donald and Thomas Strachan who opened a trading store (later included a hotel) at the Umzimkhulu Drift, near the original ferry.
The town of Umzimkhulu was formally laid out in 1884.
Until the mid 2000's, the town was part of an enclave in the Eastern Cape, before being transferred to KwaZulu-Natal as part of the 12th amendment of the Constitution of South Africa.
IXOPO TOWN
Ixopo was formerly known as Stuartstown. Named after M. Stuart, the resident Magistrate of the Ixopo District, who was killed at the Battle of Ingogo (a.k.a. Battle of Schuinshoogte) in 1881. Alan Paton famously describes Ixopo in the opening lines of Cry, The Beloved Country: *"There is a lovely road which runs from Ixopo into the hills. These hills are grass covered and rolling, and they are lovely beyond any singing of it."* Ixopo was at the centre of a number of clashes between the two political

parties, the African National Congress and the Inkatha Freedom Party in the 1990's.

KOKSTAD

In 1861 several hundred Griquas moved across the Drakensberg Mountains into the vicinity of modern day Kokstad due to the growing confrontation with the Voortrekkers who secured leases over the Griqua land and then refused the land at the end of the lease. The Griquas were forced to travel into a region decimated by the Zulu King, Chaka, thus named "Nomansland". They named their settlement "Mount Currie" after Sir Walter Currie who gave support of their effort to settle there. Once established, their leader, Adam Kok, renamed the new land East Griqualand.

Two prominent European settlers George Brisley and Donald Strachan played a major role in the early development of Kokstad and East Griqualand: their trading store, Strachan and Co, introduced South Africa's first indigenous currency - a set of trade tokens which circulated across a wide region, covering an area the size of Ireland.

In 1874 East Griqualand came into the possession of Cape Colony. The first hotel in Kokstad, The Royal, was opened by an African-American who also started a newspaper (the *Kokstad Advertiser*) in 1881. Kokstad became a municipality in 1892.

THE STRACHAN BROTHERS

1850	The Strachan family came to Natal from Campbeltown in the Null of Kintyre in Scotland in 1850 under the Byrne Scheme, aimed at settling the British territorial claim of Natal.
1860's	Donald Strachan was honoured by the Griquas by being appointed as the only white man to become a Magistrate in the region.

Umzimkulu on 1883,the original store is in the right background with the hotel in front.

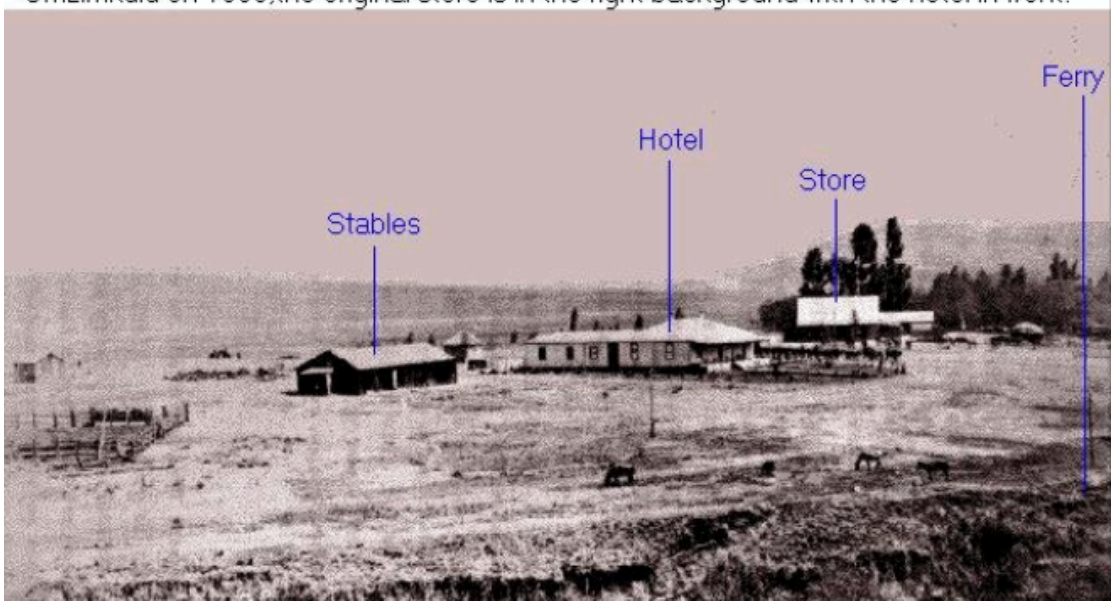

Photo credit: Scott Balson

1870's	Thomas Strachan and George Charles Brisley entered into a partnership in 1874 and established the Strachan & Co. trading store at the upper Umzimkhulu Drift. Strachan & Co. had its own coins minted that were accepted at the bank in Kokstad.

 Photo credit: http://www.tokencoins.com/strachan.html	
1874	The first issue of the Strachan & Co coins bearing the "S&Co" (seen above) would have been minted in 1874. This was over ten years before the South African Rand coinage under Paul Kruger.
1879 - 1887	Thomas Strachan in February 1879 after a sawmill accident from which he never fully recovered. His brother, Donald, took over Thomas's shares in the store. His other interests (namely the position as Magistrate and engaging his private army, the Abalandolosi) placed a strain on the partnership with Brisley. During 1882 a recession hit the region, causing temporary closure of the business in 1887 after the partners could not agree on how to pay debts to the trading house, Randles in Durban. Donald Strachan was forced to sell a large piece of land Lourdes to Brother Hudson, a Catholic Monk to avoid bankruptcy.
1890's – 1930's	The business blossomed under consecutive generations of the Strachan family and grew into the trading empire of the region, with thirty stores across East Griqualand. In the early 1900's the trade tokens were changed to barter tokens with the words "*In Goods*" included on the mint. By then the tokens had become so popular as an alternative currency that tens of thousands were struck, far more than what was required for trade. These coins were used in the region for nearly 50 years. The token coins were withdrawn from circulation in the 1930's.
1986	The business was disbanded through the homeland policy, which saw the transfer of white businesses in the region (now Transkei) being handed over to the African population.
CLYDESDALE MISSION AND ST. MARGARET'S HOSPITAL	
1871	Dr Callaway, the Priest in charge of the Springvale Mission (later the first Bishop of St. John's Diocese) in Ixopo, Natal, bought the Clydesdale Farm from Donald Strachan to settle the Christian families who would serve as a centre for the Evangelisation of the heathen.
1937	Rev. C.C. Stewart, the Priest in charge of the Clydesdale Mission, built the St. Margaret's hospital. The Minister of Health, J.H. Hofmeyer was present at the opening ceremony. Dr. Norval Watt (from Ixopo) made weekly rounds at the hospital and Dr. Goronovski was appointed the Honorary

	Medical Officer.
1941	A Board of Management with representative of the Cape Provincial Health Department was established in 1941, which made it possible for the hospital to receive grants to assist with capital and maintenance expenses.
1951	Dr. Marshall was appointed as the Resident Medical Officer. She was so dedicated to improve the condition of the hospital that she put her whole salary towards building a fund. Eventually, a new block was built with a theatre, maternity ward, a sterilizing room, a new kitchen, pantry and storerooms, as well as a dark room in which to develop x-ray plates.
1957 - 1958	Further improvements included the hospital's first water scheme for purified water and a generator to supply electricity.
1975	The hospital was taken over by the State and St. Margaret's Hospital was now functioning as a District Hospital in the Eastern Cape.
1982	The hospital had installed refrigeration for the mortuary.
2007	Since April 2007, the hospital has been under the administration of KwaZulu-Natal and is assigned as a TB / MDR TB hospital for the Sisonke Health District.

