

**PILGRIM X HOUSING PROJECT, ISIPINGO, WARD 90,
ETHEKWINI MUNICIPALITY, KWAZULU-NATAL**

Phase 1 Heritage Impact Assessment

05 July 2021

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EXECUTIVE SUMMARY

Pilgrim X is an informal settlement located in Isipingo, Ward 90 of the eThekweni Municipality. The project area is approximately 4ha in extent. The Human Settlements and Infrastructure Unit of the eThekweni Municipality proposes to develop / upgrade the settlement with 400 semi attached double storey units.

The project area is approximately 4ha in extent (40000 m²) hence the development triggers section 41 (1) (c)(i) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018), the relevant sub-section of which refers to any development or other activity which will change the character of it- (i) exceeding 5000 m².

Pilgrim X informal settlement is accessible via Orient and Nogin Road which connect to Phila Ndwandwe Road (Old South Coast Road) onto Prospecton Road which links with the R102 and the N2 which provides access to the city of Durban.

A site inspection of the project area was undertaken on 15 June 2021. The project area was to be densely covered with informal dwellings and highly disturbed. Some areas that were not inhabited were overgrown with dense vegetation.

The specialist also consulted old aerial photographs and maps of the project area. The 1937 aerial photograph shows an area that is cultivated with thickets of vegetation with at least one structure visible. The road that is Phila Ndwandwe Road and the railway line were already visible as well as the sugar cane fields to the east of the road where the old Durban airport is located. The 1940 topo-cadastral map (2930DD_2931CC) of the area shows cultivation of the project area, gum trees, footpaths and some structures to the south of the project area.

During the inspection a number of structures that are located within and within close proximity to the Pilgrim X settlement where the housing project is proposed, were identified that could be older than 60 years. A burial ground was also found during the site inspection; however, burial ground is located well outside the proposed area of development. The potential heritage sites found during the site inspection are listed in **Table 1** of the report.

The area north of the informal settlement that forms part of the housing project is largely covered by dense vegetation. This area is bounded by a railway line and Bhagat Road. Bhagat Road is overgrown with vegetation and seems to be used mainly by pedestrians and as an area to dump rubbish. A Shembe temple was found in the area immediately north of the informal settlement as well as the remains of a concrete structure that could also be a rubble dump.

The South African fossil sensitivity map indicates that most of the housing project area falls into an area of high fossil sensitivity with the remainder falling into an area of moderate fossil sensitivity. At a minimum, an area of high and moderate fossil sensitivity requires a desktop palaeontological study. A desktop study was undertaken which is attached **Appendix 1**.

The findings of the desktop study were that the proposed site lies on the aeolianite and red and white sands and basal conglomerate of the Umkwelane Formation, Maputaland Group. The surface has loose sands and introduced or indigenous garden vegetation and the area is already highly disturbed by the informal settlement. The sands and soils on the surface will not preserve any fossils. There is a small chance that marine molluscs and shark teeth from the Umkwelane Formation of middle Miocene to Pliocene Age might be disturbed from below ground sediments. Therefore, a Fossil Chance Find Protocol (as provided in the desktop report) should be added to the Environmental Management Programme for the housing project. Based on this information, the report recommended that no palaeontological site visit is required unless fossils are found when excavations for foundations commence.

A number of structures that could be older than 60 years were found in the project and very close to the project area. If any of these structures are to be altered or demolished, then application for the alteration or demolition of these structures will need to be obtained from the Institute prior to this taking place as they are protected in terms of section 37(1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018. The application process must follow the procedure provided in section 2 of Part 2 of the KwaZulu-Natal Heritage Regulations of 2012.

The assessment of significance of impacts on protected structures indicated that with mitigation measures the impact on protected structures remained at a medium level. It is advised that a built heritage specialist confirm the age and significance of the structures identified within and close to the project area.

The burial ground found some distance from the project site must not in any way be impacted by the Pilgrim X housing project as it is protected in terms of section 39 (1) of the of the KwaZulu-Natal Amafa and Research Institute Act, 2018 Act.

Based on the findings, it is concluded that the proposed Pilgrim X housing project may proceed from a heritage perspective as long as the recommendations and mitigation measures provided in this report and in the desktop palaeontological report are adhered to and implemented where necessary.

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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.

