

**Heritage Impact Assessment for the Germiston South / Sar Rooikop 88kV Powerline To
SAR Rooikop 88kv Traction Substation From The Germiston South 88/33kV Substation,
Roodekop Suburb, Germiston, Ekurhuleni**



(A)HSA Archaeological and Heritage Services Africa (Pty) Ltd
Reg. No. 2016/281687/07

P O Box 2702, The Reeds, 0158, Centurion, Pretoria

Email: e.matenga598@gmail.com.

Cell: +27 73 981 0637

DOCUMENT CONTROL

Project Name	Eskom SAR Rooikop
Report Title	Heritage Impact Assessment for the Germiston South / Sar Rooikop 88kv Powerline To Sar Rooikop 88kV Traction Substation From The Germiston South 88/33kV Substation, Roodekop Suburb, Germiston, Ekurhuleni
Authority Reference Number	TBC
Report Status	Impact Assessment Report
Applicant Name	Eskom Holdings SOC
Environmental Consultant	Nsovo Environmental Consultants

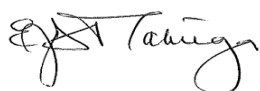
	Name	Qualifications	Date
Field Work & Report	Edward Matenga	. MPhil in Archaeology. . PhD in Archaeology & Heritage. . ASAPA #363 . ICOMOS #11323	April 2023

DECLARATION OF INDEPENDENCE

AHSA Pty Ltd is an independent consultancy: I hereby declare that I have no interest, be it business, financial, personal or other vested interest in the undertaking of the proposed activity, other than to be paid for work performed, in terms the National Heritage Resources Act (No 25 of 1999).

DISCLAIMER

All possible care was taken to identify and document heritage resources during the survey in accordance with best practices in archaeology and heritage management. However, it is always possible that some hidden or subterranean sites are overlooked during a survey. AHSA will not be held liable for such oversights and additional costs thereof.



Full Name: Edward J. Matenga (PhD)

Title / Position: Heritage Management Consultant

Qualifications: PhD (Archaeology & Heritage, Uppsala University, Sweden), MPhil (Uppsala), Certificate in the Integrated Conservation of Territories and Landscapes of Heritage Value (ICCROM, Rome)

ABBREVIATIONS

ASAPA	:	Association of South African Professional Archaeologists
BGG1	:	Burial Ground and Graves CFPs: Chance Find Procedures
CMP	:	Conservation Management Plan
CRM	:	Cultural Resource Management
DFFE	:	Department of Fisheries, Forestry and Environment,
EA	:	Environmental Authorisation
EAP	:	Environmental Assessment Practitioner
ECO	:	Environmental Control Officer
EIA	:	Environmental Impact Assessment*
EIA	:	Early Iron Age*
EAP	:	Environmental Assessment Practitioner
EMPr	:	Environmental Management Programme
ESA	:	Early Stone Age
GPS	:	Global Positioning System
GRP	:	Grave Relocation Plan
HIA	:	Heritage Impact Assessment
LIA	:	Late Iron Age
LSA	:	Late Stone Age
MSA	:	Middle Stone Age
NEMA	:	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	:	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NID	:	Notification of Intent to Develop
SAHRA	:	South African Heritage Resources Agency