Sources:

http://www.tokencoins.com/strachan.html (Related History of the Strachan Family)

http://www.sacbc.org.za/dioceses/durban/Umzimkhulu/

http://Umzimkhulu.org/portal/

http://www.kznhealth.gov.za/margaret/history.htm

http://devplan.kzntl.gov.za/idp_reviewed_2009_10/IDPS/KZ5a6/Adopted/Final%20Umzimkhulu%20Tourism%20Strategy%2024-11-08.PDF
(Umzimkhulu Municipality Tourism Development Strategy; Final Strategy Report)

http://www.localgovernment.co.za/locals/view/78/uMzimkhulu-Local-Municipality

http://www.battlefieldsroute.co.za

Chapter 3 ANTICIPATED IMPACTS

MEASURING AND EVALUATING THE CULTURAL SENSITIVITY OF THE STUDY AREA

In 2003 the SAHRA compiled the following guidelines to evaluate the cultural significance of individual heritage resources:

TYPE OF RESOURCE

- Place
- Archaeological Site
- Structure
- Grave
- Paleontological Feature
- Geological Feature

TYPE OF SIGNIFICANCE

1. HISTORIC VALUE

   It is important in the community, or pattern of history
   - Important in the evolution of cultural landscapes and settlement patterns
   - Important in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, province, region or locality.
   - Important for association with events, developments or cultural phases that have had a significant role in the human occupation and evolution of the nation, province, region or community.
   - Important as an example for technical, creative, design or artistic excellence, innovation or achievement in a particular period.

   It has strong or special association with the life or work of a person, group or organisation of importance in history
   - Importance for close associations with individuals, groups or organisations whose life, works or activities have been significant within the history of the nation, province, region or community.

   It has significance relating to the history of slavery
   - Importance for a direct link to the history of slavery in South Africa.

2. AESTHETIC VALUE

   It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
   - Important to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
   - Importance for its creative, design or artistic excellence, innovation or achievement.

- Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.
- In the case of an historic precinct, importance for the aesthetic character created by the individual components which collectively form a significant streetscape, townscape or cultural environment.

3. SCIENTIFIC VALUE
   It has potential to yield information that will contribute to an understanding of natural or cultural heritage.
   - Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
   - Importance for information contributing to a wider understanding of the origin of the universe or of the development of the earth.
   - Importance for information contributing to a wider understanding of the origin of life; the development of plant or animal species, or the biological or cultural development of hominid or human species.
   - Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the nation, Province, region or locality.
   - It is important in demonstrating a high degree of creative or technical achievement at a particular period.
   - Importance for its technical innovation or achievement.

4. SOCIAL VALUE
   - It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
   - Importance as a place highly valued by a community or cultural group for reasons of social, cultural, religious, spiritual, symbolic, aesthetic or educational associations.
   - Importance in contributing to a community's sense of place.

DEGREES OF SIGNIFICANCE

In 2006 SAHRA prescribed classification standards for determining the heritage significance of sites within the SADC region. These recommendations were subsequently approved by ASAPA and are reproduced here to indicate the measuring standards for heritage sensitivity used in this report;

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; National Heritage Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Heritage Sites nomination
Local Significance (LS)	Grade 3A	High	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High	Mitigation with part of site retained in original

Generally Protected A (GP.A)	-	High/Medium	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium	Recording before destruction
Generally Protected C (GP.C)	-	Low	Destruction

Table 3. SAHRA Assigned Heritage Site Significance Grading

Assessment of Heritage Potential

Assessment Matrix

Determining Heritage Sensitivity

In addition to guidelines provided by the National Heritage Resources Act (Act No. 25 of 1999), a set of criteria based on Deacon (J) and Whitelaw (1997) for assessing archaeological significance has been developed for Northern Cape settings (Morris 2007a). These criteria include estimation of landform potential (in terms of its capacity to contain archaeological traces) and assessing the value to any archaeological traces (in terms of their attributes or their capacity to be construed as evidence, given that evidence is not given but constructed by the investigator). Due to the urban setting of the study area these criteria will most probably not come into play in this study.

Estimating site potential

Table 4 (below) is a classification of landforms and visible archaeological traces used for estimating the potential of archaeological sites (after J. Deacon and, National Monuments Council). Type 3 sites tend to be those with higher archaeological potential, but there are notable exceptions to this rule, for example the renowned rock engravings site Driekopseiland near Kimberley which is on landform L1 Type 1 – normally a setting of lowest expected potential. It should also be noted that, generally, the older a site the poorer the preservation, so that sometimes any trace, even of only Type 1 quality, could be of exceptional significance. In light of this, estimation of potential will always be a matter for archaeological observation and interpretation.

Table 4. Classification of landforms and visible archaeological traces for estimating the potential for archaeological sites (after J. Deacon, NMC as used in Morris)

Class	Landform	Type 1	Type 2	Type 3
L1	Rocky Surface	Bedrock exposed	Some soil patches	Sandy/grassy patches
L2	Ploughed land	Far from water	In floodplain	On old river terrace
L3	Sandy ground, inland	Far from water	In floodplain or near features such as hill/dune	On old river terrace
L4	Sandy ground, coastal	>1 km from sea	Inland of dune cordon	Near rocky shore
L5	Water-logged deposit	Heavily vegetated	Running water	Sedimentary basin
L6	Developed urban	Heavily built-up with no known record of early settlement	Known early settlement, but buildings have basements	Buildings without extensive basements over known historical sites
L7	Lime/dolomite	>5 myrs	<5000 yrs	Between 5000 yrs

				and 5 myrs
L8	Rock shelter	Rocky floor	Loping floor or small area	Flat floor, high ceiling
Class	Archaeological traces	Type 1	Type 2	Type 3
A1	Area previously excavated	Little deposit remaining	More than half deposit remaining	High profile site
A2	Shell of bones visible	Dispersed scatter	Deposit <0.5 m thick	Deposit >0.5 m thick; shell and bone dense
A3	Stone artefacts or stone walling or other feature visible	Dispersed scatter	Deposit <0.5m thick	Deposit >0.5 m thick

Table 5. Site attributes and value assessment (adapted from Whitelaw 1997 as used in Morris)

Class	Landforms	Type 1	Type 2	Type 3
1	Length of sequence /context	No sequence Poor context Dispersed distribution	Limited sequence	Long sequence Favourable context High density of arte / ecofacts
2	Presence of exceptional items (incl. regional rarity)	Absent	Present	Major element
3	Organic preservation	Absent	Present	Major element
4	Potential for future archaeological investigation	Low	Medium	High
5	Potential for public display	Low	Medium	High
6	Aesthetic appeal	Low	Medium	High
7	Potential for implementation of a long-term management plan	Low	Medium	High

Assessing site value by attribute

Table 5 is adapted from Whitelaw (1997), who developed an approach for selecting sites meriting heritage recognition status in KwaZulu-Natal. It is a means of judging a site's archaeological value by ranking the relative strengths of a range of attributes (given in the second column of the table). While aspects of this matrix remain qualitative, attribute assessment is a good indicator of the general archaeological significance of a site, with Type 3 attributes being those of highest significance.

