

PHASE ONE HERITAGE IMPACT ASSESSMENT OF THE PROPOSED UMBUMBULO PUMP STATION, ETHEKWENI MUNICIPALITY, KZN.



ACTIVE HERITAGE cc.

For: KSEMS

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8 December 2017

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LIST OF ABBREVIATIONS AND ACRONYMS

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1820 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006)).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000))
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

EXECUTIVE SUMMARY

A heritage survey of the proposed Umbumbulo Pump Station identified no archaeological or heritage sites on any of the three alternatives proposed. In addition, no heritage sites occur within 25m from any of the proposed alternative sites. The greater area is also not part of any known cultural landscape. An Amafa registered palaeontologist, however, needs to conduct a desktop paleontological assessment of the area before development may proceed. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act No. 4 of 2008), which requires that operations that expose archaeological or historical remains as well as graves and fossil material should cease immediately, pending evaluation by the provincial heritage agency. It is important to note that all graves in KwaZulu-Natal, including those younger than 60 years, are protected by provincial heritage legislation.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc) for KSEMS
Type of development:	Umgeni Water is a bulk water Provider to the eThekweni Municipality. As part of a strategy to provide a reliable bulk potable water supply to the municipalities within the KwaZulu-Natal Inland region, Umgeni Water is investigating the implementation of a pump station on district road R603, approx. 0.7 km downstream from the entrance to Itala game reservoir as per the site information map. To meet the additional requirements forced upon by an increasing demand, the most feasible option requires the implementation of a booster pump station. This pump station will increase the supply of water at the head required as a result of the demand by the Mbumbulu Supply Area to ensure that the eThekweni Municipality requirements are met.
Rezoning or subdivision:	Rezoning
Terms of reference	To carry out a Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu-Natal Heritage Act, 1997 (Act No. 4 of 2008)

1.1. Details of the area surveyed:

The study area is located approximately 14 km to the south of Camperdown directly adjacent to the R603 (Figs 1 & 2). Three options have currently been identified for the proposed pump station location. Each of the three options has a construction footprint of 50m by 50m (2500m²) and would directly affect at least 3 land parcels. It is further proposed that the existing Mbumbulu pipeline will in the long term be replaced with a gravity fed pipeline to cater for the future demands from eThekweni Municipality. The GPS coordinates for the centre of the three proposed alternative pump station sites are:

Alternative 1: S 29°50' 48.58" E 30°31' 27.11"

Alternative 2: S 29° 50' 50.53 E 30° 31' 29.87"

Alternative 3: S 29° 50' 52.96" E 30° 31' 27.44"

BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

The Camperdown and Umbumbulo areas, including adjacent areas of the greater eThekweni Metropolitan area to its immediate north, has been relatively well surveyed for archaeological heritage sites by the KwaZulu-Natal Museum and subsequently by private heritage consultants in the last few years. Prior to 1950, the archaeological site distribution of the area was poorly known.

The available evidence, as captured in the Amafa and KwaZulu-Natal Museum heritage site inventories, indicates that the area contains a wide spectrum of archaeological sites covering different time-periods and cultural traditions. These range from Early Stone Age, Middle Stone Age, and Later Stone Age to Early Iron Age, Middle Iron Age, and Later Iron Age sites. Two notable Middle Stone Age sites, i.e. Umlatuzana near Marianhill and Segubudu near Stanger have been excavated in the last two decades and yielded impressive archaeological stratigraphies relating to the period associated with the origins of anatomically modern people. The Umhlatuzana shelter is situated approximately 35 km to the north of the study area. Apart from an impressive stone tool assemblage covering both Later and Middle Stone Age periods it has also yielded faunal

remains of large mammals that became extinct during the early Holocene Period such as the giant buffalo (*Pelaravis* sp). Also notable is the Shongweni Later Stone Age shelter which was excavated in the 1970's by Dr Oliver Davies. Shongweni is situated approximately 20 km to the north of the study area in the Umlazi River Valley. This shelter yielded some of the earliest remains of domesticated cereals in South Africa. The same site also yielded some of the only San rock art in the greater Durban area (Mazel 1989; Mitchell 2002).

Around 1 700 years ago an initial wave of Early Iron Age People settled along the inland foot of the sand dunes on sandy but humus rich soils which would have ensured good crops for the first year or two after they had been cleared. These early agro-pastoralists produced a characteristic pottery style known as Matola. The Matola people also exploited the wild plant and animal resources of the forest and adjacent sea-shore. The communities seem to have been small groups of perhaps a few dozen slash-and burn cultivators, moving into a landscape sparsely inhabited by Later Stone Age San hunter-gatherers.

