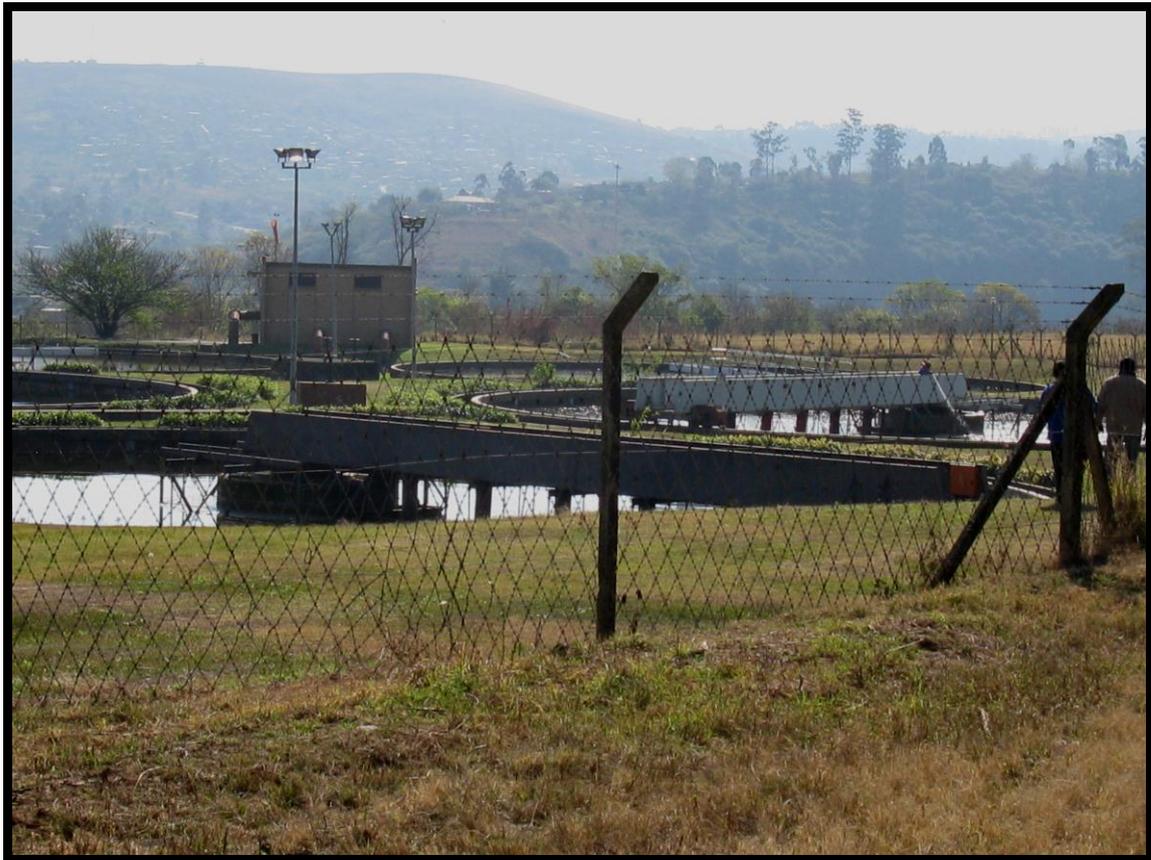


**CULTURAL HERITAGE IMPACT ASSESSMENT
OF THE PROPOSED EXPANSION OF THE
DARVILL WASTEWATER WORKS,
PIETERMARITZBURG.**



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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 cultural heritage survey of the proposed expansion of the Darvill Wastewater Works, Pietermaritzburg, identified no heritage sites or features. There is no known archaeological reason why development may not proceed as planned. However, 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 should cease immediately, pending evaluation by the provincial heritage agency.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc)
Type of development:	<p>The capacity of the Darvill Wastewater Works currently comprises 65ML/d. The increase in the hydraulic load, and associated organic load, has put a strain on the capacity of the plant to treat and effectively remove nutrients. Furthermore, the plant's discharge limit for NH₃ has been decreased to 6mg/l. As a result of the above, the plant is currently unable to meet required discharge standards, and needs to be upgraded. Changes to the Head of Works, the biological process, sludge digestion, and disposal and tertiary treatment would allow the plant to treat a further 35ML/d (resulting in a total capacity of 100ML/d). The capacity of the plant will therefore increase by 35%. The potential further upgrade 120 MLD in 2023 should be considered.</p> <p>Umgeni Water (UW) concurrently proposes the installation of an electricity cogeneration plant, which will generate power from the gas from the two anaerobic digesters currently on site. Currently, 25 000 kg/day of sludge is fed into the digesters, with methane-rich gas emitted during the digestion process. This methane-rich gas will be used to generate electricity (for the Darvill Wastewater Works) through a process referred to as co-generation, yielding 800-1000 kW of electricity per day.</p>
Rezoning or subdivision:	n.a
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 Darvill Wastewater Works is situated in the southern part of Pietermaritzburg approximately 2km from the New England off-ramp on the N3 (Fig 1). The Waterworks include the plant and office buildings that if fenced off (Figs 2 & 3) as well as a bird sanctuary situated to the east of the built structures (Fig 4). The complete property roughly covers an area of 700m x 950m. The GPS coordinates for the site is given as: 29° 36' 37.38" S 30° 25' 03.48" E. The environs surrounding the Wastewater Plant and office buildings include disturbed grasslands and thornveld dominated by *Acacia sieberana* and other exotic trees and shrubs (Fig 5).

2 BACKGROUND TO HERITAGE RESOURCES OF THE AREA

