

**BHOBHONONO / MSASOMINI HOUSING PROJECT,
UMSUNDUZI LOCAL MUNICIPALITY,
KWAZULU-NATAL**

Phase 1 Heritage Impact Assessment

May 2022

**FOR: Mabune Consulting
Vukani Ngwabi**

**AUTHOR: JLB Consulting
Jean Beater**

EXECUTIVE SUMMARY

The Msunduzi Local Municipality proposes the construction of low-cost housing and associated facilities and infrastructure on the remainder of Erf 10000 Edendale. The proposed development is aimed at providing suitable housing to beneficiaries residing within Ward 20 of the Local Municipality. The development will consist of the construction of new top structures together with relevant services such as access to water and sanitation.

The site is well over 5000m² in size hence it triggers section 41 (1) (c)(i) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018) which lists developments or activities that require an HIA. The relevant sub-section refers to any development or other activity which will change the character of a site- (i) exceeding 5000 m².

An inspection of the site was undertaken on 25 April 2022. The site is located on steep topography, parts of which were heavily overgrown with vegetation. There are existing dwellings within the project area as well as new stands and structures. Vacant areas had been invaded and stands and structures established.

The site was inspected on foot. Several roads north of Waterworks Road were used to access the site but these stopped where steep topography prevented further road access near the northern boundary. The specialist spoke to several residents during the inspection.

The specialist was told by several residents that because the land was owned by the Municipality, they were not allowed to bury their dead near their homesteads and that burials took place at Mountain Rise cemetery and other formal cemeteries. However, a number of graves were found near homesteads during the inspection.

During the inspection several structures were found that appear to be older than 60 years and that are, therefore, protected by section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018.

The specialist spoke to a resident who said that Chief Zondi had stopped people from clearing more stands as the Chief had said that the area in which they were encroaching had old graves on it. This could not be verified by the specialist as the graves could not be found which are reportedly indicated by rocks only. Polygons of the areas that were pointed out by the resident that have old graves on them have been provided to the EAP. It is strongly recommended that prior to any development work on the project area, consultation should be undertaken with Chief Zondi to confirm the above and for Chief Zondi to show the Applicant the old grave sites.

According to the desktop palaeontological study, sections of the development site are in the non-fossiliferous Jurassic dykes and alluvium with the moderately fossiliferous Pietermaritzburg Formation present in the southern part of the project area. There is a small area lying on the potentially very highly fossiliferous Vryheid Formation towards the north. According to the study, surface activities may impact upon the fossil heritage if preserved in the development footprint. The geological structures suggest that the rocks are the right age to contain fossils but these would only be below ground or in rocky outcrops, not in the soil cover. Since there is a small chance that fossils from the Vryheid Formation may be disturbed, it is recommended that a Fossil Chance Find Protocol be included in the EMP of the proposed housing project. It was concluded that the potential impact to fossil heritage resources by the housing project is extremely low.

Several grave sites were found during the inspection as well as areas that reportedly contain old graves. Graves are protected in terms of section 39 (1) of the KwaZulu-Natal Amafa and Research Institute Act. Graves are highly significant to many people and there are many traditional, cultural and personal sensitivities and norms concerning damage to graves or the relocation of graves. It is recommended that graves are not moved. However, if graves are to be removed, then the procedure provided in section 5 of the Draft KwaZulu-Natal & Research Institute Regulations, 2021, must be followed.

The assessment of impacts on graves indicated that without mitigation measures the impact would be of a medium significance which could influence the decision to develop in the area unless mitigated. With the implementation of mitigation measures which includes consultation with Chief Zondi regarding the presence and location of old graves, the assessment of impact is reduced to a low significance.

Any structure older than 60 years is protected by section 27 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act. If such structures within the project area are to be altered or demolished, then a permit has to be obtained from the Institute prior to this taking place. It is recommended that such structures are left intact where possible.

The assessment of significance of impacts on protected structures found that with the implementation of mitigation measures, the impact would reduce from a medium significance to a low significance.

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APPENDIX 1

Desktop palaeontological study

I, **Jean Lois Beater**, act as an independent specialist for this project and I do not have any vested interest either business, financial, personal or other, in the proposed activity other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014.