TABLE OF CONTENTS

ABBREVIATIONS	3
EXECUTIVE SUMMARY	6
1. INTRODUCTION	9
1.1. Type of development	9
2. PHYSICAL SETTING	9
3. HISTORICAL development of the project area	13
3.1. Benoni and the Anglo-Boer war 1899 – 1902	13
3.2. Rand Revolt	14
4. LEGISLATION	14
4.1. Heritage Impact Assessments	14
4.2. Protection of historic buildings	15
4.3. Protection of archaeological and palaeontological sites	15
4.4. The Burra Charter on Conservation of Places of Cultural Significance	15
5. APPROACH AND METHODOLOGY	15
5.1. Desktop Research	15
5.2. Site Heritage Sensitivity in Terms of Environmental Impact Assessment Regulations (2014)	16
5.3. Site Visit	16
6. LEGISLATION	17
6.1. Heritage Impact Assessments	17
6.2. Protection of Historic Buildings	18
6.3. The Burra Charter on Conservation of Places of Cultural Significance	18
7. ARCHAEOLOGICAL AND HISTORICAL CONTEXT	18
7.1. The South African Early Cultural Sequence	18
7.2. Colonial occupation	19
8. FINDINGS OF THE STUDY	19
8.1. Precolonial Heritage	19
8.2. Protection of Buildings of Heritage Significance	20
8.3. Burial Grounds	20
8.4. Cultural Landscape Characterisation	20
8.5. Ranking of Sites and Risk Assessment	21
8.6. Assessment of Impacts using the Heritage Impact Assessment Statutory Framework	22
8.7. Risk Assessment of the Findings	23
8.8. DFFE Site Sensitivity Verification	24

9. CONCLUSIONS AND RECOMMENDATIONS	25
10. REFERENCES.....	25

LIST OF FIGURES

Figure 1: Google Earth map showing the location of the proposed powerline (red ink) running from the railway line substation and north in the wetland area.	9
Figure 2: Standard map shows the alignment of the proposed powerline in relation to the Roodekop Informal Settlement	10
Figure 3: Proposed powerline alignment between the Roodekop Informal Settlement and a wetland colony of reeds.....	10
Figure 4: Another view of the proposed route facing east, the railway substation is behind the camera.	11
Figure 5: View of the railway substation.....	11
Figure 6: North trending alignment of the substation.	12
Figure 7: Map of the track log.....	17

EXECUTIVE SUMMARY

1. Eskom intends to construct a new 88kV powerline from the Germiston South / SAR Rooikop Substation to the SAR Rooikop 88kV Traction Substation from the Germiston South 88/33kV Substation, Roodekop Suburb, Germiston, Ekurhuleni.
2. A site visit for the preparation of this Heritage Impact Assessment report required to protect heritage resources that might be affected by the project was undertaken on 11 April 2024.
3. The findings of the study are summarised as follows:
4. *Precolonial heritage*
No relics dating to the precolonial period could be expected to be found in an original context in the servitude of the powerline due to the impact of urbanization in the last 140 years.
5. *Protection of Buildings of Heritage Significance*
No buildings of heritage value will be affected by the project.
6. *Burial Grounds*
No graves or burial grounds were found.
7. *Ranking of Sites and Risk Assessment*

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2, or 3A heritage resources	0
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	0

3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	0
3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	0
3B	Local	Burial Grounds and Graves. Public sensibilities about the sanctity of graves	0
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	0
4		Cultural landscapes of historic significance	0
		TOTAL	0

8. DFFE Site Sensitivity Verification

The presumed heritage sensitivity of the footprint of the proposed was rated as very high. However, field verification indicated low sensitivity.

Theme		Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Archaeological and Cultural Heritage	PRESUMED	X			
	ACTUAL				X

9. Conclusions and Recommendations

As no heritage resources will be affected by the proposed development, the project may be given the green light to go ahead. If any heritage relics are found the development commences SAHRA will be consulted and a heritage expert will be called to attend.

1. INTRODUCTION

Eskom intends to construct a new 88KV powerline from the Germiston South / SAR Rooikop Substation to SAR Rooikop 88kV Traction Substation From The Germiston South 88/33kV Substation, Roodekop Suburb, Germiston, Ekurhuleni

1.1. Type of development

This is an infrastructure development project to augment the supply of power to the South African Railways' rail transport network. A ground survey for the preparation of a Heritage Impact Assessment Report was conducted by a heritage specialist and assistant on 11 April 2022.

