

**PROPOSED UPGRADE OF THE N2 HIGHWAY FROM  
THE LOVU RIVER TO THE UMLAAS CANAL,  
ETHEKWINI METROPOLITAN MUNICIPALITY,  
KWAZULU-NATAL**

**Phase 1 Heritage Impact Assessment**

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**Author: Jean Beater  
JLB Consulting**

**Client: Marvin Grimett  
KSEMS**

## EXECUTIVE SUMMARY

The South African Roads Agency SOC Limited (SANRAL) proposes to upgrade the N2 Highway from 2 to 4 lanes between Umlaas Canal and Lovu River. The project includes the upgrade of 4 interchanges and realignment of a portion of the N2. Other activities associated with the road upgrade are: the widening and lengthening of river bridges, construction of new bridges, upgrade of some major and minor culverts and axillary works which includes drainage and guardrails. The project also includes the widening of existing underpasses along the route. The road reserve will increase from 50m to 70m. The project is located within the eThekweni Metropolitan Municipality.

The distance between the Lovu River and Umlaas Canal is approximately 16km. The proposed upgrade therefore triggers section 38 of the National Heritage Resources Act (Act No. 25 of 1999) that lists developments that may require a heritage impact assessment (HIA).

The proposed upgrade triggers sub-section (1) (a) of section 38 that refers to the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length. The upgrade also triggers sub-section (1) (c) (ii) that refers to a development that involves three or more existing erven or subdivisions thereof.

In addition, the proposed upgrade could impact on graves, protected structures, archaeological and palaeontological resources that are protected in terms of the KwaZulu-Natal Heritage Act (No. 4 of 2008) as well as sections 34, 35, and 36 of the National Heritage Resources Act.

The section of the highway to be upgraded starts at the Lovu River (30°6'28.98" S / 30°50'48.76" E) and ends at the Umlaas Canal/Prospecton interchange (29°58'45.16" S / 30°56'9.80" E).

An inspection of the section of the highway to be upgraded was undertaken on 19 March 2017. Sections were inspected on foot and others by vehicle.

The section of highway to be upgraded is extensively disturbed and passes through highly developed areas that are predominantly made up of residences and businesses with very few undeveloped areas. The section between Umbogintwini and Isipingo includes the heavily populated South Durban Industrial Basin (SDIB).

A disused railway line was found on the western side of the highway between the Joyner Road on- and off-ramp and the canal situated just north of the SAB Prospecton Brewery in the SDIB. It appears to fall within the road reserve and if the Joyner Road off-ramp is to be upgraded / expanded, the railway line will be impacted. It is presumed that it was built during or after the SDIB was developed in the 1960s and is of no heritage significance.

Just after the Doonside off-ramp on the western side of the highway several houses are situated directly above the N2 highway. At least one of the houses, which is situated close to a pedestrian overpass, could be close to or older than 60 years.

Between Doonside and Warner Beach, the N2 crosses the Little Manzimtoti River. Parallel to this crossing is the R102 road and associated river crossing. The bridge on the R102 was built in 1957 which means that it is currently 60 years old. This bridge is situated approximately 20m from the N2. If the upgrade of the N2 is going to impact this bridge, then an application will need to be made to Amafa to alter/demolish the bridge (if application is made after the end of 2017).

Not far from the above-mentioned bridge is a municipal water treatment plant which is also situated in close proximity to the N2 highway. The age of the building is unclear hence if the building is to be affected by the expansion, it is recommended that both Amafa and the eThekweni Municipality are approached for permission to move or demolish the structure.

The South African Heritage Resources Agency's Fossil Sensitivity Map indicates that the area to be upgraded crosses various fossil sensitivities but that the section predominantly crosses areas of high fossil sensitivity. Areas of high fossil sensitivity require, at a minimum, a desktop study after which, based on the outcome of the desktop study, a field assessment may be required. However, due to the highly developed thus disturbed nature of the section of highway to be upgraded that has been caused by ongoing infrastructure development, it is unlikely that intact fossils will be found along the area to be upgraded and a desktop study is not recommended. It is however recommended that a palaeontologist is placed on stand-by during the excavations of the highway in case fossils are exposed during this phase of the project.