By 1500 years ago another wave of Iron Age migrants entered the area. Their distinct ceramic pottery is classified to styles known as "Msuluzi" (AD 500-700), Ndongondwane (AD 700-800) and Ntshekane (AD 800-900). The majority of these sites occur inland along the major river valleys of KwaZulu-Natal below the 1000m contour (Maggs 1989:31; Huffman 2007:325-462). Various sites of this period have been recorded along the Umgeni River to the north of the study area, especially in the area close to Inanda Dam.

Some of the shell middens recorded along the coastline of KwaZulu-Natal belongs to the very first Nguni-speaking agropastoralists who settled in the province. These sites have been dated to approximately 1200 years ago. In addition, sites belonging to the immediate ancestors of the present Zulu-speaking communities in the area have been located in various locations in the greater Durban area. A large percentage of more recently recorded sites occur along the dune cordon and slightly inland in the form of shell middens which were mostly created by Iron Age shellfish gatherers although some of the stratigraphic layers which may extend back to Later Stone Age periods (Anderson pers.com). Shell middens with both later Stone Age and Iron Age cultural material occur near the mouth of the Umlazi River approximately 20km from the study area.

Various colonial era and historical period sites occur in the greater Durban and Amanzimtoti areas. These date from about 1840 and are usually associated with the first European settlers in the area. These are older than 60 years and are therefore also protected by heritage legislation (Derwent 2006).

2 BACKGROUND INFORMATION OF THE SURVEY

2.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. The SAHRIS website was consulted for previous heritage surveys and heritage site data covering the project area. In addition, the available archaeological and heritage literature covering the greater Camperdown and Umbumbulu areas was consulted. Aerial photographs covering the area were scrutinised for potential Iron Age and historical period structures and grave sites.

A ground survey, following standard and accepted archaeological procedures, was conducted. Particular attention was focused on the occurrence of potential grave sites and other heritage resources on the footprint.

2.2 Restrictions encountered during the survey

2.2.1 Visibility

Visibility was good.

2.2.2 Disturbance

No disturbance of any potential heritage features was noted.

2.3 Details of equipment used in the survey

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

3 DESCRIPTION OF SITES AND MATERIAL OBSERVED

3.1 Locational data

Province: KwaZulu-Natal

Closest Towns: Umbumbulu and Camperdown

Municipality: Umgungundlovu Distirct Municipality

3.2 Description of the general area surveyed

3.2.1 *Background*

The project area is dominated by commercial farms with cultivated fields, plantations and grassland cover. The desktop study indicates that some historical and archaeological sites do occur within the greater project area. Notable is the 'Old Voortrekker Road" approximately 4km to the south east of the footprint, some archaeological sites occur within 7km from the footprint (Fig 1). However, none of these sites are threatened by the proposed development. No sites were observed during the ground survey. Particular care was taken to identify graves but none were observed. The area is also not part of any known cultural landscape (Table 3).

3.2.2 *Desktop Paleontology Assessment*

The updated fossil sensitivity map, as provided by the SAHRIS website, shows that the project area is of modertate paleontological sensitivity (Fig 3). According to Amafa policy the implication is that a comprehensive paleontological desktop study will be required before the proposed development may proceed. This study will have to be conducted by an Amafa accredited palaeontologist.

4 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

4.1 Field Rating

Not applicable as no heritage sites are known to occur on the footprint of any of the three alternative sites identified. However, should graves occur on the property then they would be rated as locally significant (Table 2).

Table 2. Field rating and recommended grading of sites (SAHRA 2005)

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

Table 3. Evaluation and statement of significance.

Significance criteria in terms of Section 3(3) of the NHRA		
	Significance	Rating
1.	Historic and political significance - The importance of the cultural heritage in the community or pattern of South Africa's history.	None.
2.	Scientific significance – Possession of uncommon, rare or endangered aspects of South Africa's cultural heritage.	None.
3.	Research/scientific significance – Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.	None.
4.	Scientific significance – Importance in demonstrating the principal characteristics of a particular class of South Africa's cultural places/objects.	None.
5.	Aesthetic significance – Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.	None.
6.	Scientific significance – Importance in demonstrating a high degree of creative or technical achievement at a particular period.	None.
7.	Social significance – Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	None.
8.	Historic significance – Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.	None.
9.	The significance of the site relating to the history of slavery in South Africa.	None.