AUTHOR DETAILS

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

1. INTRODUCTION

Pilgrim X is an informal settlement located in Isipingo, Ward 90 of the eThekweni Municipality. The project area is approximately 4ha in extent. The Human Settlements and Infrastructure Unit of the eThekweni Municipality proposes to develop / upgrade the settlement with 400 semi attached double storey units.

This is the Phase 1 Heritage Impact Assessment (HIA) report for the proposed housing project.

2. LEGISLATIVE BACKGROUND

The project area is approximately 4ha in extent (40000 m²) hence the development 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 section refers to: “*any development or other activity which will change the character of ite- (i) exceeding 5000 m²”.*

The 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 NHRA, heritage resources are described as follows:

- (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) sites 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).

The Phase I HIA was undertaken to assess whether any heritage resources will be impacted by the proposed Pilgrim X housing project.

3. LOCATION

Pilgrim X informal settlement is accessible via Orient and Nogin Road (**Figure 1**) which connect to Phila Ndwandwe Road (Old South Coast Road) onto Prospecton Road which links with the R102 and the N2 which provides access to the city of Durban (**Figure 2**).

4. TERMS OF REFERENCE

To undertake a Phase 1 HIA in order to determine the possible existence of heritage sites or features in the project area that could be impacted by the proposed housing development.

Provide mitigation measures to limit or avoid the impact of the construction of the project on heritage resources (if any).