SPECIALIST DETAILS

Name	Qualification	Professional Registration
Jean Beater	MA (Heritage Studies) MSc (Environmental Management)	Member of Association of South African Professional Archaeologists (No. 349) Member of IAIAAsa (No. 1538)

1. INTRODUCTION

The Msunduzi Local Municipality proposes the construction of low-cost housing and associated facilities and infrastructure on the remainder of Erf 10000 Edendale within the uMgungundlovu District Municipality. The proposed development is aimed at providing suitable housing to beneficiaries residing within Ward 20 of the Local Municipality. The development will consist of the construction of new top structures together with relevant services such as access to water and sanitation (Mabune Consulting 2022:1).

The Phase 1 Heritage Impact Assessment (HIA) was undertaken to establish if any heritage resources would be impacted by the proposed housing development.

2. LEGISLATIVE BACKGROUND

The site is well over 5000m² in size hence it triggers section 41 (1) (c)(i) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018) which lists developments or activities that require an HIA. The relevant sub-section refers to: any development or other activity which will change the character of a site- (i) exceeding 5000 m².

The housing project may also impact graves, structures, archaeological and palaeontological resources that are protected in terms of sections 37, 38, 39, and 40 of the KwaZulu-Natal Amafa and Research Institute Act, 2018.

In terms of section 3 of the National Heritage Resources Act 1999 (Act No 25 of 199), heritage resources are:

- (a) places, buildings, structures and equipment of cultural significance;
- (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 of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;

- (v) historical graves and cemeteries; and
- (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) of significance relating to the history of slavery in South Africa;
- (i) movable objects, including:
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3. LOCATION

The proposed project site is located on the remainder of Erf 10000 Edendale in Ward 20 in the Greater Edendale area, Pietermaritzburg, Msunduzi Local Municipality. The area proposed for the housing development is located west of the Pietermaritzburg city centre (see **Fig. 1**). A closer view of the project area can be seen in **Fig. 2**. The project area is located predominantly north of Waterworks Road.

4. TERMS OF REFERENCE

Undertake a Phase 1 HIA in order to determine the possible existence of heritage resources, as listed above, that could be impacted by the proposed project. Provide mitigation measures to limit or avoid the impact of the project on heritage resources (if any).

Submit the HIA report to the provincial heritage resources authority, namely the KwaZulu-Natal Amafa and Research Institute (hereafter referred to as the Institute), for their consideration and comment.