Heritage Significance of the Study Area

In addition to the above parameters for measuring the heritage significance of an area, object or structure, this study will be guided by the requirements of the National Heritage Resources Act no 25 of 1999 (NHRA). As most of the study will focus on cultural nodes, evaluations will be based on the scientific, cultural and social value of these structures as it pertains to the NHRA.

Impact Statement and Finds

Paleontological sites

It is not anticipated that the excavations will be bedrock intrusive and therefore no impacts on the area's palaeontology is expected.

Archaeological Sites

No archaeological sites were identified during the study. It is important to note that the area has been subject to severe alteration in the past therefore the occurrence of pre-contact sites that have been obscured by more modern activities should not be dismissed. It is important in this regard that any excavations be monitored.

Built Environment

Site 001 (Possible Clydesdale Mission)

GPS 30° 17' 41" S
29° 57' 23" E

Figure 5. Location of Site 001

Figure 6. Building remains

Figure 7. Remains of colonial structures

Figure 8. Hut foundation remains

Figure 9. Line of hut foundations

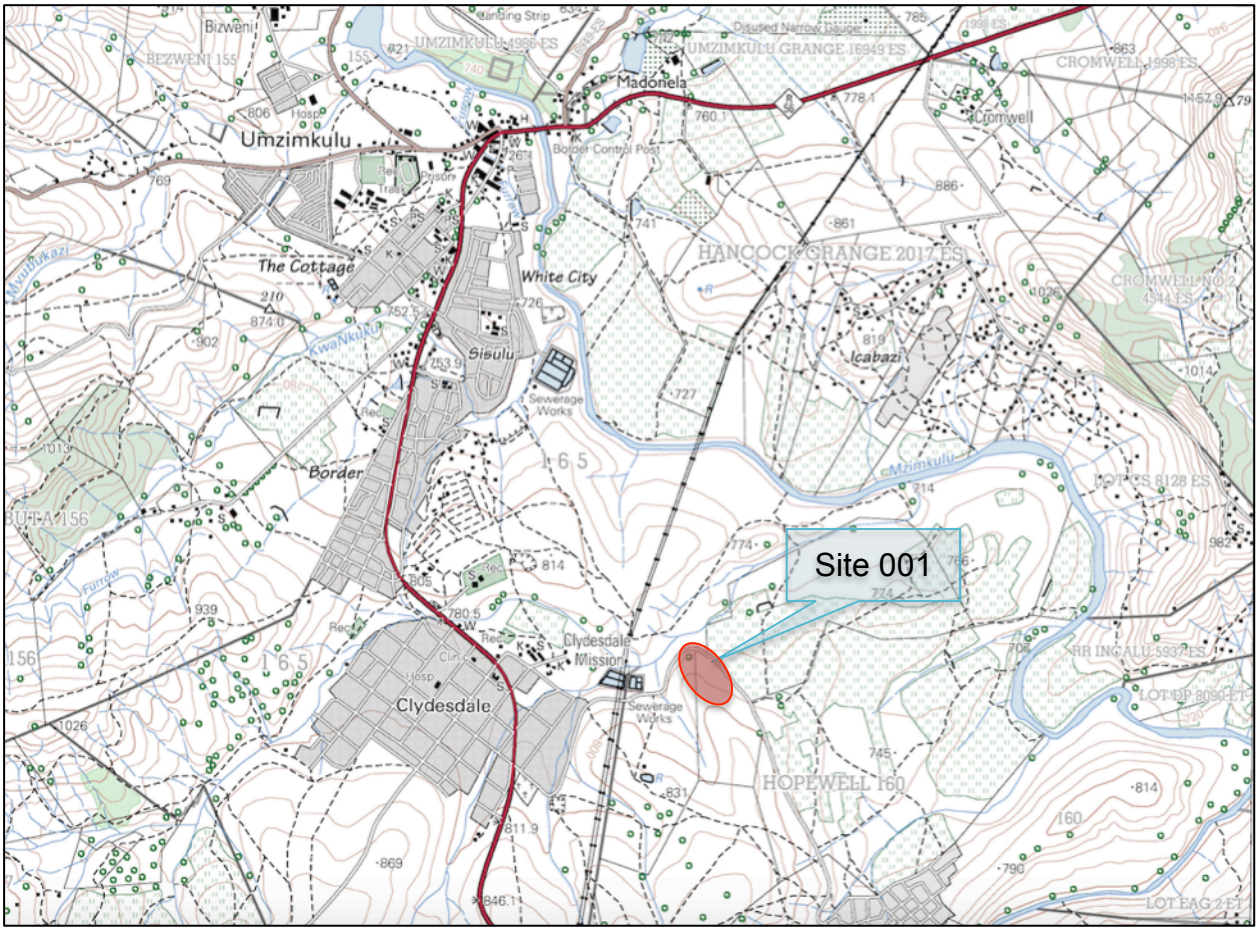

Figure 10. Location of Site 001

The remains of western structures intermixed with African hut foundations could possibly have two origins. Firstly it could be the remains of the original Clydesdale Mission Station or alternatively the original location for the St Margaret's Hospital a further option is that it formed part of the original Hopewell farm infrastructure. The earliest available map was from 1965 and this does not show any developments on site. It is highly likely taking the building style and layout into consideration that this development dates from the 1800's.

The farm of *Hopewell* originally belonged to an Irishman called Richard Brangan Hulley. Hulley arrived in South Africa on the Irish settler ship Stenton on 13 January 1820 with a wife and four children. Hulley settled on the farm Hopewell in 1830. In 1837 he would act as interpreter to Rev Mr. Owen at Dingaan's Kraal and would eventually supply a very colourful description, taken down by Rev Mr Kirby (his then neighbour), of the massacre of Piet Retief and his men at Dingaan's Kraal. Although it could not be identified, the Hulley family graveyard should still be located on the property.