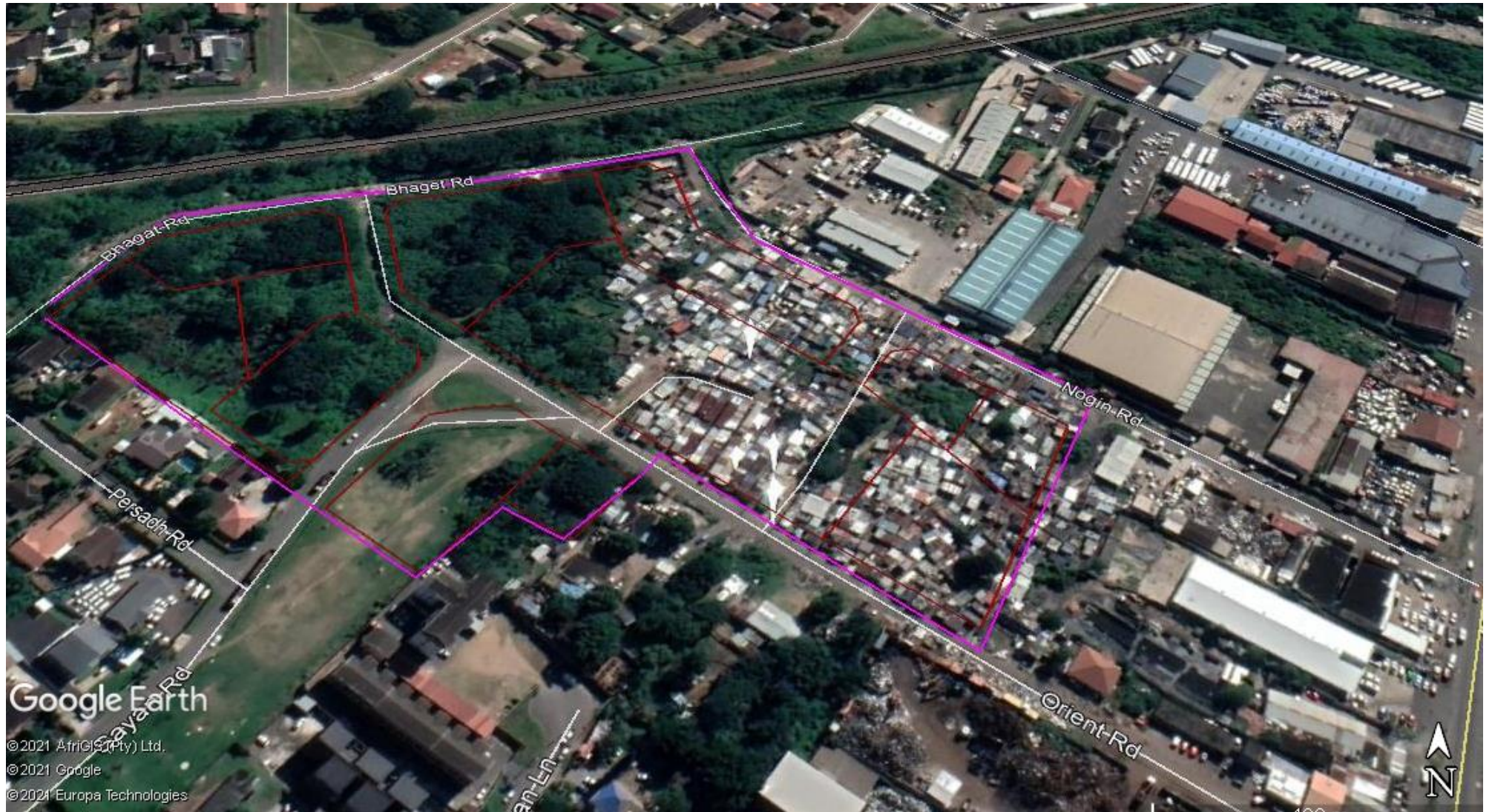


Figure 1: Housing project site outlined in pink



Figure 2: Overview of Pilgrim X housing project in relation to major roads

5. METHODOLOGY AND CONSTRAINTS

A survey of literature and other heritage impact assessments undertaken in the area was undertaken in order to place the project in a historical context.

A site inspection of the project area was undertaken on 15 June 2021. The project area is densely covered with informal dwellings and is highly disturbed. Some of the areas that were not inhabited were overgrown with dense vegetation.

Historical aerial images and topographic maps of the project area were also consulted. These images and maps were obtained from the Department of Rural Development and Land Reform's CDNGI Geospatial Portal (www.cdngiportal.co.za).

The heritage specialist will 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.

6. HISTORICAL BACKGROUND OF THE STUDY AREA

Site records from the archaeological database of the Natal Museum indicate that pre-colonial settlement of the Durban South Basin (SDB) area included ephemeral Early and/or Middle Stone Age occupation of higher-lying areas around the former Durban International Airport site. Later Stone Age and Early and Late Iron Age middens (concentrations of shellfish, stone and bone, often incorporating human remains) have also been recorded in the primary dune cordon. This settlement pattern probably reflects sporadic or seasonal pre-colonial exploitation of the rocky coastline and surroundings. Seasonal inundation of the area between the uMlazi and Isipingo River mouths until well into the twentieth century created swamp-like conditions that discouraged permanent human occupation (eThembeni Cultural Heritage 2014: 23-24).

Dick King was awarded a farm in the fertile alluvial flats of the river known as iSipingo as reward for his ride from Port Natal (Durban) to Grahamstown in 1842 to obtain assistance for the British troops besieged by Voortrekkers in Durban's Old Fort (Derwent 2006:37). His grave and memorial are situated about 2km south of the project site.

Isipingo was not only the southern outpost of Durban Division in 1850; it was also the southern frontier of settler presence in Natal. It was situated at the southern end of an extensive flat plain bounded on the north side by the Mlazi river. Michael Jeffels procured a piece of land from Dick King at the far south end of Isipingo near the Mbogintwini (today's eZimbokodweni) River. He built his house above the river near what became the Old South Coast Road (Du Bois 2012:19).

In May 1852, Jeffels was the first at Isipingo to purchase plant cane from Morewood. In August he added to that by importing a further quantity directly from Mauritius. The extent of his initial cane cultivation was just two acres. Jeffels ordered a proper iron-made mill to obtain sugar. By June 1854 Jeffels had 20 acres of cane and became the first planter regularly to send sugar through to Durban and largely through his efforts, Isipingo became known as the cradle of the Natal sugar industry (Du Bois 2012:21). In the closing years of the decade, labour deficiencies tended to dominate the concerns of Isipingo planters. In June 1859, however, legislation was passed which opened the way for the importation of indentured Indian labour (Du Bois 2012:27) for the sugar cane farmers.

Initially, the Indian population came purely as sugar cane plantation labourer's of three to five years' service contracts after which time they were entitled to a free return passage to India. They could also renew their service contracts of ten shillings per month in the first year with small monthly increases in each succeeding year. In 1911 indentured labour was stopped and the Indian population, due to unemployment or lack of opportunity resorted to small odd jobs to survive (Moodley 1997:47-48) and flourished from there-on.

7. RESULTS OF SITE INSPECTION

The specialist was accompanied to site by Mr. Mpumelelo Lukhozi and Mr. Khehleni Msabala who reside in Pilgrim X settlement and Mr. Sihle Dlomo from Vuvamu, the EAP.