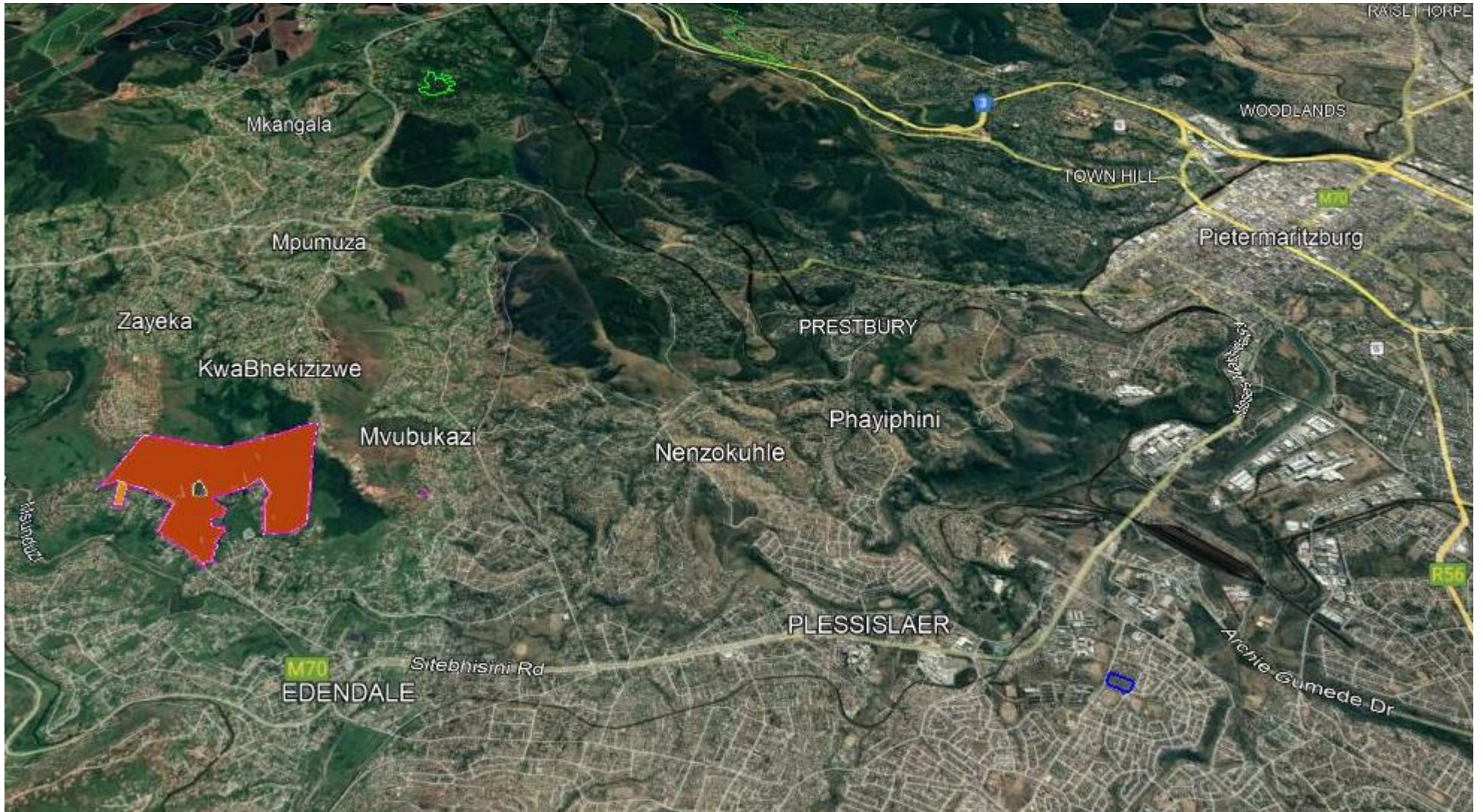


Figure 1: Housing site indicated with orange infill in relation to Pietermaritzburg