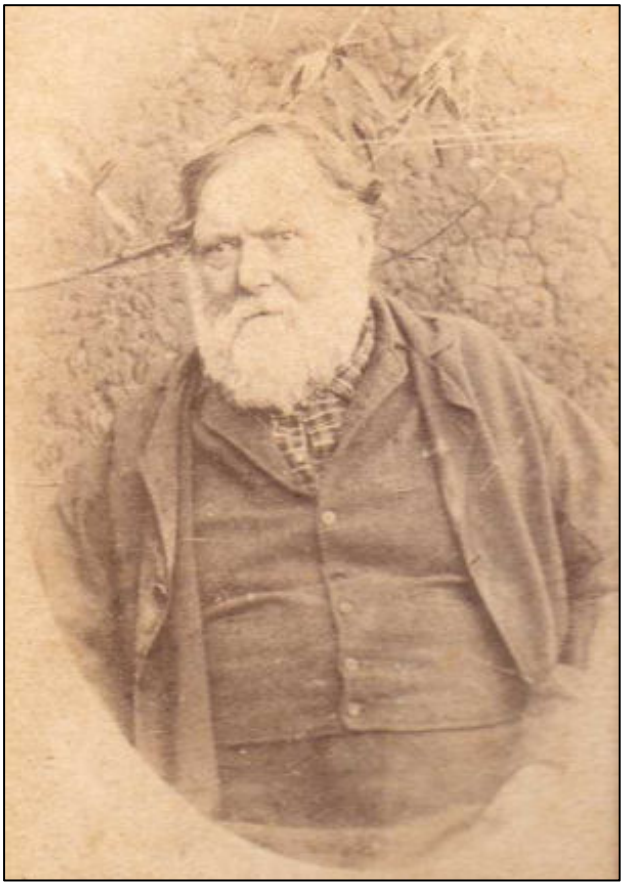

Figure 11. Richardt Hulley

Graves & Burial Sites

Although numerous burial sites were noted along the proposed alignment, only a few were in direct danger of being affected by the proposed development. Small changes in the pipeline alignment can also avoid these impacts. For the safety of the graves and for purposes of realignment these will also be listed here.

Site 002

GPS 30° 17’ 38” S
29° 57’ 26” E

Figure 12. Graveyard at Site 003

A single modern grave with concrete and granite dressing. It has the inscription *Skobho Tshazi, 1928 – 1982, Rest in Peace*.

This grave is relatively close to the proposed alignment.

Figure 13. Location of Graveyard

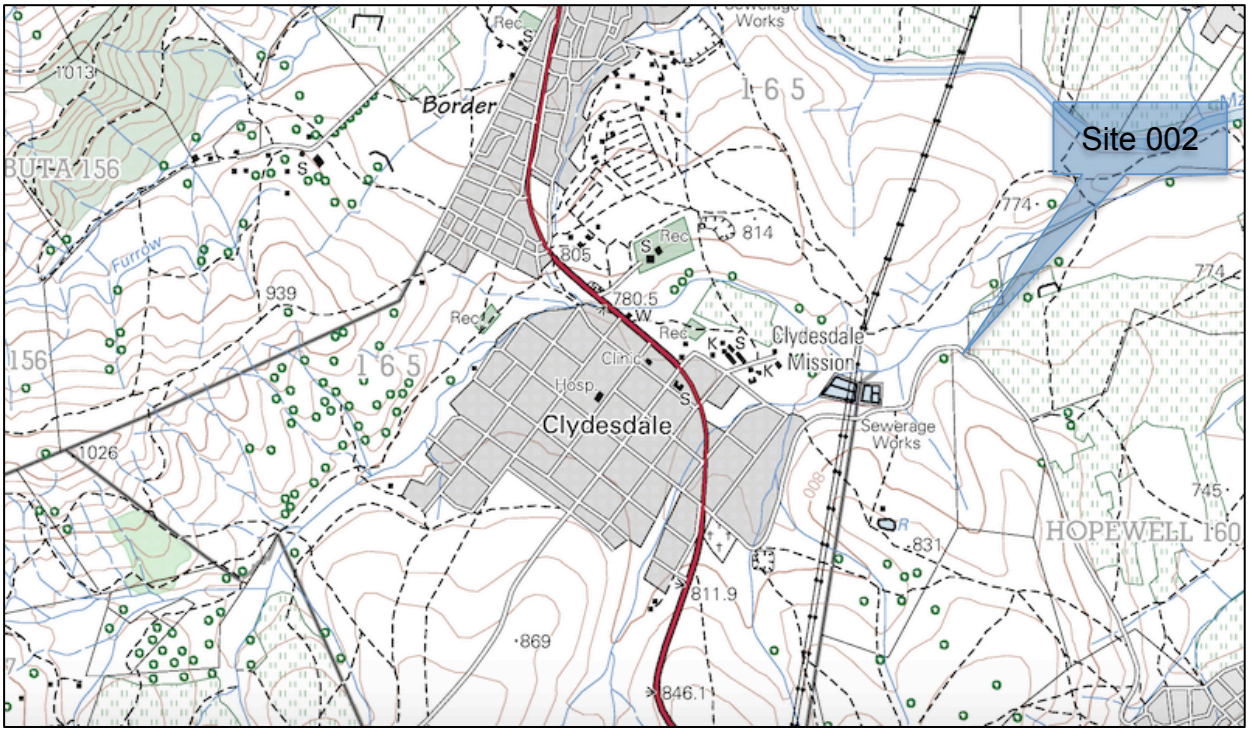

Figure 14. Location of Grave at Site 002

Site 003

GPS 32° 17’ 47” S
29° 57’ 35” E

This grave is less well defined that that at Site 002. Grave dressing consists of several stones and a makeshift headstone (rock placed upright).