Consultation of old aerial photographs revealed the following: the 1937 aerial photograph (**Figure 3**) shows an area that is cultivated with thickets of vegetation with at least one structure visible. The road that is Phila Ndwandwe Road (Old South Coast Road) and the railway line are visible as well as the sugar cane fields to the east of this road where the old Durban airport is located.



Figure 3: 1937 aerial photograph of project area and surroundings

The 1940 topo-cadastral map (2930DD_2931CC) of the area shows cultivation of the project area, gum trees, footpaths and some structures to the south of the project area.

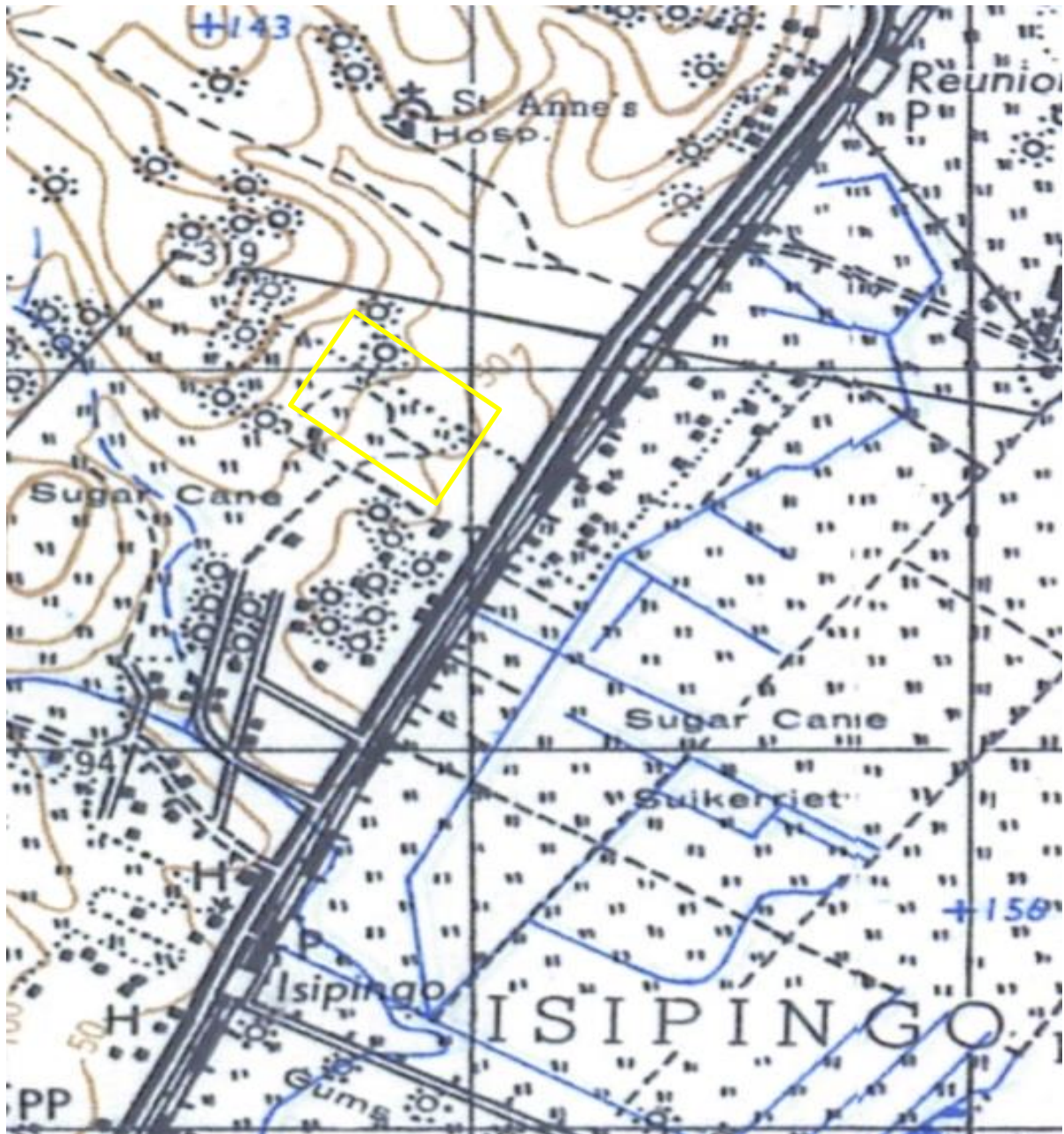


Figure 4: Relevant section of topo-cadastral map

During the inspection a number of structures, within and within close proximity to the Pilgrim X settlement where the housing project is proposed, were identified that could be older than 60 years. A burial ground was also found during the site inspection; however, burial ground is located over 60m outside the proposed area of development.