2. PHYSICAL SETTING

The proposed realignment starts at the South African Railway substation at GPS location Lat: 26°17'15.93"S and Long: 28°10'57.37"E on the side of a major rail route connecting with Durban. It trends east for a distance of 250m following a servitude between a pocket of informal settlement in the Roodekop suburb and a wetland corridor between Roodekop and Wadeville. A powerline servitude will be opened through the wetland running north which requires the clearance of an impenetrable thicket of reeds and management of waterlogged conditions. The key landmarks in the area are the major SAR rail interchange which lies north of the wetland, and the Scaw Metals complex for recycling scrap iron located at the junction of the N3 highway to Durban and a local link road, the R103, which runs parallel to the N3 highway SE of the junction.



Figure 1: Google Earth map showing the location of the proposed powerline (red ink) running from the railway line substation and north in the wetland area.

Roodekop informal settlement Wetland. Proposed powerline

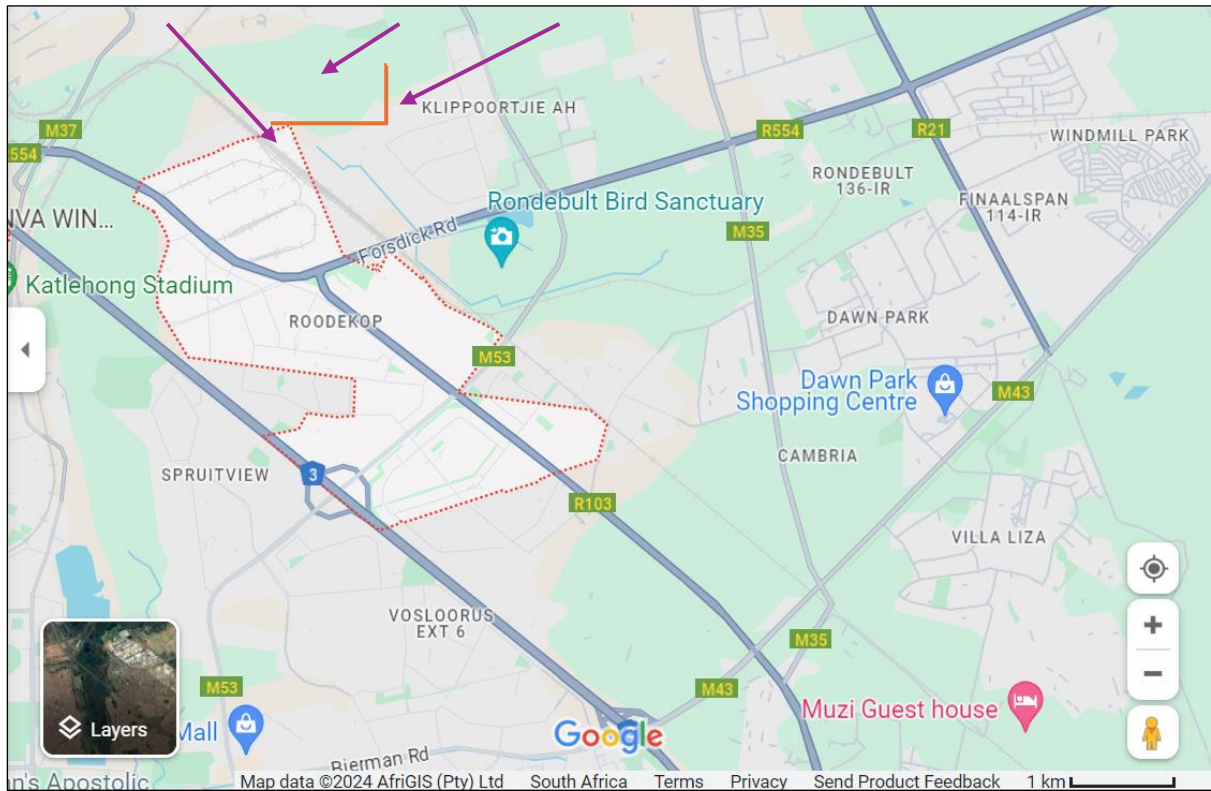


Figure 2: Standard map shows the alignment of the proposed powerline in relation to the Roodekop Informal Settlement



Figure 3: Proposed powerline alignment between the Roodekop Informal Settlement and a wetland colony of reeds.