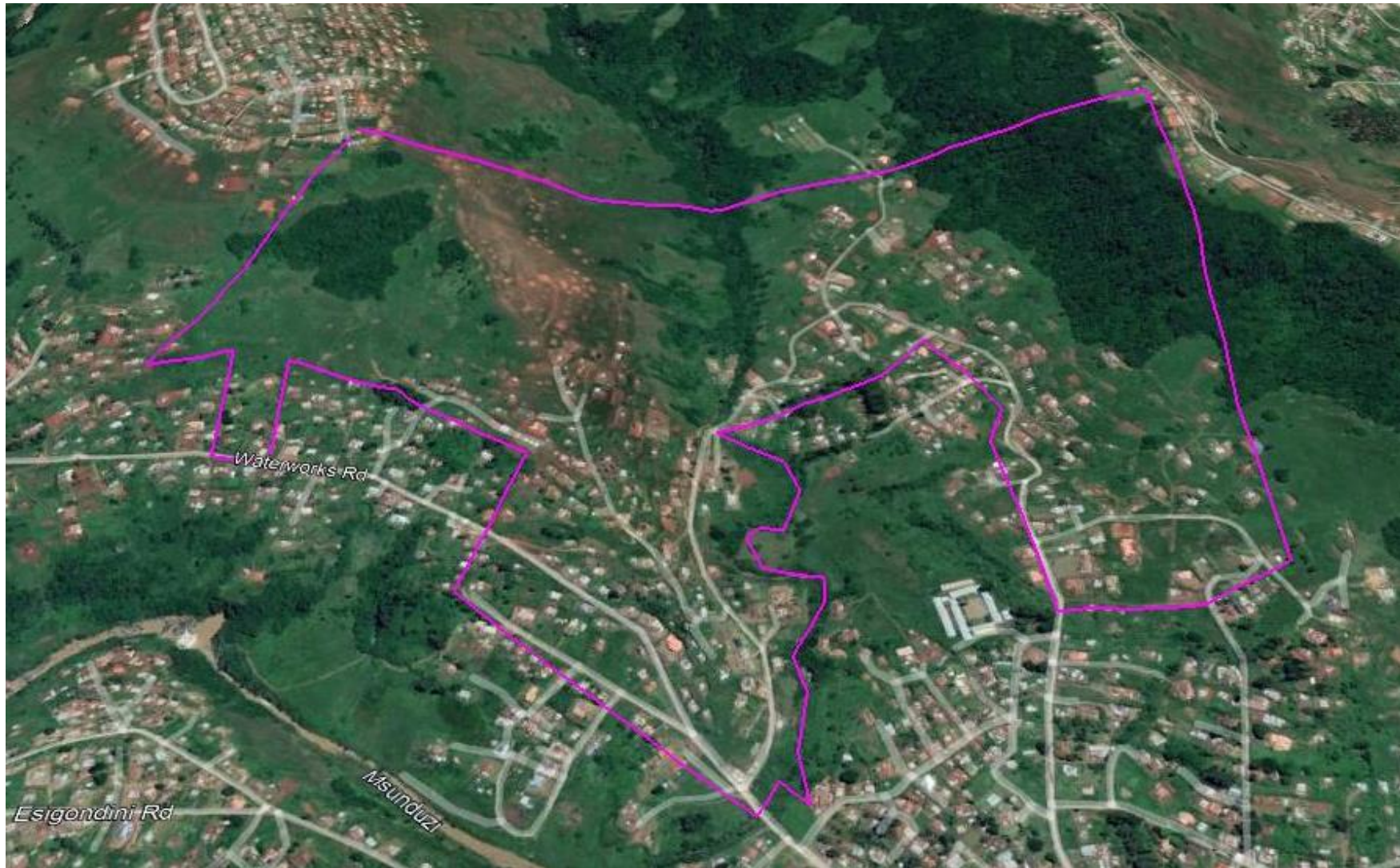


Figure 2: Closer view of project area outlined in cerise

5. METHODOLOGY AND ASSUMPTIONS

A survey of literature, including other heritage impact assessment reports completed for the surrounding area, was undertaken in order to ascertain the history of the area and what type of heritage resources have or may be found in the area of development.

An inspection of the site was undertaken on 25 April 2022. The site is located on steep topography, parts of which were heavily overgrown with vegetation. There are existing structures / dwellings within the project area as well as new stands and structures. Vacant areas had been invaded and stands and structures established. It is assumed that the Bhobhonono Masomini housing project, if approved, will be constructed amongst these new structures.

6. HISTORICAL BACKGROUND OF AREA

The greater Pietermaritzburg area and surrounds have a long history of occupation by Stone Age hunter gather groups, Iron Age farming communities and colonial settlers. Middle Stone Age sites occur around the greater Pietermaritzburg area and are often located in rock shelters. The arrival of Nguni speaking farming communities from Western Africa during the first half of the 1st millennium AD marks the end of the Stone Age in Southern Africa. During the Early Iron Age, settlements were situated on valley floors and next to rivers. The Later Iron Age period is characterised by stone walled settlements. These Later Iron Age communities in KwaZulu-Natal were the direct ancestors of the present-day Zulu people (NGT Holdings 2018: 24-26).

During the historical period the KwaZulu-Natal region was often left in turmoil due to wars and conflict between the different cultural groups that settled in the area. In the beginning of the 19th century various Nguni-speaking settled on the larger uMngeni Valley area which is located to the north of Pietermaritzburg. During the Mfecane/Difaqane at the end of the 18th and beginning of the 19th centuries, communities who had settled in KwaZulu-Natal were displaced and forced to move by wars between the Zulu chiefdoms (NGT Holdings 2018:26).

Voortrekkers, dissatisfied with British rule, moved away from the Cape and in 1837 Piet Retief led the Voortrekkers into Natal, where he met with King Dingane to arrange for permission to settle in Natal (NGT Holdings:26). After the Battle of Blood / Ncome River, the Voortrekkers settled across the province and named Pietermaritzburg after their leaders Piet Retief and Gert Maritz.

In 1843, the town was taken over by the British and became an important staging post in the Colony of Natal (Derwent 2006:58).

Edendale was founded in 1851 when Christian families of Griqua, Rolong, Sotho, Tlokwa, Hlubi and Swazi origin under the leadership of the missionary Reverend James Allison settled on a farm called Welverdiend. 'The farm was purchased on a share basis between Allison and 90 members of the community when they seceded from the Wesleyan Church in 1850. Its name was changed from Welverdiend(d) to Edendale. The primary goal of the mission was to create a Christian community. In 1861 title deeds were handed over to the original landowners of Edendale – Jonathan Xaba, Daniel Msimang, Johannes Kumalo and Dan Molife. Over time, Edendale became a multiracial community. However, during the implementation of the Group Areas Act, some residents of Edendale were forcibly removed according to their racial classification (Gwala 2019:81 - 82).

The 1944 aerial photograph (**Fig. 3**) of the project area and surroundings shows an area already occupied by homesteads, cultivated fields as well as the road now called Waterworks Road and a minor road branching off from Waterworks Road.

The 1968 topographic map (2930CB) (**Fig. 4**) of the project area shows much more housing especially along Waterworks Road and along the minor road referred to above.