The potential heritage sites found during the site inspection are listed in **Table 1** that can be found after **Figures 5** to **13**.



Figure 5: View of Pilgrim X informal settlement



Figure 6: Structure that could be >60 years



Figure 7: Side of structure in Fig. 6



Figure 8: Structure older than 60 years



Figure 9: Building that could be >60 years



Figure 10: Structure that could be protected

The area north of the informal settlement that forms part of the housing project is largely covered by dense vegetation. This area is bounded by a railway line and Bhagat Road. Bhagat Road is overgrown with vegetation and seems to be used mainly by pedestrians and as an area to dump rubbish. A Shembe temple was found in the area immediately north of the informal settlement as well as the remains of a concrete structure that could also be a rubble dump.



Figure 11: Bhagat Road surrounded by thick vegetation



Figure 12: Shembe temple



Figure 13: Remains of concrete structure

Table 1: Sites found during site inspection

COORDINATES	HERITAGE RESOURCE	SIGNIFICANCE + MITIGATION MEASURES
29°58'22.1" S 30°55'52.9" E	Fenced cemetery / burial site	High heritage significance; located >60m south-west of project area & should not be impacted by Pilgrim X project
29°58'21.7" S 30°55'57.7" E	Old structure that could be >60 years; situated east of and close to boundary of project area	Low heritage significance due to advanced state of disrepair however protected by heritage legislation if >60 years; if structure is to be impacted by project, then a built heritage specialist to assess age & significance of structure & necessary permits to be obtained from the Institute prior to alteration or demolition
29°58'22.1" S 30°55'58.3" E	Structure that could be >60 years; situated about 20m east of project area	Low - medium heritage significance; if structure is to be impacted by project, then built heritage specialist to assess age & significance of structure & necessary permits to be obtained prior to alteration or demolition
29°58'20.1" S 30°55'59.1" E	Structure that could be >60 years; situated about 17m east of project area	Low heritage significance; if structure is to be impacted by project, then built heritage specialist to assess age & significance of structure & necessary permits to be obtained prior to alteration or demolition
29°58'18.7" S 30°55'59.1" E	Structure that could be >60 years	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of structure & necessary permit to be obtained prior to alteration or demolition
29°58'18.2" S 30°55'58.8" E	Structure that could be >60 years	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of structure & necessary permit to be obtained prior to alteration or demolition
29°58'17.9" S 30°55'58.5" E	Structure that could be >60 years	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of structure & necessary permit to be obtained prior to alteration or demolition
29°58'18.6" S 30°55'56.7" E	Structure that could be >60 years	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of structure & necessary permit to be obtained prior to alteration or demolition
29°58'20.2" S 30°55'56.3" E	Structure that could be >60 years	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of

COORDINATES	HERITAGE RESOURCE	SIGNIFICANCE + MITIGATION MEASURES
		structure & necessary permit to be obtained prior to alteration or demolition
29°58'16.7" S 30°55'50.4" E	Shembe Temple	If area is to be developed, discussions to be held with Shembe leaders as to an alternative site to which the temple can be moved
29°58'15.3" S 30°55'51.3" E	Remains of concrete structure / dumping of rubble	Low heritage significance; can be removed during clearing of site
29°58'20.2" S 30°55'53.5" E	Structure that could be >60 years; located 15m south-west of project area	Low heritage significance; if structure is to be demolished or altered, then built heritage specialist to assess age & significance of structure & necessary permit to be obtained prior to alteration or demolition

The South African fossil sensitivity map indicates that most of the housing project area falls into an area of high fossil sensitivity as indicated by the orange colour in **Figure 14** below with the remainder falling into an area of moderate fossil sensitivity as indicated by the green colour. At a minimum, an area of high and moderate fossil sensitivity requires a desktop palaeontological study. A desktop study was undertaken (see **Appendix 1** for this report).