Figure 4: Another view of the proposed route facing east, the railway substation is behind the camera.



Figure 5: View of the railway substation.



Figure 6: North trending alignment of the substation.

3. HISTORICAL development of the project area

Ekurhuleni is traditionally regarded as a part of the Johannesburg conurbation dating back to 1886 when gold was discovered at the Witwatersrand. This followed the occupation of the region by the Voortrekkers in the 1830s. The new arrivals parcelled land for themselves creating the first commercial farms, especially after the signing of the Sand River convention in 1852.¹

Benoni was surveyed by the renowned Surveyor, Johan Rissik, in 1891 and named Government Farm Benoni after the Hebrew name (meaning “son of my sorrow”), given by Rachel to her son after she suffered a very difficult birthing. This is in the biblical Book of Genesis. Rachel died after giving birth to Benoni and her husband, Jacob, renamed him Benjamin (‘Son-who-will-be-fortunate’). The name Benon was apt because Rissik’s had difficulties in establishing the exact boundaries in establishing boundaries of the farms in the area.

Gold was discovered on the farm Benoni itself in 1887 and the owner of the farm, Mr Noyce became one of the Directors of the Benoni Gold-Mining Company which laid claims on the farm and became the first registered gold mine in the Benoni area

Sir George Farrar is famous being being the founder of Benoni Town on his farm Kleinfontein farm which borders Benoni Farm. He started operations using his water-boring equipment for gold-searching. The huge Kleinfontein Mine dump remains a symbol of the success of the New Kleinfontein Mines.

3.1. Benoni and the Anglo-Boer war 1899 – 1902

During the spring of 1902, after the end of the Second Anglo Boer War, Sir George was inspecting the Homestead and Kleinfontein dams (which he had ordered to be built before the war in order to supply water to the thirsty E.R.P.M. mine in Boksburg and the New Kleinfontein mine respectively, and where he held significant financial interests in both: the war had put a halt to gold-mining activities and Sir George had in fact taken a commission in the Imperial Forces during this time and had thus been unable to manage these valuable assets for a while. Some of the Benoni mines’ stamp-batteries and headgear had been burnt down during those tragic days but he was nevertheless impressed with the way the dams had been transformed from unattractive earthworks with sterile shorelines into lush, green oasis of rushes, young willows and sparkling clear waters. It was said to have reminded him of

¹ History of Benoni. Found at: <https://norval.co.za/benoni-is-a-town-in-ekurhuleni-municipality-gauteng-south-africa/history-of-benoni/>

the pretty river Ouse in his home-town of Bedford in the UK. Thus it was that in September, he met with the Kleinfontein Estates and Township Company, (where he held much influence) who also administered the Benoni farm by then, and proposed that the town be laid out on the North-facing slopes of the Blesbok spruit valley, on Kleinfontein land alongside the now-beautiful Kleinfontein dam, and to the West of the then-existing mining shanty-town and present-day Snake Road. The board was swayed by Sir George Farrar's inspirational ideas and duly appointed him the town planner of the new Benoni Township.

3.2. Rand Revolt

In 1922 thousands of white mine workers staged a strike partly instigated by the South African Communist Party. The strike sent shocks of fear in the South African Government happening as it did after the Bolshevik Revolution in Russia.

The strike quickly degenerated into open revolt, with armed miners fighting the South African police and army in the streets. The revolt lasted for about a year and the South African Air Force (SAAF) was used to quell the revolt. The miners responded with fire on the SAAF aeroplanes which were shot down. Benoni was one of the hubs of the Rand Revolt and much fighting took place in and around the area.

4. LEGISLATION

4.1. Heritage Impact Assessments

Section 38 of the National Heritage Resources Act (No 25 of 1999) specifies the nature and scale of development projects which require a Heritage Impact Assessment as mitigation:

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site—

(i) exceeding 5 000m² in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by

SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

4.2. Protection of historic buildings

Section 34 of the NHRA provides for automatic provisional protection of all structures and features older than 60 years unless proof can be furnished that they do not carry heritage value.