The following recommendations are made in terms of the potential impact of the proposed upgrade of the N2 highway on heritage resources:

- The bridge crossing the R102, situated between the Doonside interchange and Warner Beach, is 60 years old. If upgrading of the N2 results in this bridge being impacted, then application will need to be made to Amafa after 2017 for any alterations to the bridge.
- If the municipal water treatment plant in Warner Beach/Doonside is to be affected by the upgrade of the N2 highway, then both Amafa and the eThekweni Municipality must be informed and approval sought for this.
- At this stage, it is understood that no residential or business structures will be impacted by the proposed upgrade. If the situation arises where structures abutting the highway are to be

moved or altered or demolished then a heritage specialist must be appointed to assess the significance of such structures.

- Due to the high palaeontological / fossil sensitivity of the section of highway to be upgraded, a palaeontologist should be put on stand-by during excavations in case fossils are exposed. All work will then need to cease in the area of the finds until the palaeontologist has assessed the significance of the find and recommended the way forward.

In conclusion, from a heritage perspective, the upgrading of the N2 highway can proceed with the proviso that the recommendations and mitigation measures listed in sections 9 and 10 are adhered to and implemented where necessary.

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**AUTHOR DETAILS**

<b>Name</b>	<b>Qualifications</b>	<b>Professional Registration</b>
Jean Beater	MA (Heritage Studies)  MSc (Environmental Management)	Member of Association of South African Professional Archaeologists (No. 349)  Member of IAIAA (No. 1538)

## 1. INTRODUCTION

The South African Roads Agency SOC Limited (SANRAL) proposes to upgrade the N2 Highway from 2 to 4 lanes between Umlaas Canal and Lovu River. The project includes the upgrade of 4 interchanges and realignment of a portion of the N2. Other activities associated with the road upgrade are: the widening and lengthening of river bridges, construction of new bridges, upgrade of some major and minor culverts and axillary works which includes drainage and guardrails. The project also includes the widening of existing underpasses along the route. The road reserve will increase from 50m to 70m. The project is located within the eThekweni Metropolitan Municipality.

This report serves as the Phase 1 Heritage Impact Assessment (HIA) for the proposed upgrade of the N2 highway between the Umlaas Canal and Lovu River. This section of highway falls within the southern part of the eThekweni Metropolitan Municipality.

## 2. LEGISLATIVE BACKGROUND

The distance between the Lovu River and Umlaas Canal is approximately 16km. The proposed upgrade therefore triggers section 38 of the National Heritage Resources Act (Act No. 25 of 1999) that lists developments that may require a heritage impact assessment (HIA).

The proposed upgrade triggers sub-section (1) (a) of section 38 that refers to the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

The upgrade also triggers sub-section (1) (c) (ii) that refers to a development that involves three or more existing erven or subdivisions thereof.

In addition, the proposed upgrade could impact on graves, protected structures, archaeological and palaeontological resources that are protected in terms of sections 33, 34, 35, and 36 of the KwaZulu-Natal Heritage Act (KZNHA) (No. 4 of 2008) as well as sections 34, 35, and 36 of the National Heritage Resources Act (NHRA).

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).

This Phase I HIA is undertaken to assess whether any heritage resources will be impacted by the proposed upgrade of the section of the N2 highway.

### 3. LOCATION

The section of the highway proposed to be upgraded starts from the Lovu River in the south and ends at the Umlaas Canal/Prospecton interchange in the north. The section passes through the suburbs of Kingsburgh, Doonside, Amanzimtoti, Umbogintwini and Isipingo.

The start point is at: 30°6'28.98"S / 30°50'48.76"E and the end point is at: 29°58'45.16"S / 30°56'9.80"E. **Figure 1** below shows the entire section of highway to be upgraded; **Figure 2** shows the section of the highway to be upgraded from the Lovu River to the M37 Moss Kolnick interchange. **Figure 3** shows the section of highway between the M37 interchange and the end point at the Umlaas Canal/Prospecton interchange.