5 RECOMMENDATIONS

As no heritage sites or graves occur in the near environs of any of the proposed alternatives there is no reason why the proposed development may not proceed from a heritage perspective. However, a desktop paleontological impact assessment will be required before the development may proceed. It is also important to take note of the KwaZulu-Natal Heritage Act that requires that any exposing of graves and archaeological and historical residues should cease immediately pending an evaluation by the heritage authorities.

6 MAPS AND FIGURES



Figure 1. Map showing the location of the proposed pump station site near the town of Umbumbulu.



Figure 2. Google Earth Imagery showing the location of the proposed pump stations near Umbumbulo (2010 imagery).

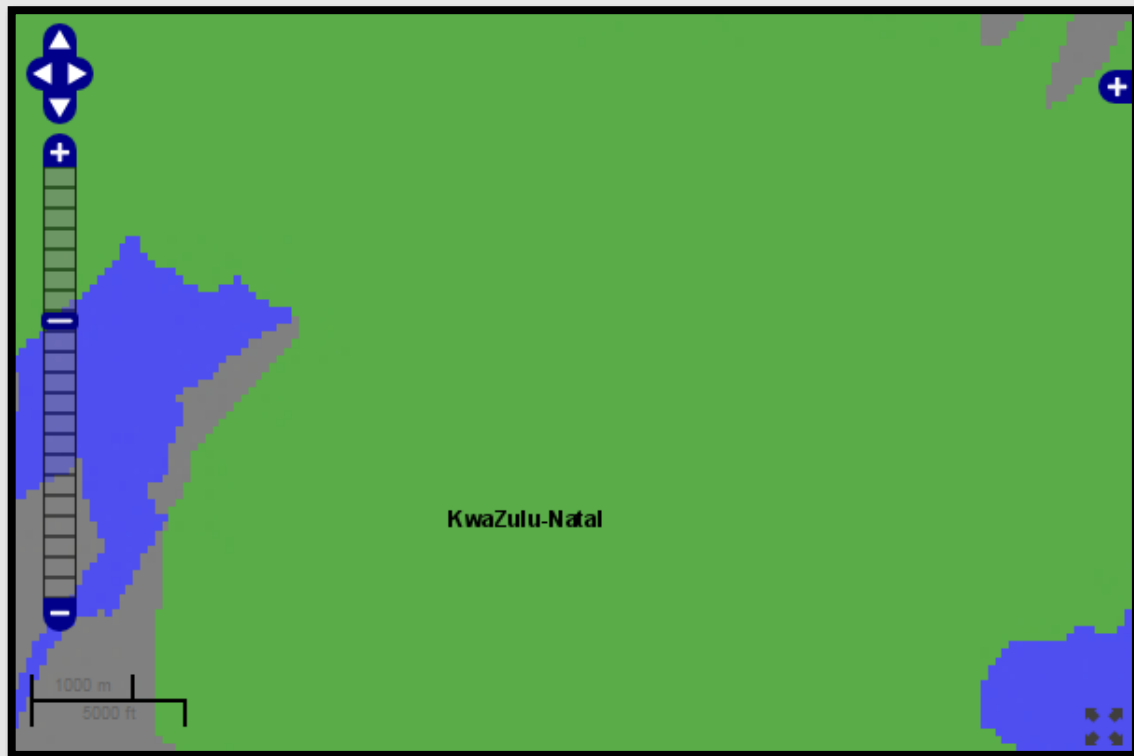


Figure 3. Fossil Sensitivity Map of the project area: The green colour indicate that the area has a moderate fossil sensitivity. A paleontological desktop assessment will be required by an Amafa accredited paleontologist (Source: SAHRIS website).



Figure 4. Pump Station Alternative 1



Figure 5. Pump Station Alternative 2



Figure 6. Pump Station Alternrnative 3.

7 REFERENCES

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APPENDIX 1 RELOCATION OF GRAVES

Burial grounds and graves older than 60 years are dealt with in Article 36 of the NHR Act, No. 25 of 1999. The Human Tissues Act (Act No. 65 of 1983) protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and reburial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

Below follows a broad summary of how to deal with graves in the event that they are unidentified within the footprint, or within 25m, of the proposed development.

- If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits, such as those relating to health and safety, and have their own requirements that must be adhered to.
- If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by provincial heritage legislation.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is required by provincial heritage legislation.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a required by provincial heritage legislation.

- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a required by provincial heritage legislation.
- Once the permit has been received, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any items found in the grave