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# Heritage Impact Assessment Report

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## HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED BRAKPAN OLD LOCATION TOWNSHIP DEVELOPMENT

PREPARED BY:  
G&A HERITAGE



PREPARED FOR:



AND



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**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.

SIGNED OFF BY: STEPHAN GAIGHER



# MANAGEMENT SUMMARY

**Site name and location:** *Brakpan Old Location* Township Development on a Portion of the Farm Weltevreden 118 IR, Gauteng Province.

**Municipal Area:** Ekurhuleni Metropolitan Municipality.

**Developer:** Ekurhuleni Metropolitan Municipality

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

**Date of Report:** 17 March 2015

The Ekurhuleni Metropolitan Municipality is proposing the development of a new low cost township on a Portion of the Farm Weltevreden 118IR, Gauteng Province.

## **Findings;**

A large part of the proposed development covers the area historically occupied by the *Brakpan Old Location*. Although very little is left of this historic location it is still important that the site be properly documented and construction activities monitored. Although only a single grave could be identified, it is still possible that more could be found at this site. The public participation process should gauge the feeling of the affected society groups as to the development of the area. The *Brakpan Old Location* played an integral part in the political and social economic history of the area.

## **Recommendations;**

The identified grave should be relocated. The remains of the *Brakpan Old Location* should be documented thoroughly and the construction activities should be monitored throughout. The public participation process should gauge the feeling of the affected society groups as to the development of the area. The *Brakpan Old Location* played an integral part in the political and social economic history of the area.

## **Fatal Flaws;**

No fatal flaws were identified.

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# PROJECT RESOURCES

## HERITAGE IMPACT REPORT

FIRST PHASE HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED BRAKPAN OLD LOCATION TOWNSHIP DEVELOPMENT.

### INTRODUCTION

#### Legislation and methodology

G&A Heritage was appointed by Metroprojects to undertake a first phase heritage impact assessment for the proposed Brakpan Old Location Township Development on a Portion of the Farm Weltevreden 118 IR. Section 38(1) 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<sup>2</sup> 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.

While the above describes the parameters of developments that fall under this Act, Section 38 (8) of the NHRA is applicable to this development. This section states that;

- (8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

In regards to a development such as this that falls under Section 38 (8) of the NHRA, the requirements of Section 38 (3) applies to the subsequent reporting, stating that;

- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:
  - (a) The identification and mapping of all heritage resources in the area affected;
  - (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;
  - (c) An assessment of the impact of the development on such heritage resources;
  - (d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

- (e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.

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 is in a state of disuse and is in or on land and is 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.

'Paleontological' 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 study are as follows;

- Sites were evaluated by means of description of the cultural landscape and analysis of written sources and available databases.
- It was assumed that layout as provided by Galago Environmental and Metroprojects was correct.
- We assumed that the public participation process performed as part of the Environmental Impact Assessment process would be sufficiently encompassing not to be repeated in the Heritage Impact Assessment.

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	Yes	Documentation
	35	Archaeological, paleontological and meteor sites	No impact	None
	36	Graves and burial sites	Yes	Management plan
	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.	No	N/A
Construction of a bridge or similar structure exceeding 50m in length.	No	N/A
Development exceeding 5000 m <sup>2</sup>	Yes	Brakpan Old Location Township
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 <sup>2</sup>	Yes	Possible rezoning
Any other development category, public open space, squares, parks or recreational grounds	No	N/A

## PROJECT LOCATION

The proposed Brakpan Old Location Township Development is located in Brakpan at the site of the Brakpan Old Location. This falls between Fourie Street, Gordon Street, Hamilton Street and Brenthurst.

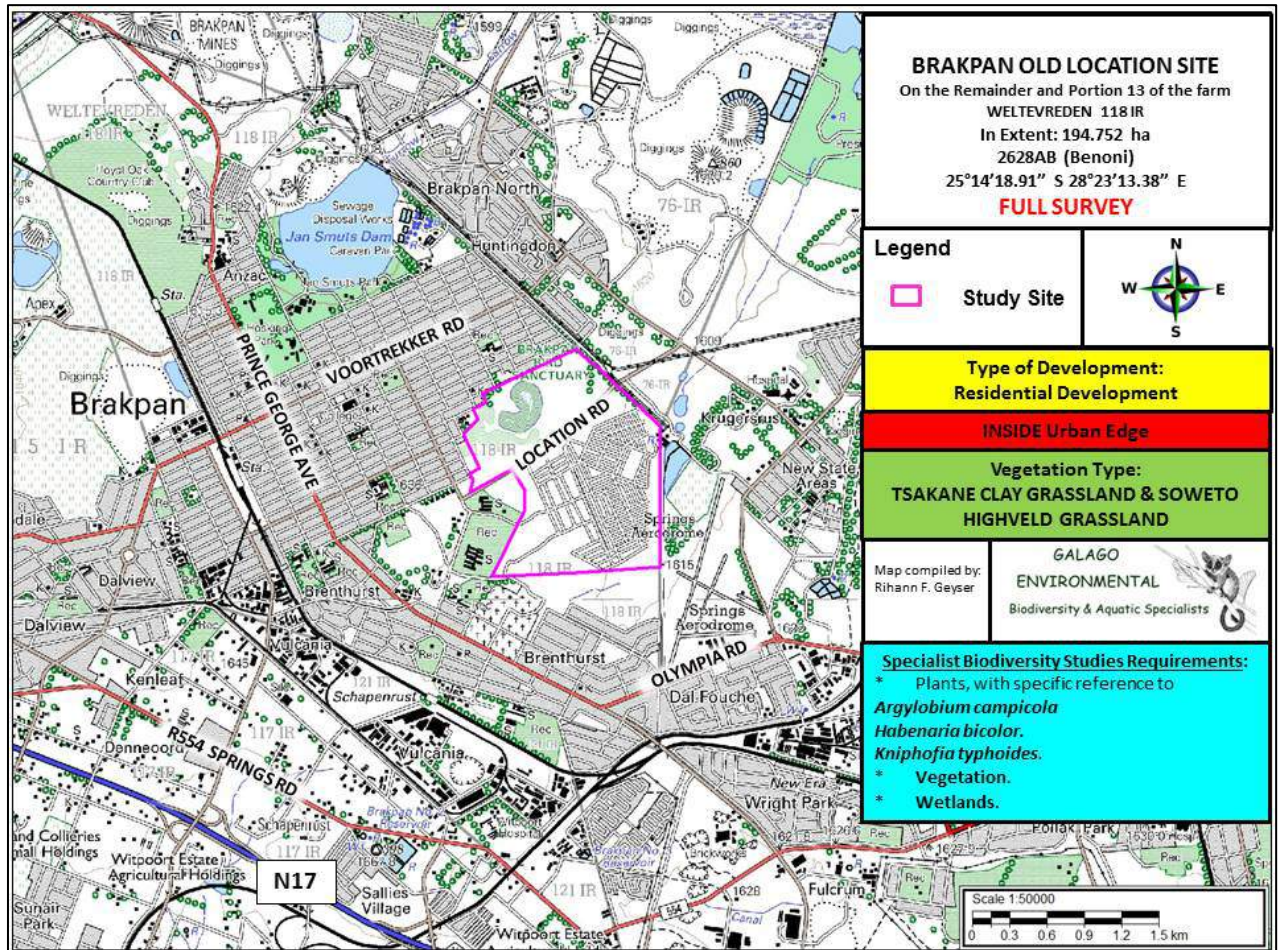


Figure 1. Location Map



Figure 2. Aerial view of the study area

## METHODOLOGY

This study defines the heritage component of the Environmental Impact Assessment process. It is described as a first phase Heritage Impact Assessment (HIA). This report attempts to evaluate both the accumulated heritage knowledge of the area as well as information derived from direct physical observations.

## EVALUATING HERITAGE IMPACTS

A combination of document research as well as the determination of the geographic suitability of areas and the evaluation of aerial photographs determined which areas could and should be accessed.

After plotting of the site on GPS the areas were accessed using suitable combinations of vehicle access and access by foot.

Sites were documented by digital photography and geo-located with GPS readings using the WGS 84 datum.

Further techniques included interviews with local inhabitants, visiting local museums and information centres and discussions with local experts. All this information was combined with information from an extensive literature study as well as the result of archival studies based on SAHRA provincial databases.