The greater Pietermaritzburg area is relatively well covered by archaeological surveys conducted by members of the KwaZulu-Natal Museum. The available evidence, as captured in the Natal Museum heritage site inventories, indicates that the greater Pietermaritzburg area contains mostly Early, Middle, and Later Stone Age material. Most of these sites are situated close to water, such as the Msunduze River, Slangspruit, Foxhill Spruit, and Mkhondeni, as well as in open air context or adjacent to exposed dongas or road cuttings. These tools were most probably made by early hominins such as *Homo erectus* or *Homo ergaster*. Based on typological criteria they most probably date back to between 300 000 and 1.7 million years ago. The presence of the first anatomically modern people (i.e. *Homo sapiens sapiens*) in the area is indicated by the presence of a few Middle Stone Age blades and flakes. These most probably dates back to between 40 000 and 200 000 years ago. The later Stone Age flakes identified in the area are associated with the San (Bushmen) and their direct ancestors. These most probably dates back to between 200 and 20 000 years ago. Most of the Early and Middle Stone Age sites were identified by the late Dr Olivier Davies in the 1950's and 1960's. The majority of Later Stone Age sites were located by Dr Farden in the 1960s and 1970's although some has also been identified by Dr Aron Mazel in the 1980's.

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers crossed the Limpopo River and arrived in South Africa. By 1500 years ago these early Bantu-speaking farmers also settled adjacent to the Umngeni River in the greater Camperdown area. Due to the fact that these first farmers introduced metal technology to southern Africa they are designated as the Early Iron Age in archaeological literature. Their distinct ceramic pottery is classified to styles known as "Msuluzi" (AD 500-700), Ndongondwane (AD 700-800) and Ntshokane (AD 800-900). Most of the Early Iron Age sites in the greater Pietermaritzburg area belong to these traditions (Maggs 1989:31; Huffman 2007:325-462). These sites characteristically occur on alluvial or colluvial soil adjacent to large rivers below the

1000m contour. The Early Iron Age farmers originally came from western Africa and brought with them an elaborate initiation complex and a value system centred on the central significance of cattle.

Early as well as Later Iron Age sites have been located by Dr Tim Maggs in the 1970's and 1980's and more recent discoveries have been made by Mr Gavin Whitelaw, Gavin Anderson, and Len van Schalkwyk. The Early Iron Age sites typically occur on the alluvial and colluvial soils in the large river valleys below 700m above sea level. Some have been located along the Msunduzi River as well as in the Ashburton area. Later Iron Age sites occur in similar contexts as well as on ridges or plateaus in the existing grassland. Some impressive Later Iron Age sites occur in the Umngeni River Valley close to Howick as well as in the Ottos Bluff area near Albert Falls Dam.