Figure 15. Grave at Site 003

Figure 16. Grave at Site 003

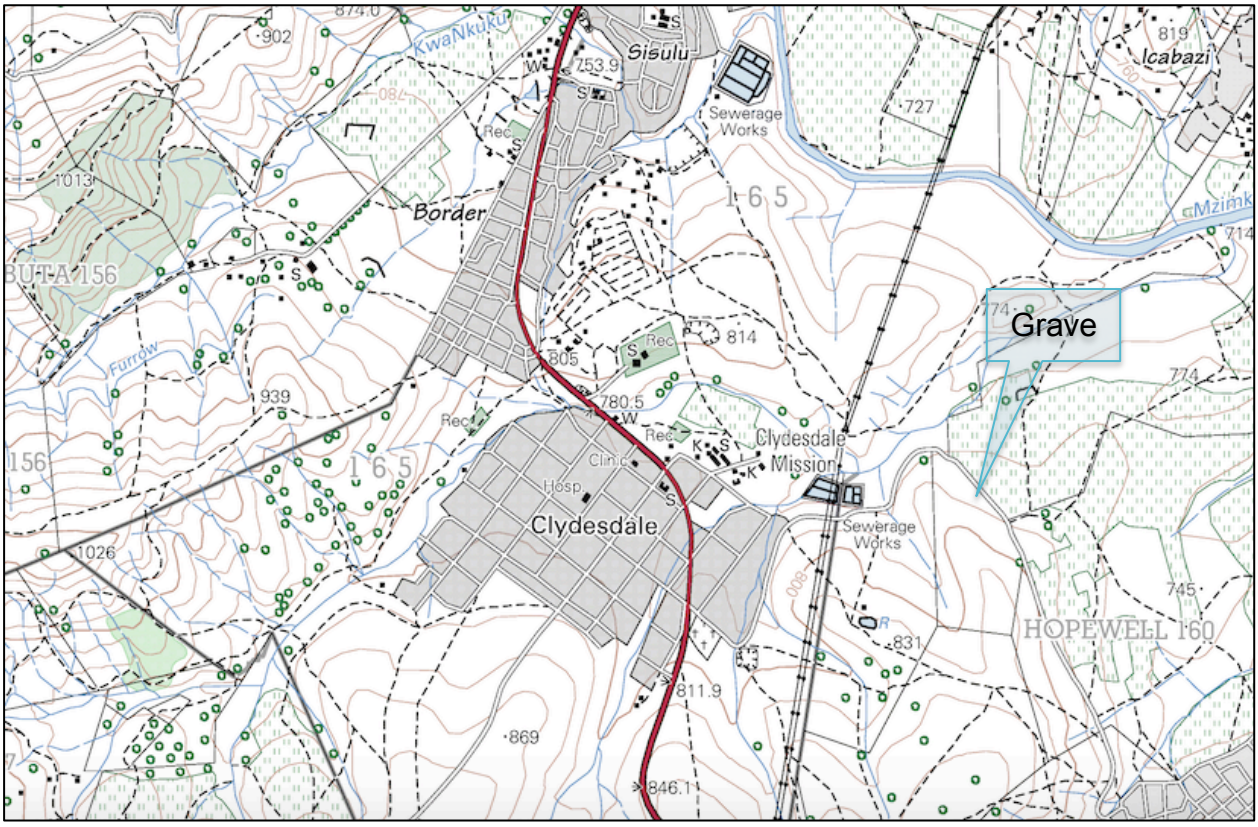

Figure 17. Location of Grave at Site 004

Site 004

GPS 30° 17’ 40” S
29° 57’ 26” E

Figure 18. Grave at Site 004

This is another formal grave with cement dressing and headstone. The headstone has some inscriptions that have become illegible over time.

Figure 19. Location of Graveyard at Site 004

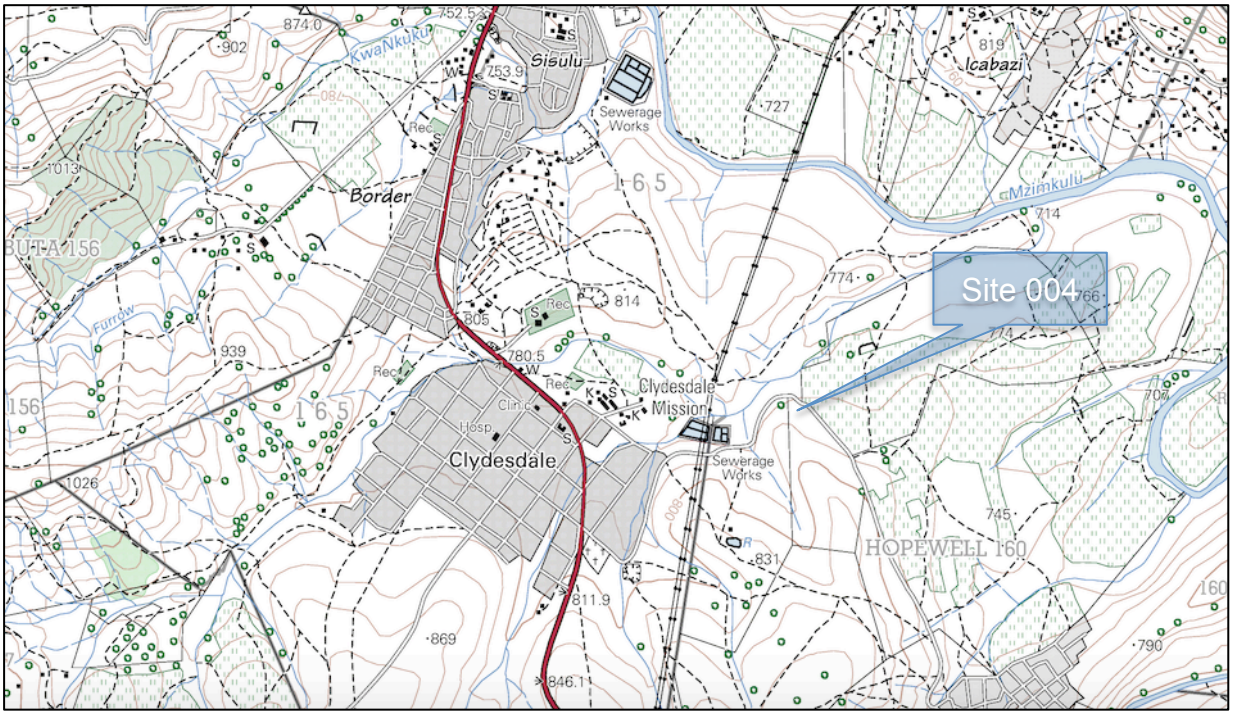

Figure 20. Location of Graveyard at Site 005

Site 005

GPS 30° 17’ 43” S
29° 57’ 24” E

Another formal grave with brick and concrete dressings and a formal granite headstone with the following inscription – *Lillian Sibeko, Died 1980/04/29*.