## ASSESSING VISUAL IMPACT

Visual impacts of developments result when sites that are culturally celebrated are visually affected by a development. The exact parameters for the determination of visual impacts have not yet been rigidly defined and are still mostly open to interpretation. CNdV and DEAP (2006) have developed some guidelines for the management of the visual impacts of wind turbines in the Western Cape, although these have not yet been formalized. In these guidelines they recommend a buffer zone of 1km around significant heritage sites to minimize the visual impact.

## PREVIOUS STUDIES IN THE AREA

### Previous Studies in the Brakpan Area:

- Huffman, T. 1998. Archaeological Survey of the Brakpan Casino.
- Van Der Walt, J. 2014. Archaeological Impact Assessment for the Proposed Brakpan Memorial Park Development, Gauteng Province.
- Van Schalkwyk, J. & Naude, M. 1995. A Survey of Cultural Resources Along the Proposed Pwv 16 Road Corridor, Brakpan District.
- Van Der Walt, J. 2009. Archaeological Impact Assessment: Helderwyk Township Development on the Remainder of Portion 62 of the Farm Witpoortjie 117 IR, Brakpan, Ekurhuleni, Gauteng Province.
- Huffman, T & Van Der Merwe, H.D. 1993. Archeological Survey of Witboekspuit, Brakpan.
- Gaigher, S. 2013. Heritage Impact Assessment for the Proposed Vulcania Cemetery Development, Brakpan, Ekurhuleni.

### Previous Studies in the Springs Area:

- Van Der Walt, J. 2008. Archaeological Impact Assessment for the Chief Albert Luthuli Primary School, Springs, Gauteng Province
- Van Vollenhoven, A. 2012. A Report on a Heritage Impact Assessment for the Steynol Umthombo Project near Springs in the Gauteng Province.
- Van Vollenhoven, A. 2013. A Report on a Cultural Impact Assessment for a Proposed Shopping Mall Development close to Springs, Gauteng Province.
- Van Vollenhoven, A. 2012. A Report on a Cultural Heritage Impact Assessment for the Proposed Return Water Dam at the New Kleinfontein Gold Mine close to Springs, Gauteng Province.
- Van Der Walt, J. 2008. Archaeological Impact Assessment: Daggafontein Extension 6, Portions 107 of the Farm Daggafontein 125 IR, Springs, Gauteng Province.
- Van Schalkwyk, J. 2010. Heritage Impact Assessment for the Proposed Payneville Extension 1 Development, Springs Magisterial District, Gauteng Province.
- Van Vollenhoven, A. 2011. A Report on a Cultural Heritage Baseline Study and Impact Assessment for the Proposed New Kleinfontein Goldmine (Modder East Operations) close to Springs, Gauteng Province.
- Kaplan, J. 2013. Recommended Exemption from having to conduct an Archaeological Impact Study: The Proposed Impala Platinum Precious Metals Refinery Expansion Project in Springs, Gauteng Province.

- Pelser, A & Van Vollenhoven, A. 2008. A Report on a Basic Archaeological Assessment for Apollo Bricks on the Farm Grootvaly 124 JR near Springs, Gauteng.
- Van Schalkwyk, J. & Mith, S. 1997. A Survey of Cultural Resources in the Proposed Erwat Sewer Outfall Route, North of Springs, Gauteng Province.
- Van Der Walt, J. 2008. Cultural Heritage Impact Assessment: Portions 18, 65, 83 and 194 of the Farm Rietfontein 115 JR, Portion 23 and remaining extent of Portion 22 of the Farm Weltevreden 118 IR, Benoni, Gauteng Province.
- Coetzee, F.P. 2008. Cultural Heritage Survey of Portion 1 of Portion 228 (a Portion of 213) and Portion 63 of the Farm Geduld 123 IR, Gauteng Province.
- Gaigher, S. 2014. Heritage Impact Assessment for the Proposed Ergo Road Residential Development, Springs, Ekurhuleni.

## HERITAGE INDICATORS WITHIN THE RECEIVING ENVIRONMENTS

### REGIONAL CULTURAL CONTEXT

#### PALAEONTOLOGY

The palaeontology of Western Gauteng is well researched in areas. The discovery of the Sterkfontein skeletons put this area in the forefront of palaeontology worldwide. The rule of “absence of evidence is not evidence of absence” should be applied to this area. Taken the rich palaeontology of Western Gauteng it is conceivable that similar finds could be made in this area.

#### STONE AGE

No substantial number of Stone Age sites from any period of the Stone Age is known to exist in this area – primarily as a result of a lack of research and general ignorance amongst the layman in recognizing stone tools that often may occur. However, it is possible that the first humans in the Benoni area may have been preceded by *Homo erectus*, who roamed large parts of the world during the Acheulean period of the Early Stone Age, 500 000 years ago. The predecessors of *Homo erectus*, *Australopithecus*, which is considered to be the earliest ancestor of modern humans, lived in the Blaauwbank Valley around Krugersdorp (today part of the Cradle of Humankind – a World Heritage Site) several million years ago.

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 (Mitchell 2002). Two Middle Stone Age sites at the Withoek Spruit (Brakpan) were researched 17 years ago, but no information on this discovery has been published.

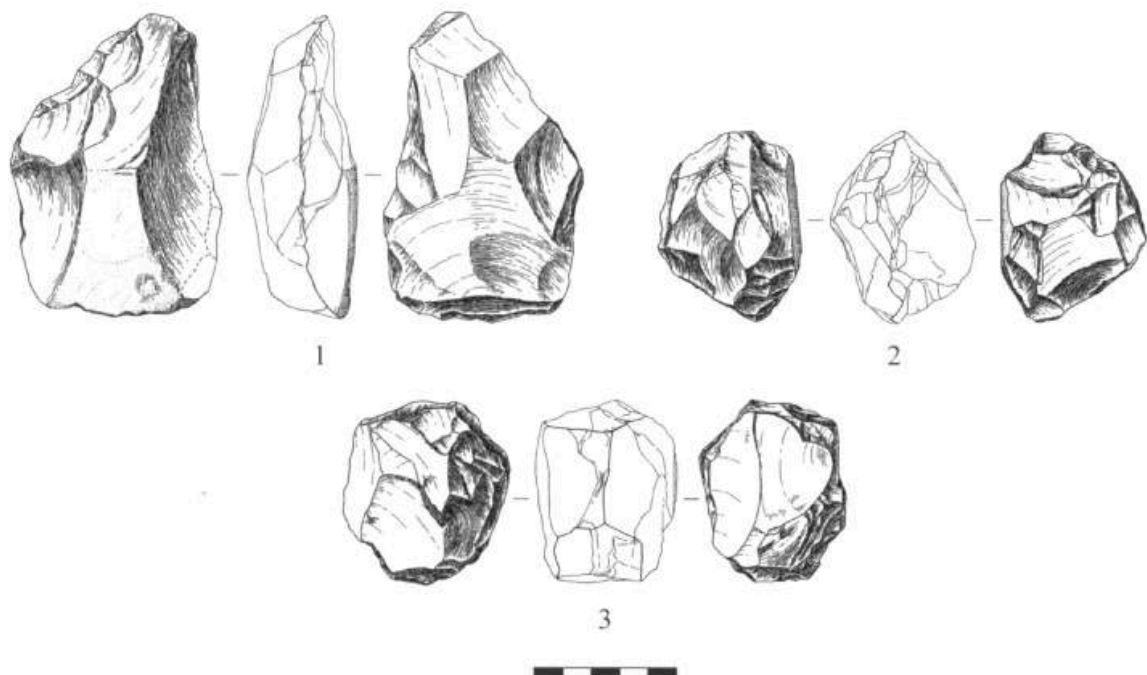


Figure 3. (1) handaxe on flake; (2) thick discoidal core; (3) polyhedral core (Pollarolo, Kuman, Bruxelles, 2010)