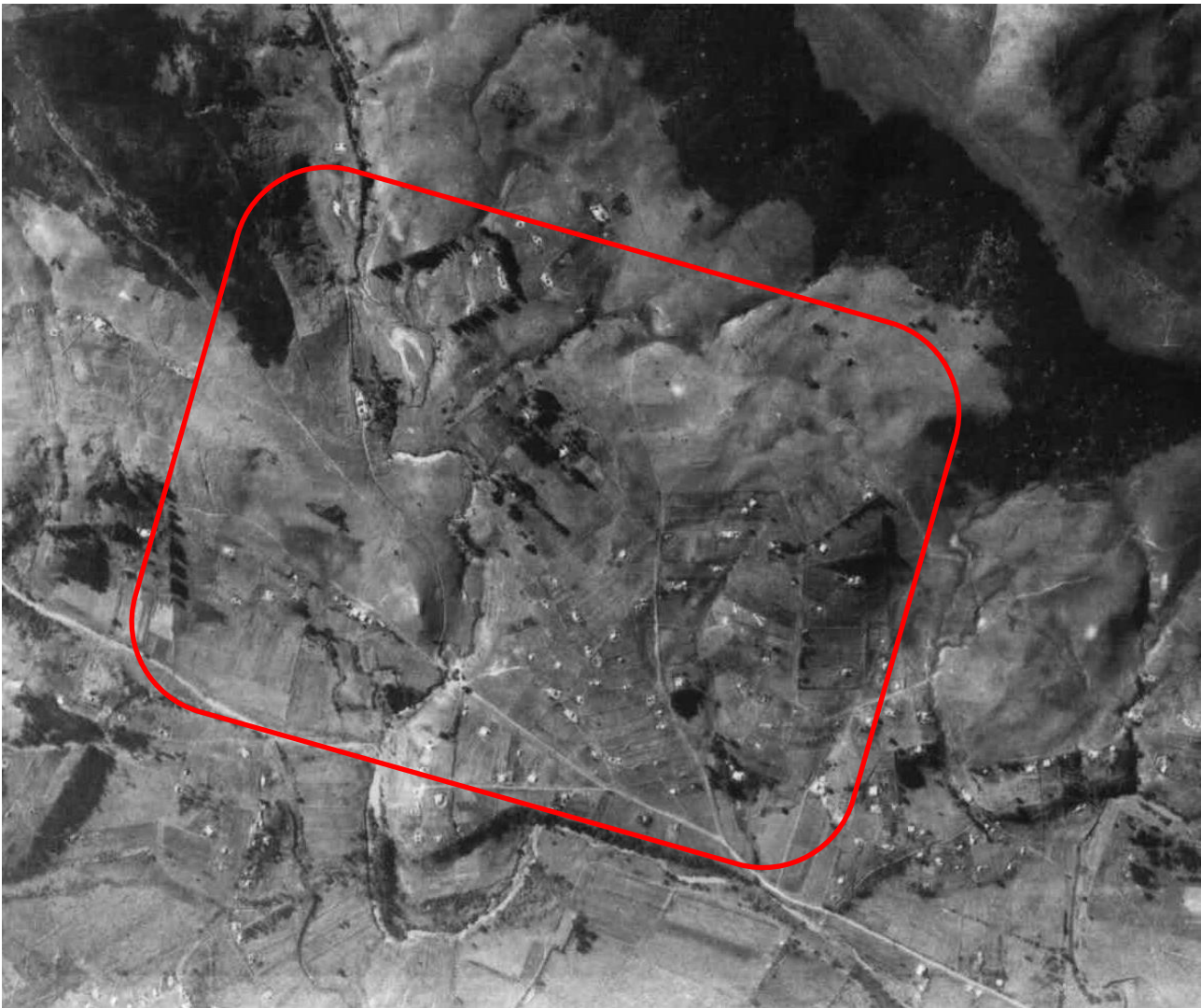


Figure 3: 1944 aerial image of project area outlined in red

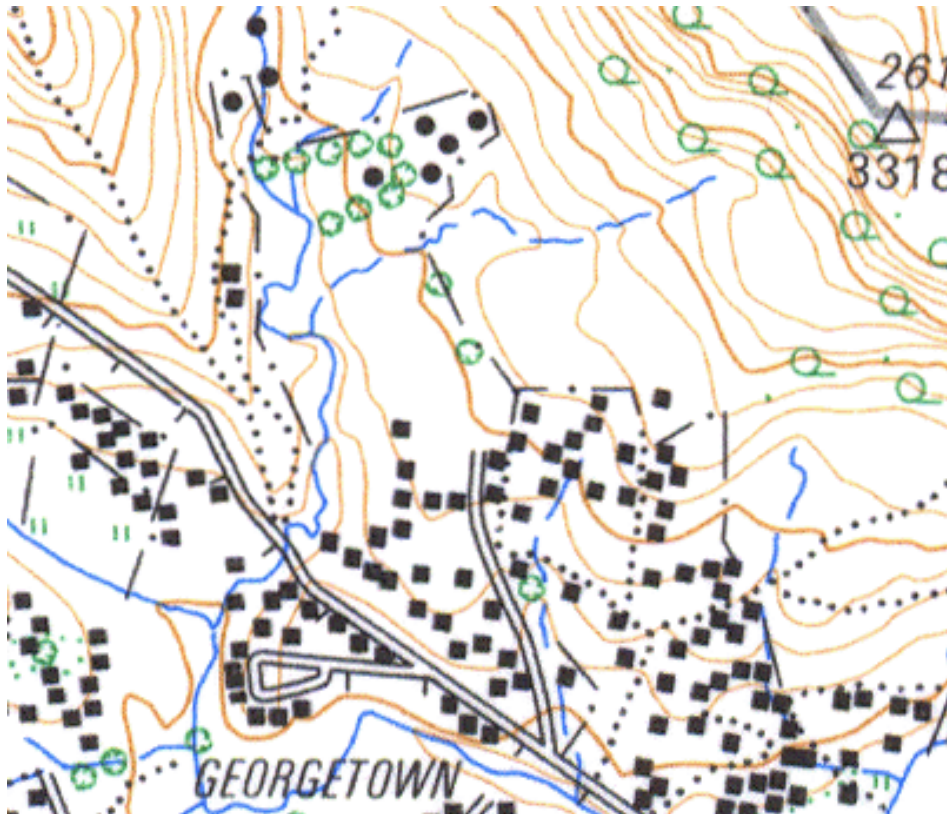


Figure 4: 1968 section of 2930CB topographic map of project area

7. RESULT OF SITE INSPECTION

The site was inspected on foot. Thick vegetation and wet conditions hampered access in some areas and existing paths were used to walk the site. Several roads north of Waterworks Road were used to access the site but these stopped where steep topography prevented further road access near the northern boundary of the project area. The specialist spoke to several residents during the inspection. The inspection started from the western boundary of the project site and moved towards its eastern boundary.

Just outside the western boundary of the project area three graves were observed that are located close to the Mkhize homestead. They are located over 50m west of the project boundary and should not be affected by the proposed housing development.

The specialist was told by several residents, including Mavis Mafuleka, that because the land was owned by the Municipality, they were not allowed to bury their dead near their homesteads and that burials took place at Mountain Rise cemetery and other formal cemeteries. However, a number of graves were found near homesteads during the inspection.



Figure 5: Project area close to western boundary



Figure 6: Construction of new structure with project area in background



Figure 7: Vacant stand to be developed



Figure 8: Topography of project area



Figure 9: Topography of project area looking eastwards



Figure 10: Grave site near Zondi homestead

During the inspection several structures were found that appear to be older than 60 years and that are, therefore, protected by section 37 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018, which refers to the protection of structures that are or that may reasonably be expected to be older than 60 years.