4.3. Protection of archaeological and palaeontological sites

Section 35 (4) of the NHRA prohibits the destruction of archaeological, palaeontological and meteorite sites:

No person may, without a permit issued by the responsible heritage resources authority—

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

4.4. The Burra Charter on Conservation of Places of Cultural Significance

Some generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. In particular South Africa has adopted the **Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** as a benchmark best practice in heritage management.

5. APPROACH AND METHODOLOGY

5.1. Desktop Research

A literature study sheds light on the geographical and cultural context of Tsakane and Brakpan was undertaken to provide background and context. Documentary analysis is the examination of current and historical documents. Published historical and geographical information consulted and relevant

background material provided by the Client. The internet is an important portal for searching reports of previous research in the area. The documentary analysis allowed a good understanding of the heritage potential of the study area.

The following are some of the Heritage Impact Assessment studies undertaken in the broader area. Most of these reports note an established footprint of mining heritage.

Marais, V and M Burger. 2018. *Draft scoping report for the proposed Minnebron x 1 Mixed Use Development on Portion 3 of the Farm Witpoortjie 117 I.R. and on the southern, undeveloped part of Van Eck Park x 2 (portions 524-525), Brakpan, Ekurhuleni.*

Gaigher, S. 2018. *Heritage Impact Assessment for the proposed Residential Township, Leachville Extension 2, situated on Portion 148 of the Farm Rietfontein 115IR, the Ekurhuleni Metro Municipality, Gauteng Province.*

Gaigher, S. 2015. *Heritage Impact Assessment for the Proposed Vlakfontein Township Development. G & A Heritage.*

Gaigher, S. 2007. *Cultural heritage resources impact assessment of the farm Vlaklaagte 161 Tsakane Benoni Gauteng.*

Matenga, E. 2019. *Tsakane Road Infrastructure Improvement, Ekurhuleni Metro Municipality, Gauteng Province: Investigation of graves at the Junction of the Heidelberg Rd (R23) and Geluksdal Rd (principal entrance to Tsakane Township).*

5.2. Site Heritage Sensitivity in Terms of Environmental Impact Assessment Regulations (2014)

The following Table is a summary of the archaeological and heritage sensitivity of the footprint of the proposed development based on the DFFE screening tool. It is stated that this is an indicative index that must be verified through a ground survey. The heritage sensitivity was rated as very high.

Theme	Very sensitivity	High	High sensitivity	Medium sensitivity	Low sensitivity
Heritage	X				

5.3. Site Visit

A ground survey was conducted by a heritage specialist and assistant on 11 April 2022. Below is a map of the track log. (Figure 7).