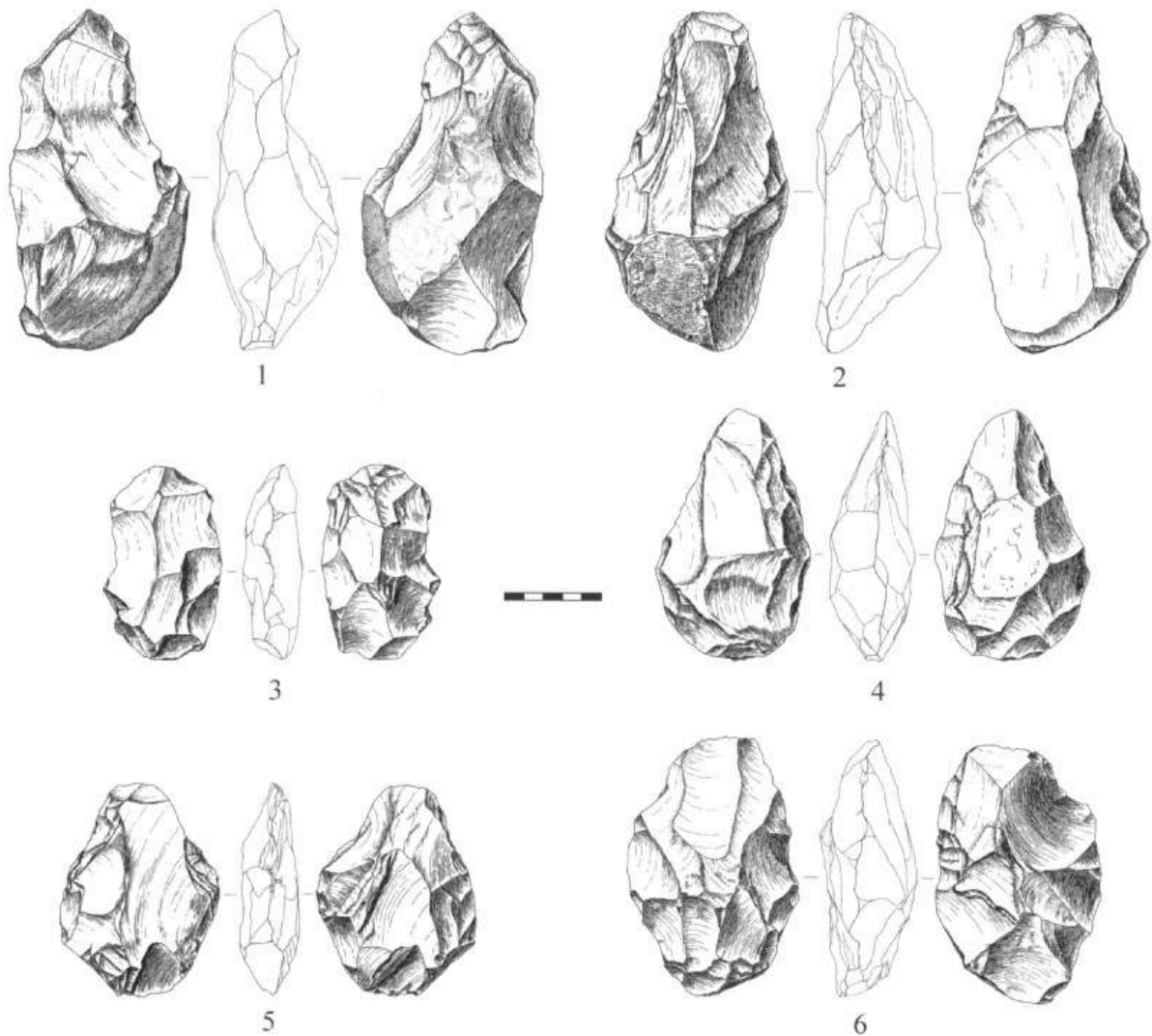


Figure 4. (1,2) Handaxes with large side removal; (3-6) handaxes (Pollarolo, Susino, Kuman, Bruxelles, 2010)

The Late Stone Age, considered to have started some 20 000 years ago, is associated with the predecessors of the San and Khoi Khoi. San hunter-gatherer bands with their small (microlithic) stone tools may have lived in Eastern Gauteng, as a magnificent engraving site near Duncanville attests to their presence in Vereeniging, south of, but close to Ekurhuleni. Stone Age hunter-gatherers lived well into the 19th century in some places in SA, but may not have been present in Brakpan when the first European colonists crossed the Vaal River during the early part of the 19th century. Stone Age sites may occur all over the area where an unknown number may have been obliterated by mining activities, urbanization, industrialization, agriculture and other development activities during the past decades (Morris 2004).

Reverent Patterson discovered some Stone Age deposits in Benoni during 1933, close to the train station. These were probably from the Middle to Late Stone Age.

### IRON AGE

A considerable number of Late Iron Age, stone walled sites, dating from the 18th and the 19<sup>th</sup> centuries (some of which may have been occupied as early as the 16<sup>th</sup> century), occur along and on top of the rocky ridges of the eastern part of the Klipriviersberg towards Alberton. These settlements and features in these sites, such as huts, were built with dry stone, reed and clay available from the mountain and the Klip River (Mason 1968, 1986).

The Late Iron Age sites within Ekurhuleni's south-eastern border are a 'spill-over' from a larger concentration which are located further towards the west, in the Witwatersrand, while large concentrations of stone walled sites are also located directly to the south of Johannesburg, in the mountainous area around the Suikerbosrand in Heidelberg. The 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 stocked 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 (Killick 2004).

## THE HISTORIC ERA

History of the Brakpan Area:

Date	Description
<b>Mining and Development</b>	
1840's	Farmers started moving into the area and declared farms for themselves, especially after the signing of the Sand River convention in 1852.
1886	The evolution of the region <i>Southern Transvaal</i> , its industrial development, rate of urban development and settlement pattern were greatly influenced by geology and mining, following the discovery of gold deposits in 1886 and coal in 1888.
1886	The area was first named " <i>Brakpan</i> " in 1886, due to the very brackish water from a small pan on the Farm <i>Weltevreden</i> .
1888	The town rapidly developed when coal was discovered in 1888 and the <i>Brakpan Colliery</i> was started.
1905	The <i>Brakpan Mines Company</i> sunk its first two gold mine shafts in 1905.
1900's - 1919	Brakpan remained a suburb of Benoni until 1919 when it was granted the status of a municipality and proclaimed as a town.
1921 - 1922	The <i>Rand Rebellion</i> (or <i>Rand Revolt</i> ) was an armed uprising of white miners in the Area in March 1922. Following a drop in gold prices, the companies tried to cut their costs by reducing wages and promoting more African miners to skilled and supervisory positions at lower rates. The strike started on 28 December 1921 and became an open rebellion against the state. The workers armed themselves and took over Brakpan, Benoni and some suburbs of Johannesburg. The strike continued for three months, involving bloody clashes between the miners and the military workers. On 9 March, Prime Minister Smuts issued mobilization orders for the Active Citizens Force and declared martial law. The rebellion was crushed by considerable military power (20 000 troops, artillery, tanks and bomber aircraft) and at the cost of over 200 lives.
<b>Apartheid Era</b>	
1948	It was the discriminatory racial segregation ( <i>apartheid</i> ) legislation, enacted by the Nationalist Party (after coming to power in 1948) that extensively transformed the land-use. Citizens were separated into different townships according to their race with buffer strips of at least 100m wide or by environmental buffer zones thus the Black South Africans in the area lived in the Brakpan Old Location.
Apartheid Era (1948 – 1994)	The Brakpan Old Location was the backdrop to many anti-apartheid struggles. The people living in the location were actively trying to improve their living conditions and to challenge the laws that were suffocating them. Mbulelo Vizikhungo Mzamane wrote " <i>Children of Paradise</i> " to detail the area and the events of the time, through his own eyes as a young boy living in Brakpan Old Location. It is a poignant story of the innocence and trust of a young, black South African, who does not understand the severity of the situation he is caught in. Although beautifully told, it does not provide specific historical references to events unfolding in the area. It does however mention events and places that can be