Figure 11: Protected structure built from hewn stone



Figure 12: Possible protected structure

The approximate site of several graves was pointed out to the specialist by a resident of the area Mfanyana Zondi. Due to dense vegetation the actual site of the graves could not be accessed. The graves are located approximately 60m south of the project boundary and should not be impacted by the proposed housing development.



Figure 13: View towards eastern boundary of project area



Figure 14: Street view

Residents mentioned that area of the gum trees that can be seen in **Fig. 13** above was where an Indian farmer used to stay. This area has been excluded from the housing development. Old graves were pointed out to the specialist by Gabisile Jange that are located near a stream outside the boundary of the proposed housing development. There is no evidence of the graves apart from some rocks.

The specialist spoke to a resident, Simphiwe Kholane, who said that Chief Zondi had stopped people from clearing more stands (than what is currently on the project area) as the Chief had said that the area in which they were encroaching had old graves on it. This could not be verified by the specialist as the graves could not be found which are reportedly indicated by rocks only. Polygons of the areas that were pointed out by Mr. Kholane that purportedly have old graves on them have been provided to the Environmental Assessment Practitioner (EAP). It is therefore recommended that prior to any development work on the project area, consultation should be undertaken with Chief Zondi to confirm the above report and for Chief Zondi to show the Applicant the old grave sites.

The heritage resources found during the site inspection are listed below.