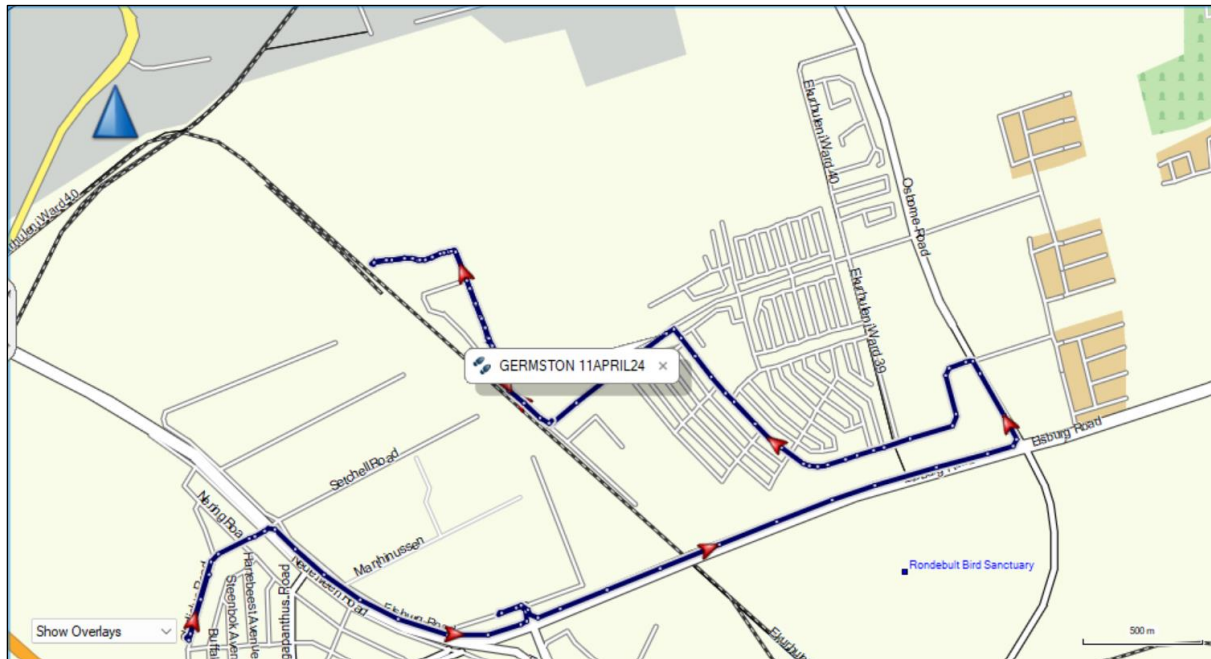


Figure 7: Map of the track log.

5.4. Limitations of the study

It was impossible to walk through the wetland due to the impenetrable colony of reeds and waterlogged conditions.

6. LEGISLATION

6.1. Heritage Impact Assessments

Section 38 of the National Heritage Resources Act (No 25 of 1999) specifies the nature and scale of development projects which require a Heritage Impact Assessment as mitigation:

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site—*
 - (i) exceeding 5 000m² in extent; or*
 - (ii) involving three or more existing erven or subdivisions thereof; or*

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

6.2. Protection of Historic Buildings

Section 34 of the NHRA provides for automatic provisional protection of all structures and features older than 60 years unless proof can be furnished that they do not carry heritage value. The iconic administration block that is on the schedule of repairs is one of the earliest buildings dating to 1928. Most of the buildings on the schedule for repairs are more than 60 years old, and as such they are protected in terms of Section 34 of NHRA.

6.3. The Burra Charter on Conservation of Places of Cultural Significance

Some of the generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. Of important bearing to this study is the **Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)**, which South Africa has adopted as a benchmark for best practices in heritage management.

7. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

7.1. The South African Early Cultural Sequence

South Africa has a long cultural heritage sequence beginning with the appearance of hominins about 4 million years ago. Little if any of the footprints of the pre-colonial cultural sequence can be expected to be found in the original context in the area under study due to the impact of the urbanization of the area. It therefore should suffice to give an outline of the cultural sequence:

The Stone Age dates from 3 million year before the present (BP) (Deacon and Lancaster 1989). It is divided into three epochs namely:

Early Stone Age (ESA) – 3 million years to 250 000 BP;

Middle Stone Age (MSA) – 250 000 to 40 000 BP;

Later Stone Age 40 000 – 3 000 BP.

The transition from the Stone Age to the Iron Age took place more than 3000 years BP. The Iron Age is divided into two phases, namely the Early Iron Age and the Later Iron Age. The Early Iron Age appeared more than 2000 years ago marking the introduction of metal technology. The Later Iron Age is dated from the end of the first millennium to the beginning of the second millennium (Huffman 2007).

7.2. Colonial occupation

The events leading to the Great Trek, the expansion of Afrikaner settlement from the Cape Colony, and the occupation of the Gauteng region are summarised in the table below (adapted from Gaigher 2015: p15). The following is a table of historical milestones.