	researched through alternative methods.
1974 - 1978	The community of Brakpan Old Location were forcibly removed from their homes and had to re-establish themselves in Tskane approximately 15km South. The Old Location was razed.
<b>Influential Persons and Events:</b>	
28 July 1948 – 16 February 2014	<p>Mbulelo Vizikhungo Mzamane grew up in the Brakpan area. His parents, Joshua Bernard Mbizo and Flamma Cingashe Nkonyeni, were both leaders in the community.</p> <p>Mbulelo obtained several degrees outside of South Africa (one being a PhD in English Literature from the University of Sheffield, England) and won awards for Literature and Human Rights Advocacy. He was an activist against apartheid and spent many years in exile in Nigeria and the USA.</p> <p>He returned to South Africa in 1993 and became the first post-apartheid Vice Chancellor and Rector of the University of Fort Hare, where he also held the faculty rank of Professor in the Department of English Studies and Comparative Literature.</p> <p>Mbulelo chaired and severed on numerous boards, including the African Arts Fund and the Institute for the Advancement of Journalism. He was the director of the Center for African Literary Studies at the University of KwaZulu-Natal.</p> <p>Former presidents Nelson Mandela and Thabo Mbeki into supervisory boards appointed Mbulelo.</p> <p>Nelson Mandela described Mbulelo as “a visionary leader and one of South Africa’s greatest intellectuals”.</p> <p>Mbulelo passed away on 16 February 2014.</p>
22 September 1915 – 2 September 2004	<p>David Wilcox Hlhhane Bopape was an important Transvaal African National Congress (ANC) figure, an education activist and community leader in Brakpan Old Location. He moved to the location in 1940 and joined the Communist Party of South Africa (CPSA) under General Secretary Moses Kotane. The CPSA called on their members to fight for their liberation.</p> <p>He initiated the “Blanket Campaign” in 1941 to raise teacher’s salaries. During the march the teachers were to wear only blankets to symbolize their inability to afford decent clothing.</p> <p>In 1942 Bopape joined the ANC and he was tasked as secretary of the Anti-Pass campaign of 1943 - 1944.</p> <p>Bopape was a central figure in the Alexander bus boycott on 1943 – 1944, when thousands of people walked to and from work instead of making use of the bus services and submit to the increase in rates.</p> <p>His teaching career was terminated when he publicly contradicted Dr. A. Language (who was the township’s manager of Native Affairs at the time) and the latter corresponded with the Department of Education. His expulsion sparked protests by teachers, parents and school children. On 10 August 1944, some 7000 residents participated in a strike to show their support for Bopape. In addition to his reinstatement, they demanded the removal of Dr. Language as the township manager. Neither the reinstatement nor the inquiry into Dr. Language ever occurred.</p> <p>Bopape was elected the Transvaal ANC Secretary and helped to form the ANC Youth League (ANCYL) in 1944 and served in its first National Executive Committee with Nelson Mandela, Oliver Tambo, Walter Sisulu, to name but a few.</p> <p>Bopape was an organizer of the 1948 Votes for All Convention and in March 1950 he participated in the Defend Free Speech Convention. This campaign attracted 10 000 men to Marshall Square in Johannesburg and called for a one day strike on the 1st of May 1950. This was an effort to call on the government to abolish the Pass Law. On that day, 18 Africans were killed and many wounded by the Police. Bopape countered Verwoerd’s Bantu Education Law with the ANC “Cultural Clubs” (forming private schools to teach black children in their</p>

	<p>own culture).</p> <p>In 1953, Bopape was arrested and imprisoned for four months at the Johannesburg Prison. Whilst in prison, he was served with a lifetime banning order under the Suppression of Communism Act.</p> <p>He was arrested again after the declaration of the State of Emergency after the Sharpesville shootings.</p> <p>He never went into exile and continued his underground activities.</p> <p>In 1972, Bopape qualified as a lay preacher in the Evangelical Lutheran Church and in 1983 he attained membership of the Estate Agents Board. In the same year, he formed the Maropeng Resettlement Committee and served as its chairman. This organization sought compensation for the people who were forcibly removed from the Brakpan Old Location.</p> <p>Bopape died in September 2004.</p>
1950's	<p>Regina Brooks (a.k.a. MaKhumalo) was a white woman who chose to marry a black man and live amongst the black people in the Brakpan Old Location. She was guilty of breaking the Immorality Act of 1950 (Act No. 5 of 1950) and requested to be re-classified in order to keep her children. She won her appeal in 1957.</p>

Sources:

- <http://global.britannica.com/EBchecked/topic/77462/Brakpan>
  - <http://www.sacp.org.za/docs/history/fifty3.html>
  - <http://www.historyworld.net/wrldhis/PlainTextHistories.asp?ParagraphID=otw>
  - [http://cals.ukzn.ac.za/Libraries/General\\_Docs/Mbulelo\\_Mzamane.sflb.ashx](http://cals.ukzn.ac.za/Libraries/General_Docs/Mbulelo_Mzamane.sflb.ashx)
  - <http://www.sahistory.org.za/people/david-wilcox-bopape>
  - <http://www.liferattle.ca/radio/podcast20110213.html>
- Mbulelo Vizikhungo Mzamane, "Children of Paradise"

### THE CULTURAL LANDSCAPE

The current superficial character of this specific cultural landscape is one of undeveloped and unmanaged urban open areas. Presently large areas are being used for the dumping of domestic waste. The rest of the area consists of the remains of the Brakpan Old Location giving it a strong sense of history.



Figure 5. General Landscape Photos

### GRAVEYARDS

On the south-western edge of the study area a large formal cemetery is located. It is designated the Brenthurst Cemetery and is under the administration of the Ekurhuleni Municipality. The cemetery should not be affected by the proposed development, however its close proximity should be noted in the environmental management plan.



Figure 6. Brenthurst Cemetery

## HISTORIC MAPS AND BUILT ENVIRONMENT

The following historic maps for the area were available for comparative study;