Table 1: Heritage sites

Description	Coordinates	Significance	Mitigation
Three graves - Mkhize	29°37'56.1"S 30°16'15.2"E	High significance heritage	Located outside project area; should not be affected by development
Dwelling >60 years	29°38'10.6"S 30°16'47.5"E	High significance heritage	Leave <i>in-situ</i> ; if it is going to be altered or demolished, then relevant permits must be obtained from the Institute
Dwelling possibly >60 years	29°38'16.6"S 30°16'48.1"E	Medium to High heritage significance	Leave <i>in-situ</i> ; if it is going to be altered or demolished, then relevant permits must be obtained from the Institute
Possible grave/s in thick bush	29°38'03.9"S 30°16'29.5"E	High significance heritage	Bush to be cleared prior to any construction work and grave/s located; 10m buffer around grave/s in which no activity may take place
Zondi grave	29°38'03.9"S 30°16'29.5"E	High significance heritage	Located outside project area; should not be affected by development
Zondi dwelling possibly >60 years	29°38'03.3"S 30°16'29.7"E	Medium to High heritage significance	Outside project area; should not be impacted by housing project
Three or more graves in dense bush	29°38'15.1"S 30°16'31.2"E	High significance heritage	Located outside project area; should not be impacted by project

Description	Coordinates	Significance	Mitigation
Old graves	29°38'03.5"S 30°16'49.3"E	High heritage significance	10m buffer around grave/s in which no activity may take place
Structure possibly >60 years	29°38'02.7"S 30°16'50.5"E	Medium to high heritage significance	Located outside boundary of project; should not be impacted

According to the desktop palaeontological study, sections of the development site are in the non-fossiliferous Jurassic dykes and alluvium with the moderately fossiliferous Pietermaritzburg Formation present in the southern part of the project area. There is a small area lying on the potentially very highly fossiliferous Vryheid Formation towards the north. Alluvium and dolerites do not preserve fossils. The Pietermaritzburg Formation was deposited in shallow to deep water conditions and only in the ancient shoreline facies would there be a chance of finding trace fossils such as worm burrows. The Vryheid Formation in some parts of the basin has coal seams and associated carbonaceous shales. There are no known coal deposits this far south in the Karoo Basin. Vryheid Formation fossils are typical of the *Glossopteris* flora and include plants such as lycopods and ferns (Bamford 2022:9-10).

Surface activities may impact upon the fossil heritage if preserved in the development footprint. The geological structures suggest that the rocks are the right age to contain fossils but these would only be below ground or in rocky outcrops, not in the soil cover. Since there is a small chance that fossils from the Vryheid Formation may be disturbed, it is recommended that a Fossil Chance Find Protocol be included in the Environmental Management Programme (EMPr) compiled for the proposed housing project. It was concluded that the potential impact to fossil heritage resources by the housing project is extremely low (Bamford 2022:12).

8. ASSESSMENT OF SIGNIFICANCE OF IMPACTS

The assessment of significance of impacts on heritage resources found during the site inspection of the area proposed for coal prospecting activities was undertaken in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, wherein it will be indicated whether the impact will be footprint (1) (limited to the immediate area), site of development (2), local (3), regional (4) or national (5).
- The **duration**, wherein it will be indicated whether:
 - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;

- the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
- medium-term (5–15 years) – assigned a score of 3;
- long term (> 15 years) - assigned a score of 4; or
- permanent - assigned a score of 5;
- The **magnitude**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** of occurrence, which shall describe the likelihood of the impact occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- The **status**, which will be described as either positive, negative or neutral.
- The degree to which the impact can be mitigated.

The following formula was applied to calculate the impact significance after the factors were ranked for each impact: $SP = (\text{magnitude} + \text{duration} + \text{scale}) \times \text{probability}$.

The significance weightings for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- >60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