Figure 21. Grave at Site 005

Figure 22. Grave at Site 005

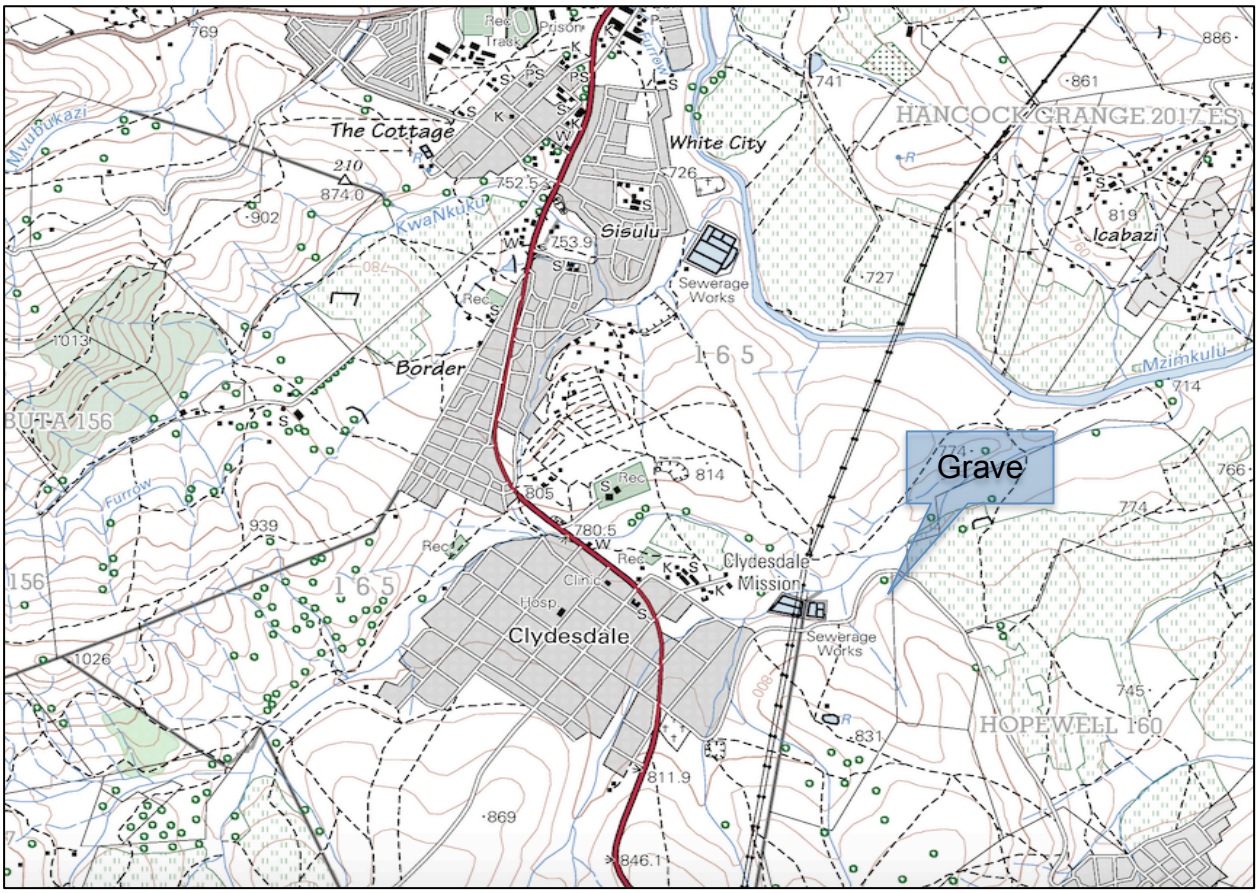

Figure 23. Unmarked burial sites

Assessing site value by attribute

Table 5 is adapted from Whitelaw (1997), who developed an approach for selecting sites meriting heritage recognition status in KwaZulu-Natal. It is a means of judging a site's archaeological value by ranking the relative strengths of a range of attributes (given in the second column of the table). While aspects of this matrix remain qualitative, attribute assessment is a good indicator of the general archaeological significance of a site, with Type 3 attributes being those of highest.

Historic Significance

No	Criteria	Significance Rating
1	***Are any of the identified sites or buildings associated with a historical person or group?*** Possibly (Western Ruins)	Grade 3B
2	***Are any of the buildings or identified sites associated with a historical event?*** No.	N/A
3	***Are any of the identified sites or buildings associated with a religious, economic social or political or educational activity?*** Ruins at Site 001.	Grade 3B
4	***Are any of the identified sites or buildings of archaeological significance?*** None of the buildings identified are of archaeological importance.	-
5	***Are any of the identified buildings or structures older than 60 years?*** All the buildings listed above are older than 60 years.	Grade GP. A

Architectural Significance

No	**Criteria**	**Rating**
1	***Are any of the buildings or structures an important example of a building type?*** Sandstone and granite vernacular building style of buildings at Site 001	Grade 3B
2	***Are any of the buildings outstanding examples of a particular style or period?*** No.	-
3	***Do any of the buildings contain fine architectural details and reflect exceptional craftsmanship?*** Yes. Buildings at Site 001	Grade 3B
4	***Are any of the buildings an example of an industrial, engineering or technological development?*** No	-
5	***What is the state of the architectural and structural integrity of the building?*** Most of the buildings are in a poor state of preservation.	Grade 3B
6	***Is the building's current and future use in sympathy with its original use (for which the building was designed)?*** The buildings are not currently in use.	-

7	***Were the alterations done in sympathy with the original design?*** No alterations were done or are planned.	-
8	***Were the additions and extensions done in sympathy with the original design?*** No additions or extensions are planned.	-
9	***Are any of the buildings or structures the work of a major architect, engineer or builder?*** No.	-

Spatial Significance

Even though each building needs to be evaluated as single artefact the site still needs to be evaluated in terms of its significance in its geographic area, city, town, village, neighbourhood or precinct. This set of criteria determines the spatial significance.

No	Criteria	Rating
1	***Can any of the identified buildings or structures be considered a landmark in the town or city?*** No.	-
2	***Do any of the buildings contribute to the character of the neighborhood?*** No.	-
3	***Do any of the buildings contribute to the character of the square or streetscape?*** No.	-
4	***Do any of the buildings form part of an important group of buildings?*** No.	-

Impact Evaluation

This HIA Methodology assists in evaluating the overall effect of a proposed activity on the heritage environment. The determination of the effect of a heritage impact on a heritage parameter is determined through a systematic analysis of the various components of the impact. This is undertaken using information that is available to the heritage practitioner through the process of the heritage impact assessment. The impact evaluation of predicted impacts was undertaken through an assessment of the significance of the impacts.

Determination of Significance of Impacts

Significance is determined through a synthesis of impact characteristics, which include context, and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas Intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence.

Significance is an indication of the importance of the impact in terms of both physical

extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Impact Rating System

Impact assessment must take account of the nature, scale and duration of effects on the heritage environment whether such effects are positive (beneficial) or negative (detrimental). Each issue / impact is also assessed according to the project stages:

- planning
- construction
- operation
- decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact will be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance has also been included.

Rating System Used To Classify Impacts

The rating system is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact. Impacts have been consolidated into one rating. In assessing the significance of each issue the following criteria (including an allocated point system) is used:

NATURE		
Include a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.		
1	Site	The impact will only affect the site
2	Local/district	Will affect the local area or district
3	Province/region	Will affect the entire province or region
4	International and National	Will affect the entire country
PROBABILITY		
This describes the chance of occurrence of an impact		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).

2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
REVERSIBILITY		
This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which heritage resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource.	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.
DURATION		
This describes the duration of the impacts on the heritage parameter. Duration indicates the lifetime of the impact as a result of the proposed activity		
1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase (0 – 1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).

3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 50 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).
CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects
INTENSITY / MAGNITUDE		
Describes the severity of an impact		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/ component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.

4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapse). Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

SIGNIFICANCE

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on the heritage parameter. The calculation of the significance of an impact uses the following formula:

(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.

The summation of the different criteria will produce a non weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.

Points	Impact Significance Rating	Description
6 to 28	Negative Low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive Low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative Medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive Medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative High impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive High impact	The anticipated impact will have significant positive effects.

74 to 96	Negative Very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive Very high impact	The anticipated impact will have highly significant positive effects.

Anticipated Impact of the Development

IMPACT TABLE FORMAT		
Heritage component	*Buildings and sites of a historic nature.* ***Site 001***	
Issue/Impact/Heritage Impact/Nature	*Construction of the Umzimkhulu to Summerfield Pipeline.*	
Extent	*Local*	
Probability	*Definite*	
Reversibility	*Partly reversible*	
Irreplaceable loss of resources	*Significant loss of resources*	
Duration	*Medium term*	
Cumulative effect	*Negligible cumulative effect*	
Intensity/magnitude	*High*	
Significance Rating of Potential Impact	*8 points. The impact will have a low negative effect rating.*	
	Pre-mitigation impact rating	Post mitigation impact rating
Extent	2	2
Probability	4	1
Reversibility	2	2
Irreplaceable loss	3	1
Duration	2	2
Cumulative effect	1	1
Intensity/magnitude	3	1
Significance rating	42 (negative medium)	8 (low negative)
Mitigation measure	*A qualified heritage practitioner should monitor pipeline excavations for any sub-surface sites. The project engineer should monitor the effects of increased vibrations and dust pollution during the construction phase. The alignment of the pipeline should be altered where necessary to avoid damage to these structures.*	