- 1939, 2628 AB
- 1957, 2628 AB
- 1976, 2628 AB
- 1983, 2628 AB
- 1995, 2628 AB
- 2002, 2628 AB
- 2010, 2628 AB

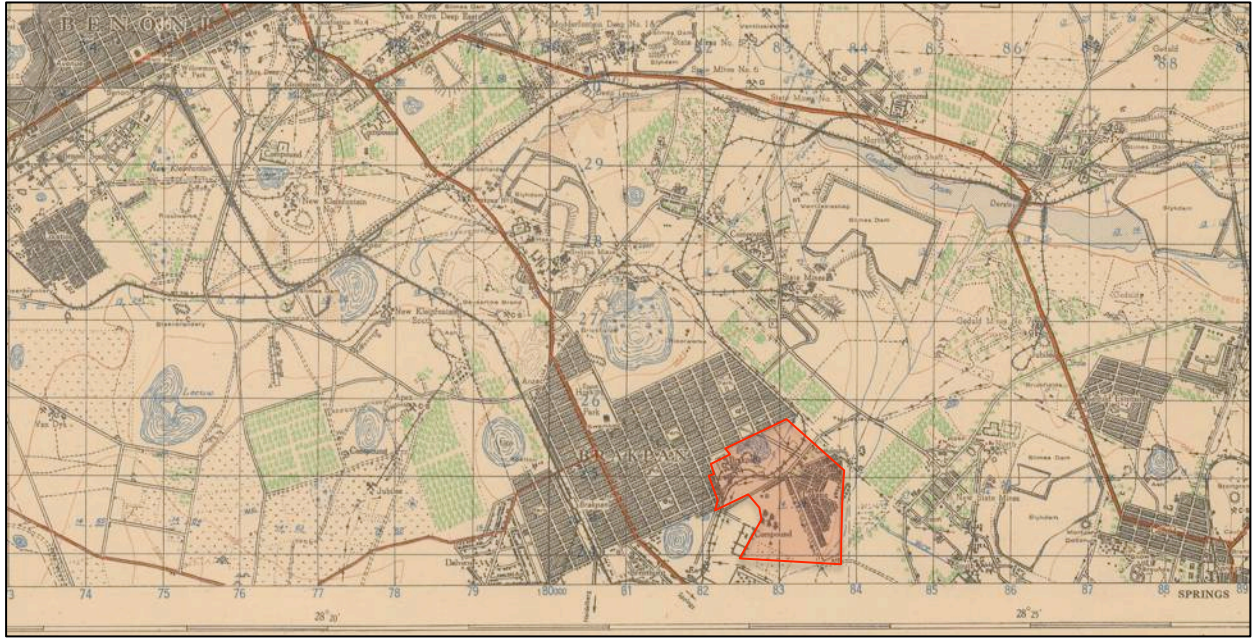


Figure 7. 1944 Map of study area

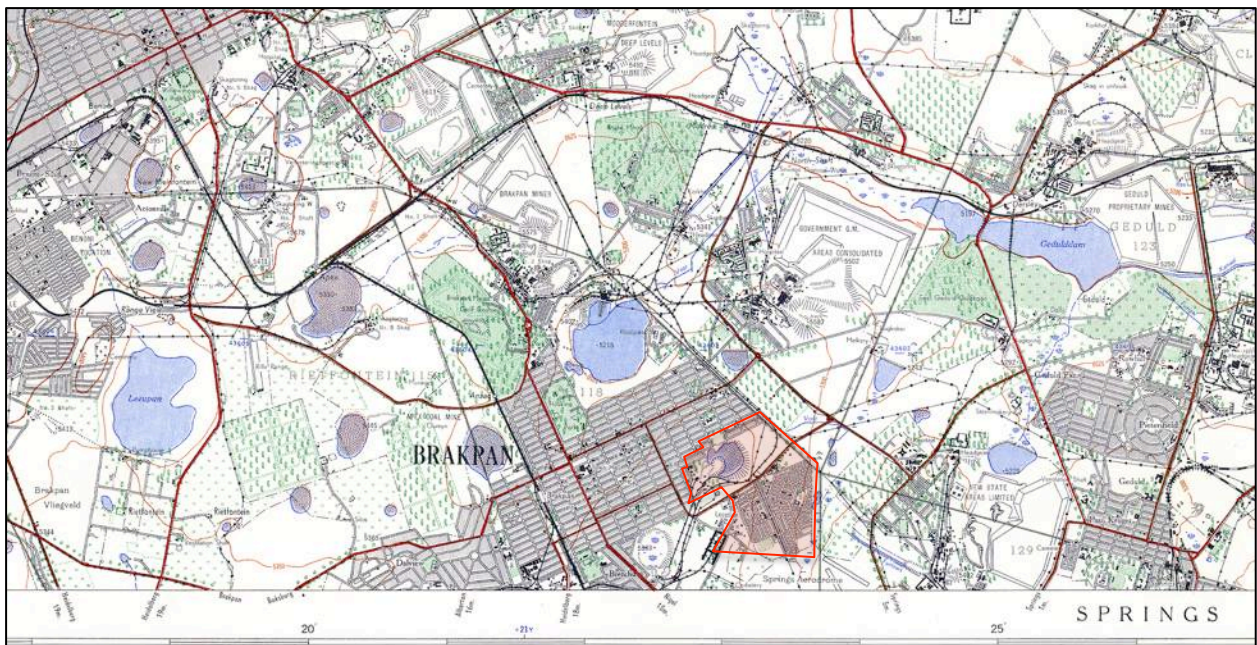


Figure 8. 1957 Map of study area

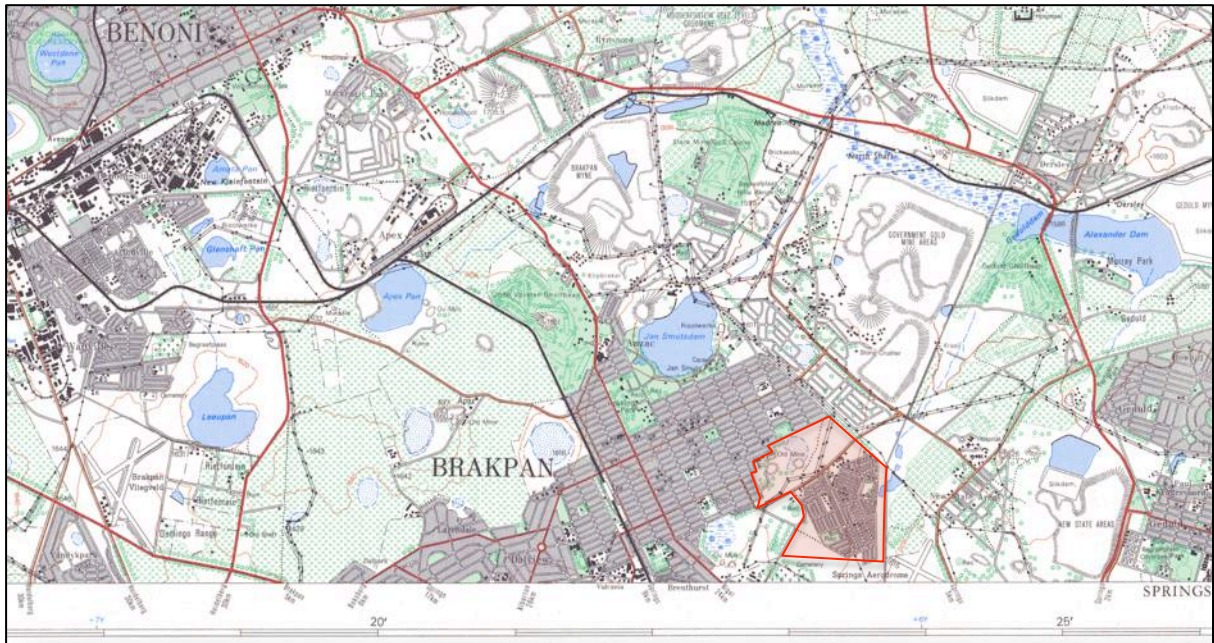


Figure 9. 1976 Map of study area

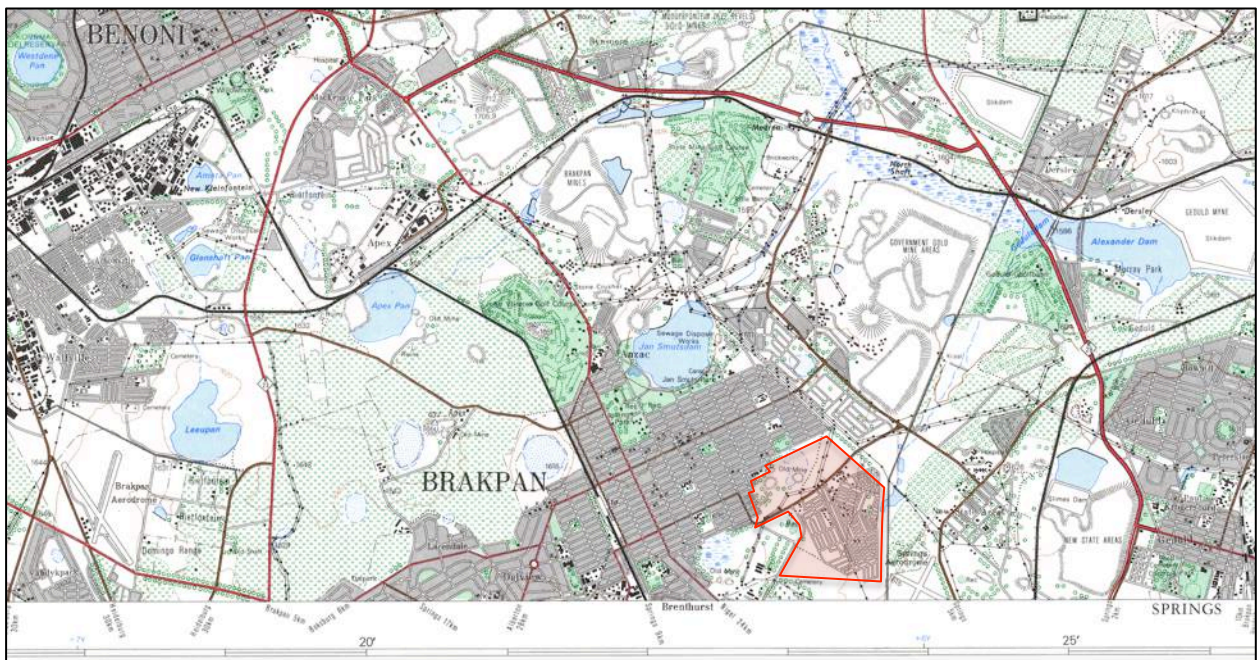