DATE	DESCRIPTION
1840's	The arrival of white farmers and the establishment of commercial farms.
1880 -1890's	Gold and coal were discovered in the area and subsequently the ground prices soared.
1880 -1900's	Coal mining started on a small scale, until the Great Eastern Mine was established. In 1904 the Grootvlei Proprietary Mines were registered and shafts were sunk.
1880's	The first railways were built after the discovery of coal to carry it to the gold mines on the Witwatersrand.
1905	Brakpan mine starts operating
1900's - 1960's	Brakpan severs from the Benoni Municipality.
1922	The Rand (Miners) Revolt started March 1922 was an armed uprising of white miner in the Witwatersrand region, epicentre of revolt in the East Rand.
1940's - 1990's	During the apartheid era, Benoni was reserved for whites Indians relocated to Actonville and the black people were relocated to Brakpan Old Location and later to Tsakane
1990 – present	Poor families moving to the area has given rise to many informal settlements around the industries.
1999	As part of the restructuring of municipalities, local governments of the East Rand were merged into a single municipality, named the Ekurhuleni Metropolitan Municipality

8. FINDINGS OF THE STUDY

The findings of the study are summarised as follows:

8.1. Precolonial Heritage

No relics dating to the precolonial period could be expected to be found in the original context within the servitude of the powerline due to the impact of urbanization in the last 140 years.

8.2. Protection of Buildings of Heritage Significance

No buildings of heritage value will be affected by the project.

8.3. Burial Grounds

No graves or burial grounds were found.

8.4. Cultural Landscape Characterisation

The concept of cultural landscapes is of relevant application when dealing with heritage in built environments. Paragraph 47 of the Operational Guidelines for the Implementation of the World Heritage Convention (2015 edition) defines Cultural Landscapes as “cultural properties that represent the combined works of nature and of man” They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

Urban landscapes may include central business districts, industrial parks, residential precincts and community parks, scenic highways, rural communities, institutional grounds, cemeteries, battlefields and zoological gardens. They are composed of several character-defining features that, individually or collectively contribute to the landscape's physical appearance as they have evolved over time. In addition to vegetation and topography, cultural landscapes may include water features, such as ponds, streams, and fountains; circulation features, such as roads, paths, steps, and walls; buildings; and furnishings, including fences, benches, lights and sculptural objects.

The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas (the Washington Charter 1987) defines the qualities of a historic city or town as encompassing the historic character of the town or urban area and all those material and spiritual elements that express this character, especially:

- a) Urban patterns as defined by lots and streets;
- b) Relationships between buildings and green and open spaces;
- c) The formal appearance, interior and exterior, of buildings as defined by scale, size, style, construction, materials, colour and decoration;
- d) The relationship between the town or urban area and its surrounding setting, both natural and man-made; and

e) The various functions that the town or urban area has acquired over time.

Components of the urban landscape which will be affected by the development are the retirement village complex concealed by the palisade wall, and a green belt along the stream course. The collapsed section of the south perimeter wall following the streambank will be repaired while other sections will be modified for the efficient disposal of stormwater. There will be little impact on the views along the stream. One of the defining characteristics of Johannesburg as a historic town is the massive forestation of what was otherwise an extensive grass veld in precolonial times. No trees will be removed. The residential complex is enclosed by a wall c. 2m high. There is little seen from the public roads and the stream except the perimeter wall. The houses are, therefore, not intended as public architecture. The street vistas feature the walls and trees that will not be affected by the development (Figures 13-17).

The proposed deviation alignment is on the edge of a wetland with a thick colony of reeds and then it turns north into the wetland. There is an unplanned high-density residential settlement on the south side. The dwellings are non-descript and can be modified at any time. There is no heritage value worth protecting in the informal settlement.

8.5. Ranking of Sites and Risk Assessment

Table 2: Ranking of Heritage Sites.

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2, or 3A heritage resources	0
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	0
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	0

3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	0
3B	Local	Burial Grounds and Graves. Public sensibilities about the sanctity of graves	0
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	0
4		Cultural landscapes of historic significance	0
		TOTAL	0

8.6. Assessment of Impacts using the Heritage Impact Assessment Statutory Framework Section 38 of the NHRA

Section 38 (Subsection 3) of the National Heritage Resources Act also provides a schedule of tasks to be undertaken in an HIA process:

Section 38(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

No heritage sites were recorded.