The findings of this study were that the proposed site lies on the aeolianite and red and white sands and basal conglomerate of the Umkwelane Formation (formerly Berea Formation), Maputaland Group. The surface has loose sands and introduced or indigenous garden vegetation and the area is already highly disturbed by the informal settlement. The sands and soils on the surface will not preserve any fossils. There is a small chance that marine molluscs and shark teeth from the Umkwelane Formation (Maputaland Group) of middle Miocene to Pliocene Age might be disturbed from below ground sediments. Therefore, a Fossil Chance Find Protocol as provided in the desktop report should be added to the Environmental Management Programme (EMPr). Based on this information it is recommended that no palaeontological site visit is required unless fossils are found when excavations for foundations commence (Bamford 2021:2).

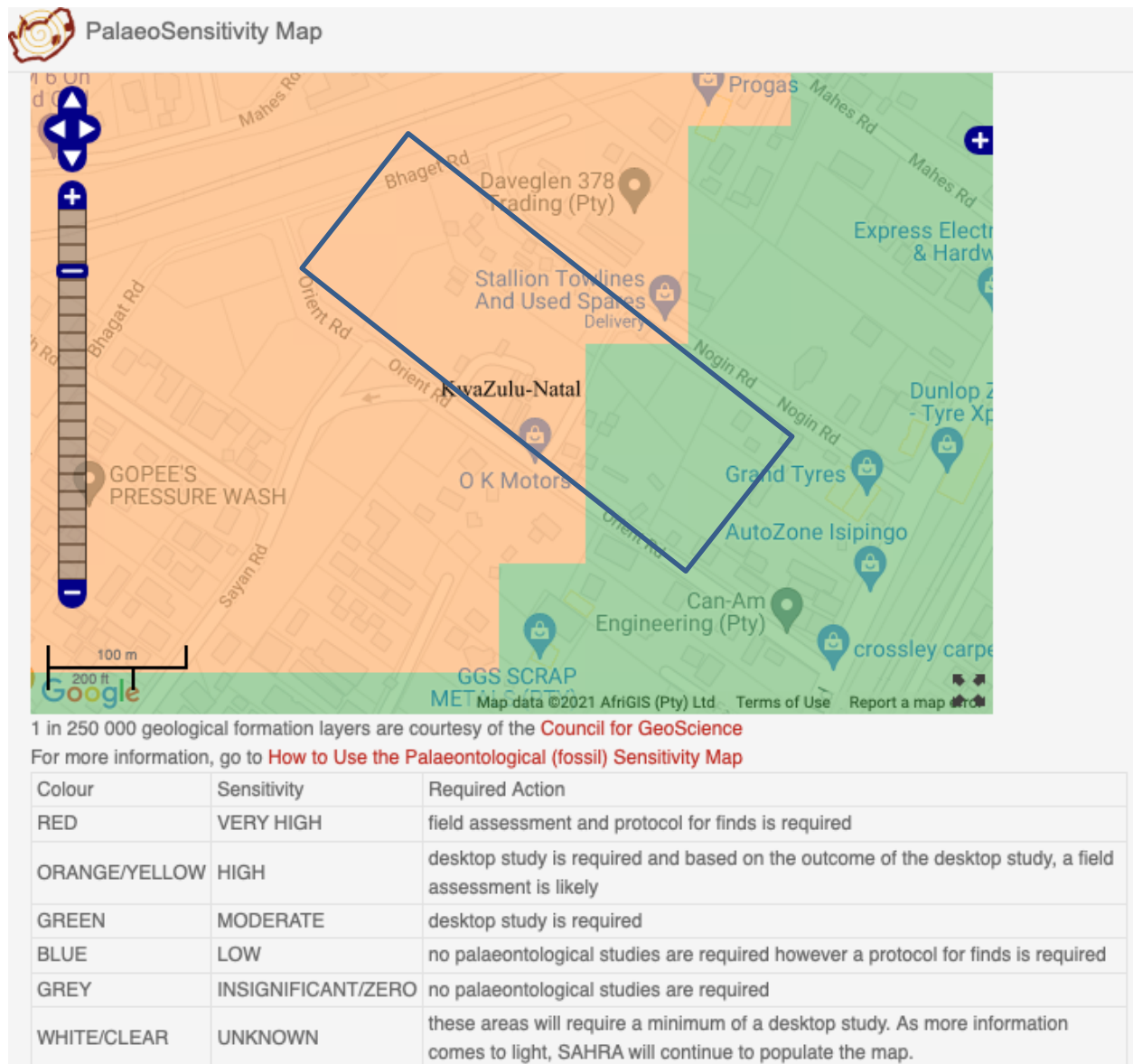


Figure 14: Fossil sensitivity of project area indicated with rectangle

8. ASSESSMENT OF SIGNIFICANCE OF IMPACTS

The assessment of significance of impacts on heritage resources identified during the Phase 1 HIA study has been 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 local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high).
- 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 impact on protected structures