Figure 10. 1983 Map of study area

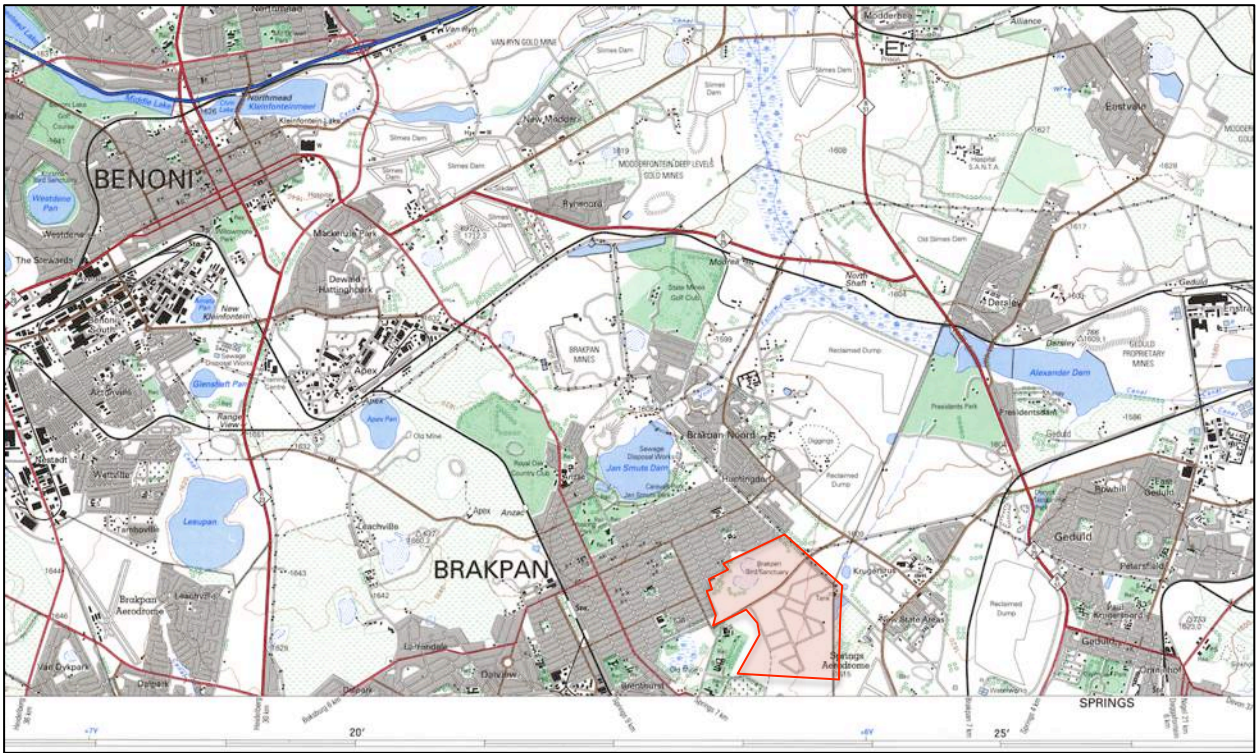


Figure 11. 1995 Map of study area

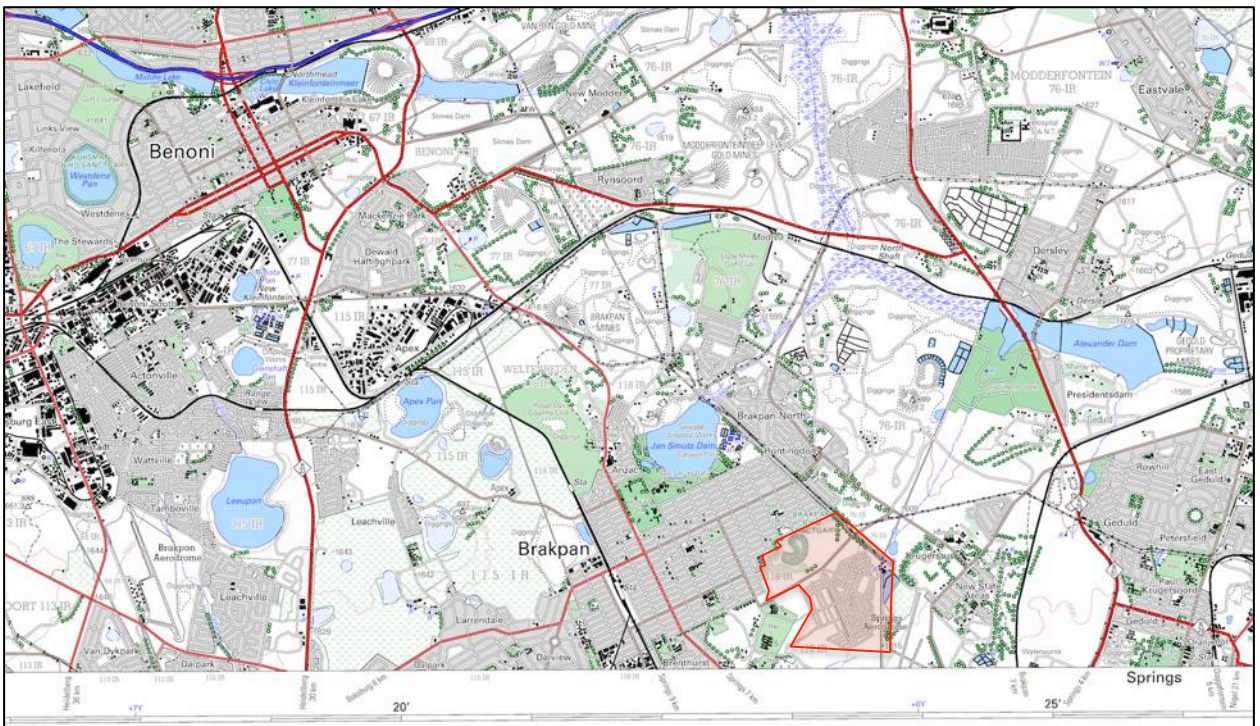


Figure 12. Study Area in 2002

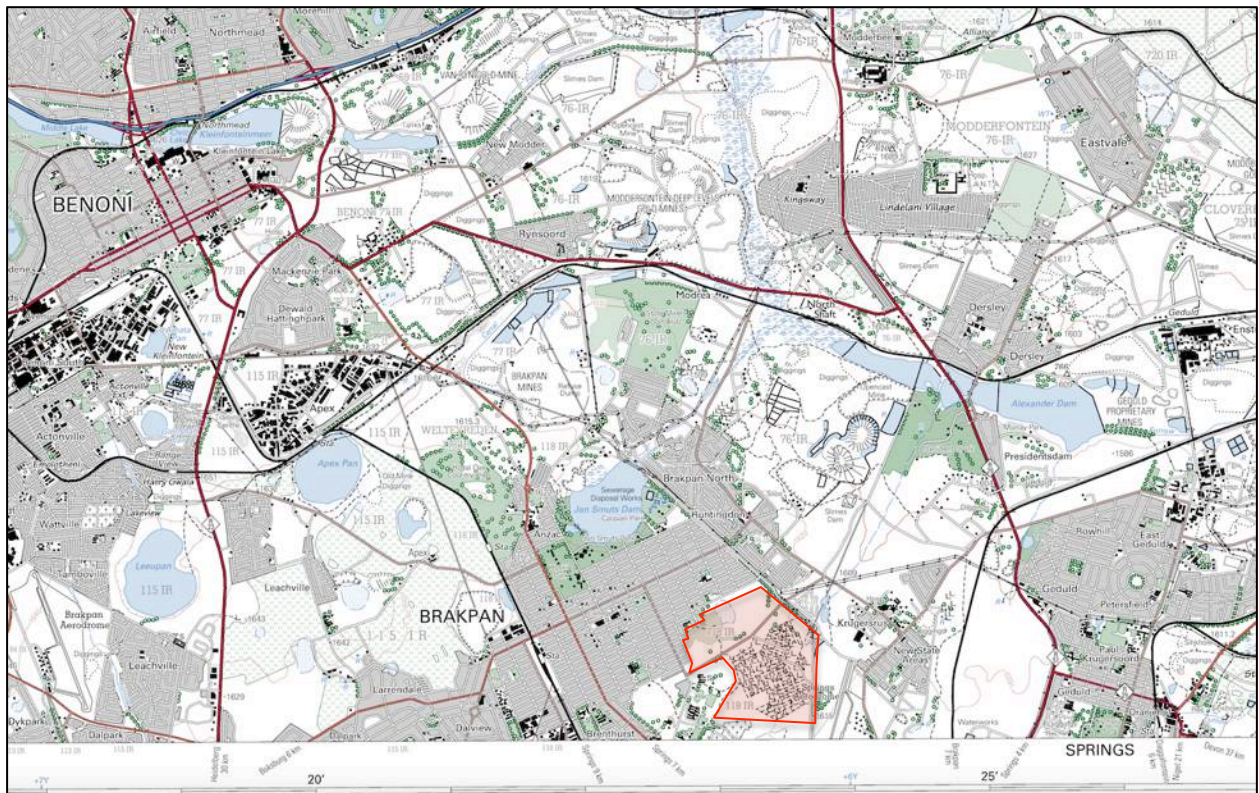


Figure 13. Study Area in 2010

The above historic maps show that no development was documented on the study area from 1944 and anything before that would have been present at 1944.