These sites were occupied by Bantu-speaking agropastoralists who arrived in southern Africa after 1000 years ago via East Africa. Later Iron Age communities in KwaZulu-Natal were the direct ancestors of the Zulu people (Huffman 2007). The larger Umngeni Valley area was inhabited by various Nguni-speaking groups such as the Dlanyawo, Nyavu and Njilo, in the beginning of the 19th century (Bryant 1965; Wright 1988). With the exception of the Nyavu who remained fiercely independent most of these communities were incorporated into the Zulu Kingdom of Shaka in the 1820's. After the Anglo-Zulu war of 1879 and the Bambatha Rebellion of 1911 almost all the African people in the study area adopted a Zulu ethnic identity.

Apart from the prehistoric archaeology Pietermaritzburg is also well known for its colonial heritage. The original Voortrekker route, later to become the transport route into the interior, passes through Worlds View – presently a suburb in western Pietermaritzburg. The route was originally cut by the Voortrekker leader Piet Retief and his party in 1838. The wagon marks can still be seen etched in the soft sandstone along the path. The site at Worldsvue is a well known provincial landmark that is protected by heritage legislation (Oberholser 1972). Apart from significant places on the landscape the colonial heritage of Pietermaritzburg also includes various buildings associated with the first Dutch settlers (Voortrekkers) after 1837 as well as the latter Victorian and Edwardian heritage of the area associated more closely with the British occupancy of Natal after 1845 (Laband & Hasswell 1988; Derwent 2006). In fact, Pietermaritzburg has been described as the greatest Victorian city in the southern hemisphere although this statement has not been qualified. The greatest majority of the heritage resources located within the greater Pietermaritzburg consist of built structures, mostly buildings, which are of great architectural (and also historical) significance. The City of Pietermaritzburg has arguably one of the finest remaining urban environments in South Africa, and each of the City's four main cultural groups has contributed to its architecture, namely Afrikaner, British, Indian and African (Laband & Haswell 1988; Oberholser 1972; Derwent 2006). A number of the buildings located within the Pietermaritzburg Central Business District (CBD) are constructed out of red-clay bricks, such as the Pietermaritzburg City Hall, giving the city a recognisably

unique architectural style. Similar buildings also occur elsewhere in the uMgungundlovu Municipal area. Most of the architectural resources are concentrated within the Pietermaritzburg CBD and adjacent areas such as Georgetown in Edendale. These resources largely consist of buildings constructed in Voortrekker, British-Colonial, Indian and traditional African styles. Many of these buildings date back to the late 1800s and early 1900s, while examples of architecture from as early as the 1840s still exist within the Pietermaritzburg CBD and, more rarely, in its surrounds (e.g. Hollingwood and further afield at Fort Nottingham). Other buildings consisting of later, more modern architectural styles have also been identified as architectural resources, particularly in the suburbs surrounding the CBD of Pietermaritzburg, where fine examples of post World War 2 architecture can be found. The Georgetown area in Edendale contains a number of unique buildings consisting of a mixture of traditional African styles of architecture with British-Colonial and Indian influences. Some of the earliest buildings in Georgetown date back to the 1850s and consist of rectangular houses of unfired mud brick, and brick and shale houses covered by lime plaster. Georgetown also provides rare examples of wood and iron buildings, while this building style was common in the 1900s, few examples still exist today. However, interesting individual examples of this building style also occur further afield at Merrivale Station.

Places of worship constructed by religious communities form significant cultural resources. Christian denominations have built a large number of churches, chapels and mission stations throughout the Municipal area. Several of these structures are Provincial and Heritage Landmarks (e.g. the Christian Science Church and Old St Mary's Anglican Church in Pietermaritzburg) and are architecturally significant as well as being cultural and historical resources. There are also a number of Mosques and Hindu Temples located within the greater Pietermaritzburg, these buildings hold value in terms of both their architectural style and cultural significance. These include the Soorti Sunni Mosque in Church Street and the Stri Siva Soobramoniar and Marriamen Temples in Longmarket (Langalibalele) Street in Pietermaritzburg, amongst others. There are a number of cemeteries that have considerable cultural and historical significance. These include the Jewish and Muslim cemetery off Roberts Road in the Clarendon area, the Old Commercial Road Cemetery and the Fort Napier Military Cemetery in the Signal Hill area. Graves from the Anglo-Boer War, including those of concentration camp victims, are located within the Commercial Road Cemetery. Graves from both the First and Second World Wars are located in the Commercial Road Cemetery and the Fort Napier Military Cemetery. The Commercial Road Cemetery also contains the graves of individuals spanning the early history of Pietermaritzburg including original Voortrekkers, Germans interned during the First World War, members of the Natal Mounted Police, prominent colonial figures and early Indian Christian converts. Examples of other sites of historical and cultural significance located within the greater Pietermaritzburg include:

- Alexandra Park, and in particular, the Percy Taylor Rockeries in Scottsville which forms both an important natural feature as well as a significant historical resource; and
- The Pietermaritzburg Railway Station located off Church Street at the edge of the Pietermaritzburg CBD which is both an architectural resource as well as an important historical and cultural resource as it was here, in 1893 that the incident that sparked Mahatma Gandhi's strategy of passive resistance, occurred (KwaZulu-Natal Museum).

More recently the Pietermaritzburg Tourism Authority identified and developed Struggle era sites in the Municipal area. These have now been developed for tourism purposes and a pilgrimage route has been identified. Sites and places of significance include the Old Prison in Pietermaritzburg, the Gandhi statue opposite the Colonial Building, various houses and places of significance within the Sobantu township as well as the Edendale/Mbali sub-route. Of special interest in this region is the Mandela Capture site, near Howick, and the Alan Paton Centre and struggle archives at the University of KwaZulu-Natal at Pietermaritzburg. The Centre houses the famed author of 'Cry, the Beloved Country', and founder of the Liberal Party, Alan Paton's literary works, and documents relating to other institutions

3 BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. The SAHRIS website was consulted for data relating to the distribution and significance of heritage sites in the greater Pietermaritzburg . In addition, the available heritage literature covering the study area was also consulted.

A ground survey, following standard and accepted archaeological procedures, was conducted.

3.2 Restrictions encountered during the survey

3.2.1 Visibility

Visibility was compromised by dense vegetation and well established woodlot plantations in the study area.

3.2.2 Disturbance

No disturbance of any potential heritage features was noted.

3.3 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.

4 DESCRIPTION OF SITES AND MATERIAL OBSERVED

4.1 Locational data

Province: KwaZulu-Natal

Town: Pietermaritzburg

Municipality: uMgungundlovu District Municipality

4.2 Description of the general area surveyed

The Water Works and related office buildings are all younger than 60 years. No archaeological and other heritage sites were observed in the bird sanctuary and surrounding areas. In fact, it is evident that these areas have been disturbed in the recent past. The study area is not part of any known cultural landscape.

5 HERITAGE SITE DESCRIPTION AND STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

5.1 Field Rating

Not applicable as no heritage sites occur on the footprint.

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

6 RECOMMENDATIONS

The proposed expansion of the Darvill Wastewater Works may proceed in terms of heritage values as no archaeological or heritage sites or features occur on the footprint. However, It should be pointed out that the KwaZulu-Natal Heritage Act requires that all operations exposing archaeological and historical residues should cease immediately pending an evaluation by the heritage authorities.