(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

N/A.

(c) An assessment of the impact of the development on such heritage resources

N/A

(i) 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

The country is currently experiencing a critical shortage of power.

(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

Public participation was done as part of the broader environmental impact assessment process.

(f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives

N/A

(g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.

In the event of the discovery of heritage resources deemed of significance when physical works commence, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

8.7. Risk Assessment of the Findings

EVALUATION CRITERIA	RISK ASSESSMENT
Description of potential impact	Negative impacts range from partial to total destruction of surface and under-surface movable/immovable relics.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of National Heritage Resources Act No. 25 (1999).
Stage/Phase	Clearing of the servitudes, and preparation of foundation towers and poles.
Extent of Impact	Archaeological relics may be destroyed or damaged during excavations.
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible but can be mitigated.
Intensity	Uncertain.
Probability of occurrence	Medium.
Confidence of assessment	High.
Level of significance of impacts before mitigation	Medium.

Mitigation measures	If archaeological or other heritage relics deemed of high significance are found when physical works commence, heritage authorities will be advised immediately and a heritage specialist will be called to attend.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

8.8. DFFE Site Sensitivity Verification.

The presumed heritage sensitivity of the footprint of the proposed was rated as very high as per the Screening Tool report.

Theme		Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Archaeological and Cultural Heritage	PRESUMED	X			
	ACTUAL				X



Map of relative archaeological and cultural heritage theme sensitivity

9. CONCLUSIONS AND RECOMMENDATIONS

No heritage resources will be affected by the proposed development. This gives the project a green light to go ahead. If any heritage relics are found after the development has commenced, SAHRA will be consulted and a heritage expert will be appointment for assessment.

10. REFERENCES

- Beavon, K. 2004.** Johannesburg: The Making and Shaping of the City. Pretoria: University of South Africa Press.
- Deacon, J. and N. Lancaster. 1986.** *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.
- Gaigher, S. 2007.** Cultural heritage resources impact assessment of the farm Vlaklaagte 161 Tsakane Benoni Gauteng.
- Gaigher, S. 2015.** Heritage Impact Assessment for the Proposed Vlakfontein Township Development. G & A Heritage.

Gaigher, S. 2018. Heritage Impact Assessment for the proposed Residential Township, Leachville Extension 2, situated on Portion 148 of the Farm Rietfontein 1151R, the Ekurhuleni Metro Municipality, Gauteng Province.

Huffman, T. N. 2007. A Handbook of the Iron Age. Cape Town: UKZN Press.

Marais, V and M Burger. 2018. Draft scoping report for the proposed Minnebron x 1 Mixed Use Development on Portion 3 of the Farm Witpoortjie 117 I.R. and on the southern, undeveloped part of Van Eck Park x 2 (portions 524-525), Brakpan, Ekurhuleni.

Matenga, E. 2019. Tsakane Road Infrastructure Improvement, Ekurhuleni Metro Municipality, Gauteng Province: Investigation of graves at the Junction of the Heidelberg Rd (R23) and Geluksdal Rd (principal entrance to Tsakane Township).

Muller, C. F. 1986. *The Period of the Great Trek*. In C. F. Muller (ed.) *Five Hundred Years: A History of South Africa*. Pretoria: Academica.

Legislation and policy documents

Republic of South Africa. National Heritage Resources Act (No 25/1999).

Republic of South Africa. National Environmental Management Act (No 107/1998).

ICOMOS Australia. 1999. ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)

ICOMOS, 1987. The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas (the Washington Charter 1987)

UNESCO. 2015. Operational Guidelines for the Implementation of the World Heritage Convention. UNESCO, Paris.

DFFE: Screening Report For An Environmental Authorization As Required by the 2014 EIA Regulations – Proposed Site Environmental Sensitivity - Eskom SAR Rooikop, Germiston Ekurhuleni.

Websites

History of Benoni. Found at: <https://norval.co.za/benoni-is-a-town-in-ekurhuleni-municipality-gauteng-south-africa/history-of-benoni/>