This analysis also shows that the large cemetery outside of the study area only started functioning somewhere between 1995 and 2002.

# Chapter 3 FINDINGS

## RESULTS OF THE SURVEY BUILT ENVIRONMENT

No	Description	GPS	Association	Significance
001	Brakpan Old Location	26° 22' 48" S 28° 25' 16" E	Built environment	High
002	Possible Grave	26° 14' 16,8" S 28° 23' 18,5" E	Isolated grave	High

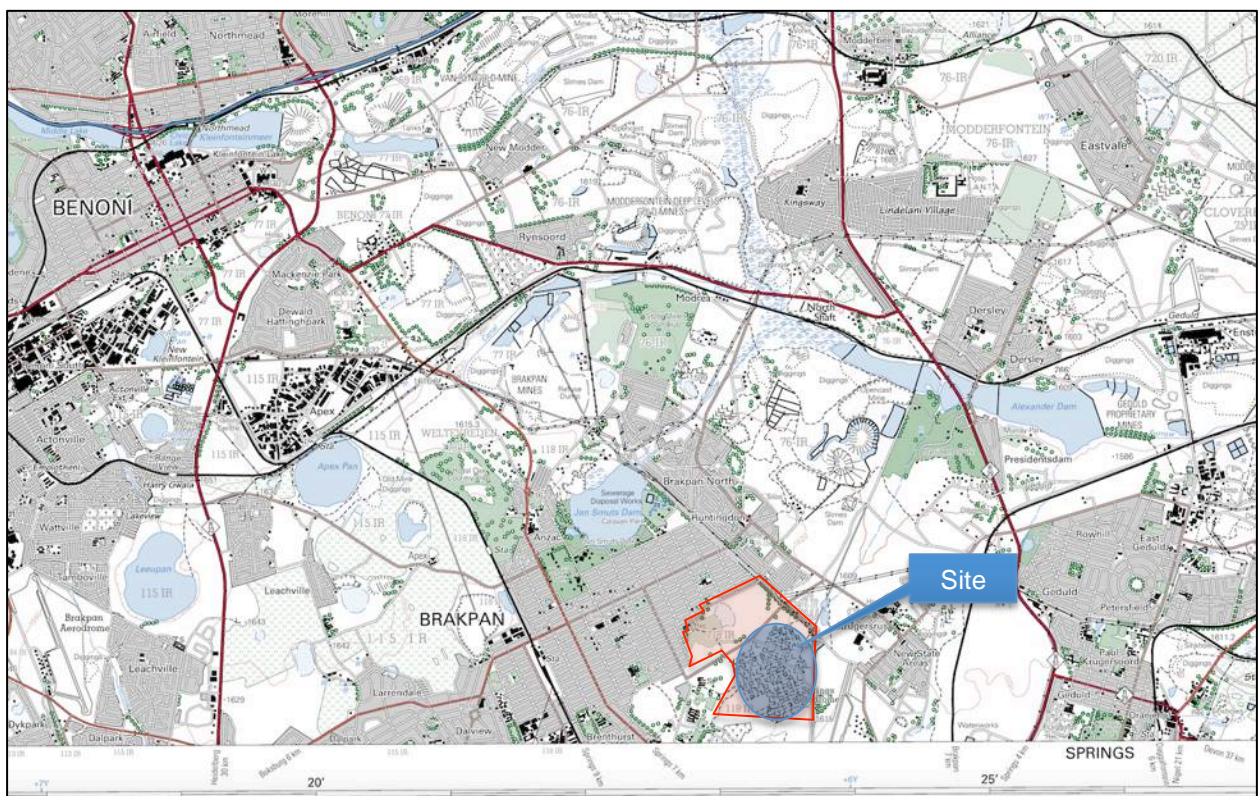


Figure 14. Brakpan Old Location Site

This is the remains of the *Brakpan Old Location* as discussed in the historic background earlier in this report.

The *Brakpan Old Location* was the backdrop to many anti-apartheid struggles. The people living in the location were actively trying to improve their living conditions and to challenge the laws that were suffocating them.





Figure 15. Remains of the Brakpan Old Location

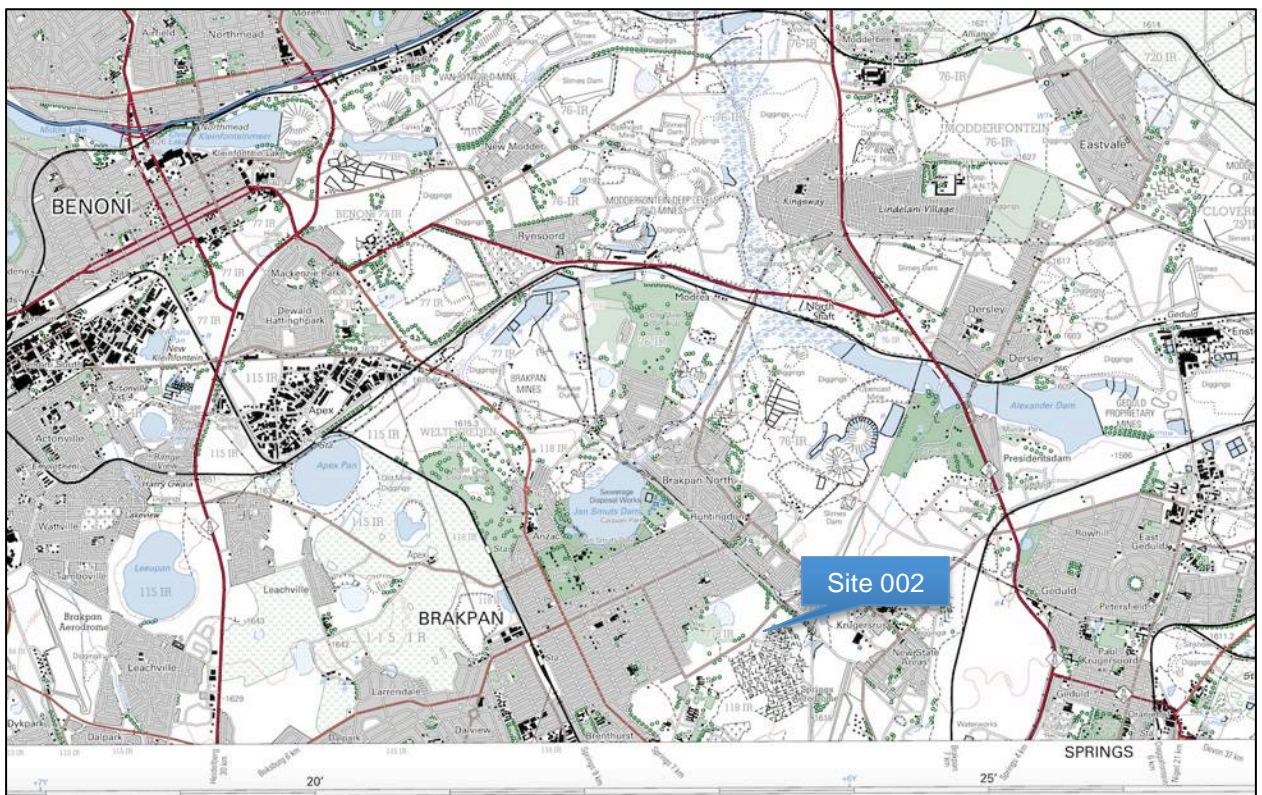


Figure 16. Location of possible grave



Figure 17. Possible grave close to Site 002 on site

This possible grave is located to the south of *Location Road* on the perimeter of the *Brakpan Old Location* site. It consists of a squared brick and mortar structure with soil backfill. No headstone or inscription could be found on the structure, however its, general size and shape as well as the fact that it is orientated east to west suggests that it is highly likely that it could be a grave. Historic evidence suggests that the deceased inhabitants of the *Brakpan Old Location* were interned at the Brenthurst cemetery and not within the actual *Location*. This might suggest that the gravesite is possibly older than most of the *Location* structures. The area around this structure is disturbed in areas and stone concentrations are found around the same area. Although most of these are poorly defined, it is not impossible that they could indicate the remains of further graves within this area.