Table 2: Assessment of significance of impact on graves and burial grounds

Nature: Alteration, damage, exhumation or destruction of graves		
	Without mitigation	With mitigation
Extent	Site (2)	Site (2)
Duration	Permanent (5)	Permanent (5)
Magnitude	High (8)	Moderate (6)
Probability	Probable (3)	Improbable (2)
Significance	45 (Moderate)	26 (Low)
Status (positive or negative)	Negative	Negative
Reversibility	None	Low
Irreplaceable loss of resources	Yes	Yes
Can impacts be mitigated?	Yes	
Mitigation measures		
<ul style="list-style-type: none"> • It is recommended that Chief Zondi must be consulted regarding the presence of graves in the areas which are been encroached on and that he should point out areas that should be avoided by the housing project. • At least a 10m buffer around grave/s and areas in which there are graves in which no construction activities may take place. • The buffer area must be clearly demarcated so that it is visible to construction crews • If grave/s are damaged, then work must stop immediately and the grave/s must be rehabilitated to their previous condition. If the grave/s is >60 years, then the Institute must be informed and the necessary permits obtained from the Institute prior to repairs to the grave/s. • The relocation of graves is not recommended; however, if this is required then then the procedure stipulated in section 5 of the Draft KwaZulu-Natal & Research Institute Regulations, 2021 must be followed. The section refers to the application process to be undertaken for the damage, alteration, exhumation or removal from its original position or any other disturbance of a grave in a traditional burial place or not located in a formal cemetery 		
Cumulative impacts: Medium		

Table 3: Assessment of significance of impact on protected structures

Nature: Alteration, damage, destruction of structures		
	Without mitigation	With mitigation
Extent	Site (2)	Site (2)
Duration	Medium term (3)	Medium term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Probable (3)	Improbable (2)
Significance	33 (Medium)	22 (Low)
Status (positive or negative)	Negative	Negative
Reversibility	None	Low
Irreplaceable loss of resources	Yes	Yes
Can impacts be mitigated?	Yes	
Mitigation measures		
<ul style="list-style-type: none"> • Prior to the destruction of any structures that could potentially be >60 years, a built heritage specialist must assess the structure to confirm it's age. • If the structure is >60 years and if it is possible, it should be left intact. However, if this is not possible, then written application must be made to the Institute according to the procedure stipulated in section 3 of the Draft KwaZulu-Natal & Research Institute Regulations, 2021 or section 2 of the KwaZulu-Natal Heritage Regulations 2012 if the 2021 regulations have not been officially promulgated by the time an application is made. • If a protected structure is damaged, then all work must stop in the immediate vicinity of the damage structure, the Institute informed and a qualified specialist appointed to repair the building once all necessary permits have been obtained from the Institute 		
Cumulative impacts: Low		

9. DISCUSSION AND CONCLUSION

Several grave sites were found during the site inspection as well as areas pointed out to the specialist that reportedly contain old graves. In terms of section 39 (1) of the KwaZulu-Natal Amafa and Research Institute Act, graves or burial grounds older than 60 years or deemed to be of heritage significance by a heritage authority- (a) not otherwise protected by the above Act and (b) not located in a formal cemetery managed or administered by a local authority, may not be damaged, altered, exhumed, inundated, removed from its original position, or otherwise disturbed without the prior written approval of the Institute having been obtained on written application to the Institute.

Graves are highly significant to many people and there are many traditional, cultural and personal sensitivities and norms concerning damage to graves or the relocation of graves. It is

recommended that graves are not moved. The removal of graves should be undertaken as a last resort and extensive public participation within the affected community will need to take place in this regard. The procedure provided in section 5 of the Draft KwaZulu-Natal & Research Institute Regulations, 2021, regarding the removal graves, must be followed.

The assessment of impacts on graves and burial graves indicated that without mitigation measures the impact would be of a medium significance which could influence the decision to develop in the area unless mitigated. With the implementation of mitigation measures provided which includes the recommendation that Chief Zondi must be consulted regarding the presence and location of old graves, the assessment of impact is reduced to a low significance.

Any structure older than 60 years is protected by section 27 (1)(a) of the KwaZulu-Natal Amafa and Research Institute Act. If the structure is to be altered or demolished then a permit has to be obtained from the Institute prior to this taking place. It is recommended that such structures are left intact where possible.

The assessment of significance of impacts on protected structures found that with the implementation of mitigation measures, the impact would reduce from a medium significance to a low significance.

10. MITIGATION MEASURES

- For any chance heritage finds, all work must cease in the area affected and the Contractor must immediately inform the Project Manager. A heritage specialist must be called to site to inspect the finding/s. The relevant heritage resource agency (the Institute) must be informed about the finding/s.
- The specialist will assess the significance of the resource/s and provide guidance on the way forward.
- Permits must be obtained from the Institute if heritage resources are to be removed, destroyed or altered.
- Under no circumstances may any heritage material be destroyed or removed from the project site unless under direction of a heritage specialist.
- Should any recent remains be found on site that could be human remains, the South African Police Service as well as the Institute must be contacted. No SAPS official may remove remains (recent or not) until the correct permit/s have been obtained.
- A Fossil Chance Find Protocol must be included in the EMPr for the proposed housing project.

11. REFERENCES

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