IMPACT TABLE FORMAT		
Heritage component	*Graves and Burials Sites.* ***Site 002, 003, 004 & 005***	
Issue/Impact/Heritage Impact/Nature	*Construction of the Umzimkhulu Summerfield pipeline*	
Extent	*Local (2)*	
Probability	*Probable (3)*	
Reversibility	*Irreversible (4)*	
Irreplaceable loss of resources	*Significant loss of resources (3)*	
Duration	*Medium term (2)*	
Cumulative effect	*Medium cumulative effect (3)*	
Intensity/magnitude	*High (3)*	
Significance Rating of Potential Impact	*51 points. The impact will have a* ***high*** *negative impact*	
	Pre-mitigation impact rating	Post mitigation impact rating
Extent	2	2
Probability	3	1
Reversibility	4	2
Irreplaceable loss	3	1
Duration	2	2
Cumulative effect	3	1
Intensity/magnitude	3	1
Significance rating	45 (High negative)	9 (low negative)
Mitigation measure	*Pipeline excavations should be monitored for any sub-surface sites. The alignment of the pipeline should be altered where necessary to avoid damage to the graves. A 50m buffer zone should be adhered to where possible. A qualified heritage practitioner should monitor excavations.*	

Conclusion

It is conceivable that some further sites of heritage significance could still be encountered during the development phase. Such sites would offer no surface indication of their presence due to the high state of alterations in some areas (agricultural fields). The following indicators of unmarked sub-surface sites could be encountered;

- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate)
- Bone concentrations, either animal or human

- Ceramic fragments such as pottery shards either historic or pre-contact
- Stone concentrations of any formal nature

The following recommendations are given should any sub-surface remains of heritage sites be identified as indicated above;

- All operators of excavation equipment should be made aware of the possibility of the occurrence of sub-surface heritage features and the following procedures should they be encountered.
- All construction in the immediate vicinity (50m radius of the site should cease).
- The heritage practitioner should be informed as soon as possible.
- In the event of obvious human remains the SAPS should be notified.
- Mitigative measures (such as refilling etc.) should not be attempted.
- The area in a 50m radius of the find should be cordoned off with hazard tape.
- Public access should be limited.
- The area should be placed under guard.
- No media statements should be released until such time as the heritage practitioner has had sufficient time to analyse the finds.

  Provided the above recommendations are followed there is no reason, from a heritage view, why the development cannot proceed.

Recommendations

Due to the limited footprint of the proposed development the impact on the ground is anticipated to be very low. For this reason it was easy to avoid any areas of high heritage potential. Where there is clear conflict between the location of heritage sites and the proposed development it is recommended that the alignment of the pipelines be altered to ensure the safety of the sites. Especially with the burial sites it is important to keep at least a 50m buffer zone around them.

Proposed Buffer Zones

Although neither the provincial legislation nor the National Heritage Resources Act (no 25 of 1999) gives specific recommendations for the protective buffer zones to be adhered to for the protection of graves in imminent danger of damage through development, some standard recommendations are in general use. As a rough recommendation it is suggested that proposed developments stay at least 50 meters away from the edge of graveyards or singular graves. In situations where the proposed development cannot be moved this far from the grave it is acceptable, with the necessary monitoring and precautions, to come to at least 10m from the edge of the known burial ground.

The following minimum buffer zones are recommended for this project. Where the development is going to come closer than the recommended 50m buffer zone it is important that the following measures are put in place to ensure the safety of the gravesites;

- A qualified heritage practitioner should monitor the excavation work.
- The area should not be at an incline lower than the development, if the construction work is to result in increased erosion.
- The known burial site should be demarcated with barrier tape.
- The Environmental Site Agent should be made aware of the location of the burials.
- Heavy-duty excavation equipment should not be allowed to access the site of the burial.
- Any indicators of exposed graves (as per the Conclusion) should be monitored and handled as indicated.
- If the development cannot be moved more than 10 meters from the burial site, the relocation of the grave/s should be considered.

References

Ahler, S.A. 1977. Functional analysis of nonobsidian chipped stone artefacts: terms, variables and quantification. In: Hayden, B. (ed.). Lithic use-wear analysis: 301-328. New York: Academic Press.

Aikman, H, Baumann, N, Winter, S and Clift H. 2005. A state of the cultural historical environment study: Unpublished report compiled by Overstrand Heritage and Landscape Consortium for the Overstrand District Municipality.

Booth, A. R. ed. 1967. Journal of the Rev. George Champion. Cape Town: Struik.

Brain, C.K. 1981. The hunters or the hunted? An introduction to African cave taphonorny. Chicago: Chicago University Press.

Cory, Sir G. E. 1926. The Diary ofthe Rev. Francis

Cronin, M. 1975. Mgungundlovu. Unpublished B.A. (Hons.) thesis: University of Cape Town.

Cruz-Uribe, K. & Klein, R.G. 1994. Chew marks and cut marks on animal bones from the Kasteelberg B and Dune Field Midden Later Stone Age sites, Western Cape Province, South Africa. Journal of Archaeological Science 21: 35-49.

Dennis Moss Partnerships Inc. 2003. Overberg Spatial Development Framework. Department of Planning, Local Government and Housing. 2000. Bio-regional Planning Framework for the Western Cape Province.

Gardiner, Allen F. 1966. Narrative of a Journey to the Zoolu Country in South Africa. Cape Town: Struik (Reprint).

Greenfield, H. J., van Schalkwyk, L. O. and Jongsma, T. L. 2000. Surface and subsurface reconnaissance at Ndondondwane: preliminary results of the 1995-97 field seasons. Southern African Field Archaeology, 9: 5-16.

Greenfield, H. J. and van Schalkwyk, L. O. 2003. Intr a- settlement social and economic organization of Early Iron Age farming communities in southern Africa: view from Ndondondwane. Azania, 38: 121-37.

Hart, T. & Miller, D. 1994. Phase 1 archaeological and palaeontological survey of the proposed mining area on the farm Velddrif 110, Velddrif, Western Cape Province. Report prepared by the Archaeology Contracts Office, University of Cape Town, for Lime Sales Limited.

Huffman, T. N. 1993. Broederstroom and the Central Cattle Pattern. South African Journal of Science, 89: 220-26.

Huffman, T. N. 2001. The Central Cattle Pattern and interpreting the past. Southern African Humanities, 13: 19-35.

Isaacs, N. 1970. Travels and Adventures in Eastern Africa. Cape Town: Struik (Reprint).

Kirby, P. R. 1955. Andrew Smith and Natal. Cape Town: Van Riebeeck Society.

Krige, E. J. 1936. The social system of the Zulus. Pietermaritzburg: Shuter and Shooter.

Kent, S. 1998. Invisible gender-invisible foragers: hunter-gatherer spatial patterning and the southern African archaeological record. In: Kent, S. (ed.) Gender in African prehistory: 39-67. California: Altamira Press.