Figure 18. Stone cairns close to Site 002

2015/03/17

## PALAEONTOLOGY

**It is not anticipated that bedrock will be affected and therefore a detailed palaeontological study was not deemed necessary.**

## ARCHAEOLOGY

No archaeological sites were identified on site.

## MEASURING AND EVALUATING THE CULTURAL SENSITIVITY OF THE STUDY AREA

In 2003 the South African Heritage Resource Agency (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

- o Important in the evolution of cultural landscapes and settlement patterns
- o Important in exhibiting density, richness or diversity of cultural features illustrating the human occupation and evolution of the nation, province, region or locality.
- o 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.
- o 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;

- o 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

- o 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.

- o Important to a community for aesthetic characteristics held in high esteem or otherwise valued by the community.
- o Importance for its creative, design or artistic excellence, innovation or achievement.
- o 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.
- o 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).

#### 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.

## SIGNIFICANCE EVALUATION

As the criteria set out in the National Heritage Resources Act tend to approach heritage from the level of 'national' significance and few heritage sites and features fall within this category, a second set of criteria are used to determine the regional and local significance of heritage sites. Three sub-categories are used to determine this significance:

- Historical significance – this category determines the social context in which a heritage site and resource need to be assessed. These criteria focus on the history of the 'place' in terms of its significance in time and the role they played in a particular community (human context).
- Architectural significance – The objective of this set of criteria is to assess the artefactual significance of the heritage resource, its physical condition and meaning as an 'object'.
- Spatial significance – focuses on the physical context in which the object and place exists and how it contributed to the landscape, the region, the precinct and neighbourhood.

### HISTORIC SIGNIFICANCE

No	Criteria	Significance Rating
1	<b>Are any of the identified sites or buildings associated with a historical person or group?</b> Yes, remains of the <i>Brakpan Old Location</i>	Grade 3B
2	<b>Are any of the buildings or identified sites associated with a historical event?</b> Yes, <i>Brakpan Old Location</i> was the epicentre of many anti-apartheid movements.	Grade 3B
3	<b>Are any of the identified sites or buildings associated with a religious, economic social or political or educational activity?</b> Yes, <i>Brakpan Old Location</i> was associated with politically important activities.	Grade 3B
4	<b>Are any of the identified sites or buildings of archaeological significance?</b> No	-
5	<b>Are any of the identified buildings or structures older than 60 years?</b> Foundation remains of the <i>Brakpan Old Location</i>	Grade 3B

### ARCHITECTURAL SIGNIFICANCE

No	Criteria	Rating
1	<b>Are any of the buildings or structures an important example of a building type?</b> No	-
2	<b>Are any of the buildings outstanding examples of a particular style or period?</b> No	-
3	<b>Do any of the buildings contain fine architectural details and reflect exceptional craftsmanship?</b> No	-
4	<b>Are any of the buildings an example of an industrial, engineering or technological development?</b> No	-
5	<b>What is the state of the architectural and structural integrity of the building?</b> All buildings have been demolished to foundation level	-
6	<b>Is the building's current and future use in sympathy with its original use (for which the building was designed)?</b> N/A	-
7	<b>Were the alterations done in sympathy with the original design?</b> N/A	-

8	<b>Were the additions and extensions done in sympathy with the original design?</b> N/A	-
9	<b>Are any of the buildings or structures the work of a major architect, engineer or builder?</b> 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	<b>Can any of the identified buildings or structures be considered a landmark in the town or city?</b> No	-
2	<b>Do any of the buildings contribute to the character of the neighborhood?</b> No	-
3	<b>Do any of the buildings contribute to the character of the square or streetscape?</b> No	-
4	<b>Do any of the buildings form part of an important group of buildings?</b> 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:

<b>NATURE</b>		
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.		
<b>GEOGRAPHICAL EXTENT</b>		
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
<b>PROBABILITY</b>		
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).
<b>REVERSIBILITY</b>		
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.

<b>IRREPLACEABLE LOSS OF RESOURCES</b>		
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.
<b>DURATION</b>		
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).
<b>CUMULATIVE EFFECT</b>		
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
<b>INTENSITY / MAGNITUDE</b>		
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.
<b>SIGNIFICANCE</b>		
<p>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:</p> <p><b>(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.</b></p> <p>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.</p>		
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.
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## ANTICIPATED IMPACT OF THE DEVELOPMENT SITE 001

IMPACT TABLE FORMAT		
Heritage component	<i>Brakpan Old Location Ruins</i>	
Issue/Impact/Heritage Impact/Nature	<i>Development of the Proposed Brakpan Old Location Township</i>	
<i>Extent</i>	<i>Local (2)</i>	
<i>Probability</i>	<i>Probable (3)</i>	
<i>Reversibility</i>	<i>Irreversible (4)</i>	
<i>Irreplaceable loss of resources</i>	<i>Partial loss of resources (3)</i>	
<i>Duration</i>	<i>Medium term (2)</i>	
<i>Cumulative effect</i>	<i>Medium cumulative effect (3)</i>	
<i>Intensity/magnitude</i>	<i>Very high (4)</i>	
<i>Significance Rating of Potential Impact</i>	<i>68 points. The impact will have a high negative effect rating.</i>	
	Pre-mitigation impact rating	Post mitigation impact rating
<i>Extent</i>	2	2
<i>Probability</i>	3	1
<i>Reversibility</i>	4	1
<i>Irreplaceable loss</i>	3	1
<i>Duration</i>	2	2
<i>Cumulative effect</i>	3	1
<i>Intensity/magnitude</i>	4	1
<i>Significance rating</i>	68 (high negative)	8 (low negative)
<i>Mitigation measure</i>	<i>It is recommended that the remains of the Brakpan Old Location be subjected to a second phase of investigation and that the remains of the ruins be documented in detail before it is demolished. The social consultation phase should investigate the feeling from precious inhabitants of the Location into the demolition of the ruins.</i>	

## SITE 002

IMPACT TABLE FORMAT	
Heritage component	<i>Possible Grave</i>
Issue/Impact/Heritage Impact/Nature	<i>Development of the Proposed Brakpan Old Location Township</i>
<i>Extent</i>	<i>Local (2)</i>
<i>Probability</i>	<i>Definite (4)</i>
<i>Reversibility</i>	<i>Irreversible (4)</i>
<i>Irreplaceable loss of resources</i>	<i>Total loss of resources (5)</i>
<i>Duration</i>	<i>Medium term (2)</i>
<i>Cumulative effect</i>	<i>Negligible cumulative effect (1)</i>

<i>Intensity/magnitude</i>	<i>Very high (4)</i>	
<i>Significance Rating of Potential Impact</i>	<i>72 points. The impact will have a high negative impact rating.</i>	
	Pre-mitigation impact rating	Post mitigation impact rating
Extent	2	2
Probability	4	1
Reversibility	4	1
Irreplaceable loss	5	1
Duration	2	2
Cumulative effect	1	1
Intensity/magnitude	4	1
Significance rating	72 (high negative)	8 (low negative)
Mitigation measure	<i>It is recommended that the possible gravesite undergo a period of social consultation to determine if any next of kin can identify the structure as a grave.</i>	

## RESOURCE MANAGEMENT RECOMMENDATIONS

Although unlikely, sub-surface remains of heritage sites could still be encountered during the construction activities associated with the project. Such sites would offer no surface indication of their presence due to the high state of alterations in some areas as well as heavy plant cover in other areas. 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

Although no sites of heritage significance were identified within the proposed study area, 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.

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