7 MAPS AND FIGURES

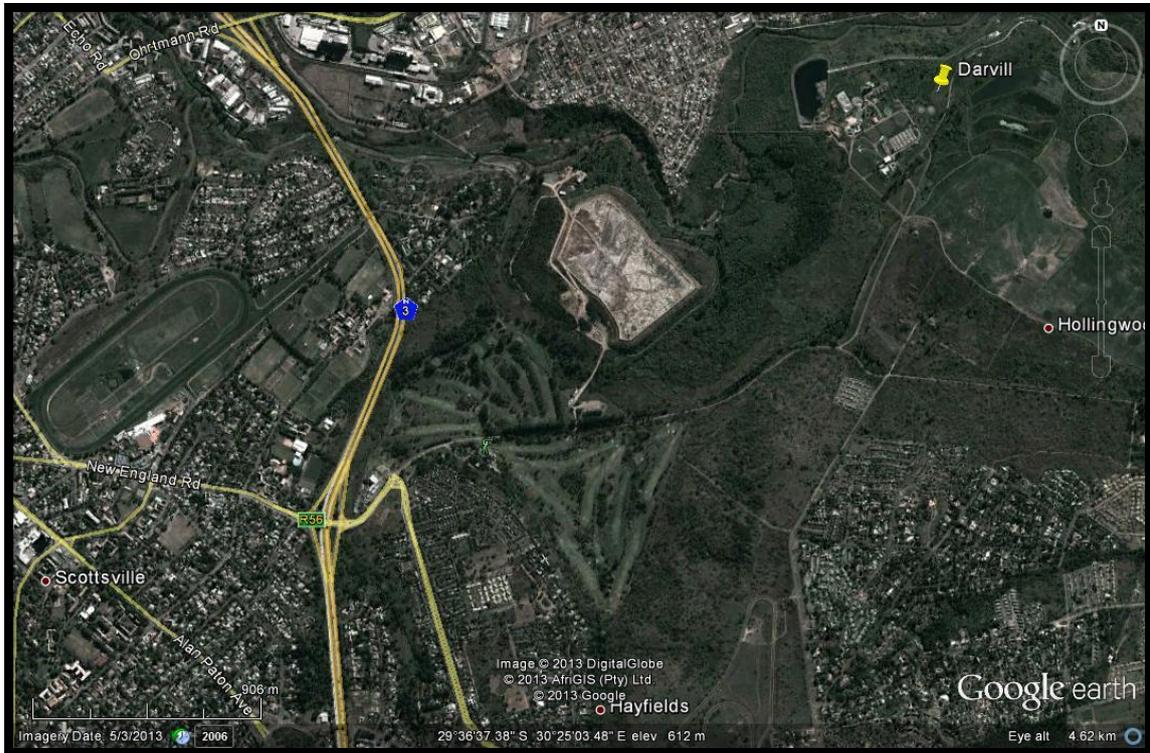


Figure 1. Google Aerial map showing the location of Darvill Wastewater Works.



Figure 2. Google aerial photograph showing the Darvill Wastewater Works. The bird sanctuary is situated to the immediate east of the plant and office buildings.



Figure 2. Exotic woodlots cover a large percentage of the study area

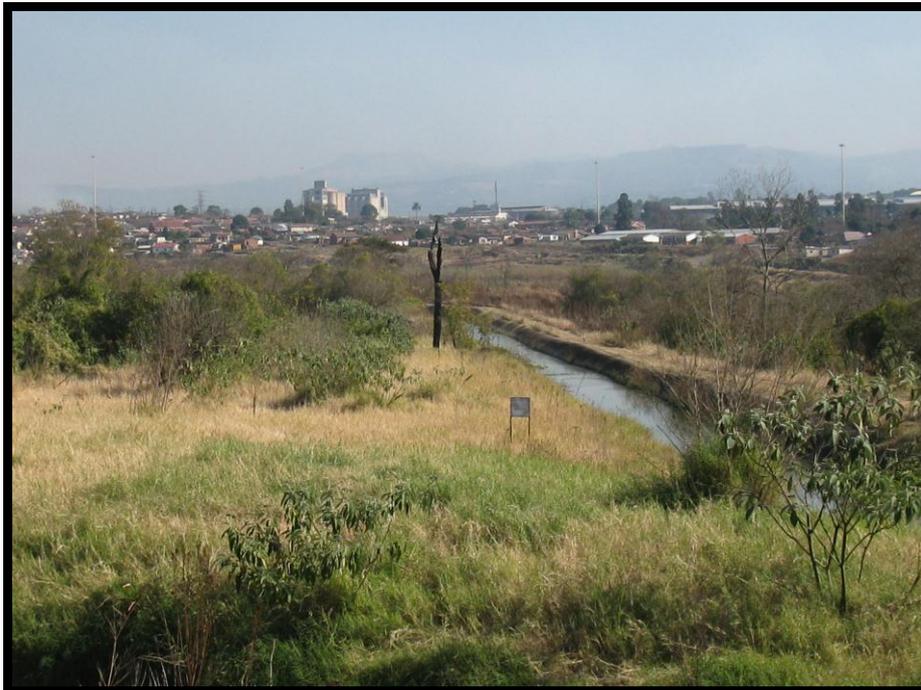


Figure 3. Patches of indigenous forests occur in the study area. Dense vegetation did compromise the visibility of heritage sites in the study area.



Figure 5. The Darvill Bird Sanctuary. Evidence for disturbance of the soil in the recent past is still evident.

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