Nature: Alteration, damage, destruction of protected structures		
	Without mitigation	With mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	High (8)	Moderate (6)
Probability	Highly probable (4)	Probable (3)
Significance	Medium (56)	36 (Medium)
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 be >60 years, a built heritage specialist must assess the structure to confirm it's age. • If the structure is >60 years and is structurally sound, then 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 2 of the KwaZulu-Natal Heritage Regulations that refers to applications for the demolition, alteration or addition to a structure which is, or which may reasonably be expected to be older than 60 years. • The housing project must not damage structures >60 years that are located in close proximity to the project area. If a structure is damaged, then all work must stop in the immediate vicinity, the Institute informed and a qualified specialist appointed to repair the building once all necessary permits obtained from the Institute 		
Cumulative impacts: Low - medium		

9. RECOMMENDATIONS AND CONCLUSION

A number of structures that could be older than 60 years were found on or very close to the project area. If any of these structures are to be altered or demolished, then application for the alteration or demolition of these structures will need to be obtained from the Institute prior to this taking place as they are protected in terms of section 37(1)(a) of the KwaZulu-Natal Amafa and Research Institute Act, 2018, which states that no structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior approval of the Institute. The application process must follow the procedure provided in section 2 of Part 2 of the KwaZulu-Natal Heritage Regulations of 2012 (Provincial Notice No. 40, dated 2 April 2012) which relates to the application for the demolition, alteration or addition to a structure which is, or which may reasonably be expected to be older than 60 years.

It should be noted that the specialist who undertook the Phase 1 HIA study is not a built heritage specialist hence confirmation of the age and significance of the structures identified that could be older than 60 years will need to be obtained from a built heritage specialist prior to any action been undertaken.

The assessment of significance of impacts on protected structures indicated that with mitigation measures the impact on protected structures remained at a medium level. As recommended above, it is advised that a built heritage specialist confirm the age of the structures identified within the project area.

The burial ground found some distance from the project site must not in any way be impacted by the Pilgrim X housing project as it is protected in terms of section 39 (1) of the above Act which states that 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.

Based on the findings provided above, it is recommended that the proposed Pilgrim X housing project may proceed from a heritage perspective as long as the recommendations and mitigation measures provided in this report and in the desktop palaeontological report are adhered to and implemented where necessary.

10. MITIGATION MEASURES

- For any chance finds of heritage resources, such as graves, protected structures, etc., all work must cease in the affected area and the Contractor must immediately inform the Project Manager/Developer. A heritage specialist must be called to site for inspection. The relevant heritage resource agency (the Institute) must also be informed about the finding.
- The heritage specialist will assess the significance of the resource and provide guidance on the way forward.
- Written permission must be obtained from the Institute if heritage resources are to be removed, destroyed or altered.
- All heritage resources, such as protected structures, found in close proximity to the construction area must be protected by a 5 m buffer in which no construction can take place.

The buffer material (danger tape, fencing, etc.) must be highly visible to all those working on the site.

- Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- Should any recent remains be found on site that could potentially be human remains, the South African Police Service (SAPS) as well as the Institute must be informed. No SAPS official may remove remains until the correct permit/s have been obtained.
- The Fossil Chance Find Protocol as provided in the desktop palaeontological report must be added to the Environmental Management Programme (EMPr) for the proposed housing project.

11. REFERENCES

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Moodley, S. B. 1997. *The origin, growth and future of the Borough of Isipingo with special reference to environmental management*. Submitted in fulfilment of the requirements for the degree of Master of Arts in Department of Geography, University of Zululand (Umlazi Extramural Division).

(<http://uzspace.unizulu.ac.za/bitstream/handle/10530/825/The%20origin%2C%20growth%20and%20future%20of%20the%20borough%20of%20isipingowith%20special%20reference%20to%20enviromental%20ma.pdf?sequence=1&isAllowed=y>). Downloaded 23 June 2021

APPENDIX 1

DESKTOP PALAEOLOGICAL STUDY FOR THE PROPOSED PILGRIM X HOUSING PROJECT, ISIPINGO, KWAZULU-NATAL PROVINCE