Lombard, M. 2003. Closer to the point: macro-fracture, micro-wear and residue analyses of Middle Stone Age lithic points from Sibudu Cave, KwaZulu-Natal, South Africa. Unpublished M.Sc. thesis, University of the Witwatersrand.

Lombard, M., Parsons, I. & Van der Ryst, M.M. 2004. Middle Stone Age lithic point experimentation for macro-fracture and residue analysis: the process and preliminary results with reference to Sibudu Cave points. South African Journal of Science 100: 159-166

Japha, D., Japha, V., Le grange, L & Todeschini, F. Mission Settlements in South Africa: A Report on their historical background and prospects for conservation. University of Cape Town.

Maggs, T. O. 1980. The Iron Age sequence south of the Vaal and Pongola Rivers: some historical implications. Journal of African History, 21: 1-15.

Maggs, T. O. 1984a. Ndondondwane; a preliminary report on an Early Iron Age site on the lower Tugela River. Annals of the Natal Museum, 26: 71-94.

Maggs, T. O. 1984b. Iron Age settlement and subsistence patterns in the Tugela River Basin, Natal. In Frontiers of Southern African Archaeology Today (eds M. Hall, G. Avery, D. M. Avery, M. L. Wilson and A. J. B. Humphreys). Cambridge Monographs in African Archaeology 10. Oxford: British Archaeological Reports, International Series 207, pp. 194-206.

Maggs, T. O. 1984c. The Iron Age south of the Zambezi. In Southern African Prehistory and

Paleoenvironments (ed. R. Klein). Rotterdam: Balken, pp. 329-60.

Maggs, T. O. 1989. The Iron Age farming communities. In Natal and Zululand: From Earliest Time

to 1910: A New History (eds A. Duminy and B. Guest). Pietermaritzberg: University of Natal Press/

Shuter & Shooter, pp. 28^8.

Maggs, T. O. 1995. The Early Iron Age in the extreme south: some patterns and problems. Azania,

29/30: 171-8.

Maggs, T. and Ward, V. 1984. Early Iron Age sites in the Muden area of Natal. Annals of the Natal

Museum, 26: 105-40.

Maggs, T., Oswald, D., Hall, M. and Ruther, H. 1986. Spatial parameters of Late Iron Age

settlements in the upper Thukela Valley. Annals of the Natal Museum, 27: 455-79.

Owen, M.A. Cape Town: Van Riebeeck Society.

Spenneman, D. 2006. Gauging community values in Historic preservation. CRM: The Journal of Heritage Stewardship 3(2):6-20.

Oberholster, J. J. & Walton, J. n.d. Dingane's Kraal - Mgungundlovu. National Monuments Commission Booklet.

Retief, P. in litt. Letter dated November 18, 1837. In Campbell, K. n.d.: Vmgungundlovu- Dingaarns Kraal: 41. Unpublished MS. Killie Campbell Africana Library, Durban.

Stuart, J. n.d. Unpublished papers. Killie Campbell African Library, Durban.

Stuart, J. & McMalcolm, D. eds. 1969. The diary of Henry Francis Fynn. Pietermaritzburg: Shuter and Shooter.

Wadley, L & Jacobs, Z. 2004. Sibudu Cave, KwaZulu-Natal: Background to the excavations of Middle Stone Age and Iron Age occupations. South African Journal of Science 100: 145-151.

Webb, C. de B., & Wright, J. 1977. The Stuart Archives, Vol. I. Pietermaritzburg: Natal University Press.

Whitelaw, G. D. 1994. KwaGandaganda: settlement patters in the Natal Early Iron Age. Natal Museum Journal of Humanities, 6: 1-64.

Wood, W. 1840. Statements respecting Dingaan, King of the Zoolahs, with some particulars relative to themassacres of Messrs. Retief and Biggars, and their parties. Cape Town: Collard & Co.

SAHRA REPORTS

- Prins, F. 2013. Heritage Survey of the Proposed Umzimkhulu Community Health Care Centre (CHC), located on Portion 420 of the Farm Clydesdale, Umzimkhulu Local Municipality, Sisonke District Municipality, KwaZulu-Natal.
- Prins, F. 2013. Umzimkhulu Cemeteries Heritage Impact Assessment.
- Marais-Botes, L. 2014. Phase 1 Heritage Impact Assessment for the Proposed New Landfill Site at Umzimkhulu, KwaZulu-Natal Province.
- Anderson, G. 2015. AIA Phase 1 Notes on uMzimkhulu Town.
- Mngonmezulu, M. 2014. Application for Exemption on the Proposed Construction of Further Education Training (FET) College at Umzimkhulu, KwaZulu- Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry Projects by B.N. Pakkies (18 ha) in respect of the same activity occurring in several locations in Valkop Farm in Umzimkhulu Local Municipality within Sisonke District of KwaZulu-Natal Province.
- Anderson. G. 2008. Heritage Survey of Umzimkhulu Town.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by Ebuta Community Development (50ha) occurring in several locations on Ebuta Farm in Umzimkhulu within Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by B.J. Mbanjwa in Roodewal 209 Farm in Umzimkhulu Local Municipality within Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by G.A. Mbombo (15ha) in respect of the same activity occurring in several locations in Deepkloof Farms in

Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.

- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by M.C. Dzanibe (197ha) occurring in Mvubukadzi 10ES Farm Umzimkhulu Local Municipality within Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by D.T. Hloba (15ha) in respect of the same activity occurring in several locations in Stranger's Rest Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2014. The Proposed Eucalyptus Forestry proects by H.D. Mdlozini (5ha) occurring in locations in Nienjaar Fontein 100ES Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by Ngevu Development Company (193ha) occurring in the location Lourens 69 Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by Memela, M.W. (25ha) in respect of the same activity occurring on several locations in Boucher 15069ET Portion 1 Farm in Umzimkhulu and Ubuhlebezwe Local Municipalities with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by Mbanjwa, B.W. (40h) in respect of the same activity occurring on several locations in Bedford 180ES Portion A Farm in Umzimkhulu and Ubuhlebezwe Local Municipalities with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by W.P. Mahlawe (40ha) occurring in location Vlakplaats 110ES Portion 10 (a Portion of 2) Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by S.R. Ntanzi (40ha) in respect of the same activity occurring in several locations in Roodewal 148ES Portion 12 Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Eucalyptus Forestry projects proposed by V.V. Mnyembane (25ha) in respect of the same activity occurring in several location on Driefontein 147ES Portion 3 Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by Zala, C.W. (10ha) in respect of the same activity occurring in several locations in Bedford 180ES Portion A Farm in Umzimkhulu and Ubehlebezwe Local Municipalities with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by N.A. Sibayi (40ha) in respect of the same activity occurring in several location in Doefheids Bron 145ES Portion 2 Farm in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Forestry projects by S. Damoi (40ha) in respect of the same activity occurring in several locations in Nooitgedacht Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by Ngqokozweni Farm (100ha) occurring in location Inqogozo 67 in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.
- Whitelaw, G. 2013. The Proposed Eucalyptus Forestry projects by P.W.

Gxumisa (24ha) occurring in locations n Kroomdraai 127ES Portion 13, 15, 17 & 18 Farms in Umzimkhulu Local Municipality with Sisonke District of KwaZulu-Natal Province.