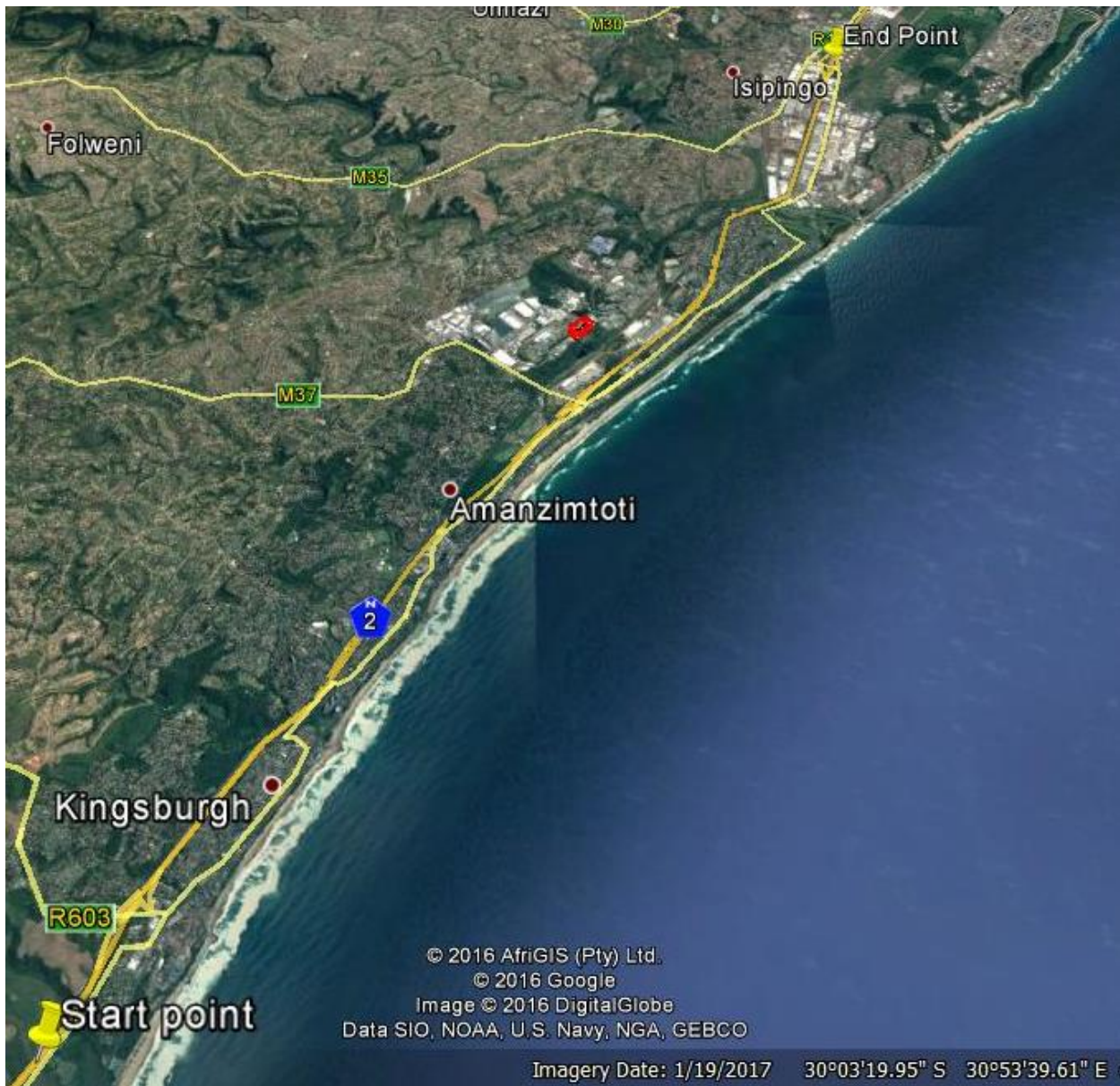


Figure 1: Overall image of section to be upgraded from start point to end point

#### 4. TERMS OF REFERENCE

Undertake a Phase 1 Heritage Impact Assessment in order to determine the possible existence of heritage resources (archaeological sites; historical sites, etc.) along or in close proximity to the section that could be impacted by the proposed upgrade.

Provide mitigation measures to limit or avoid any impacts that the proposed upgrading of the N2 highway may have on heritage resources.

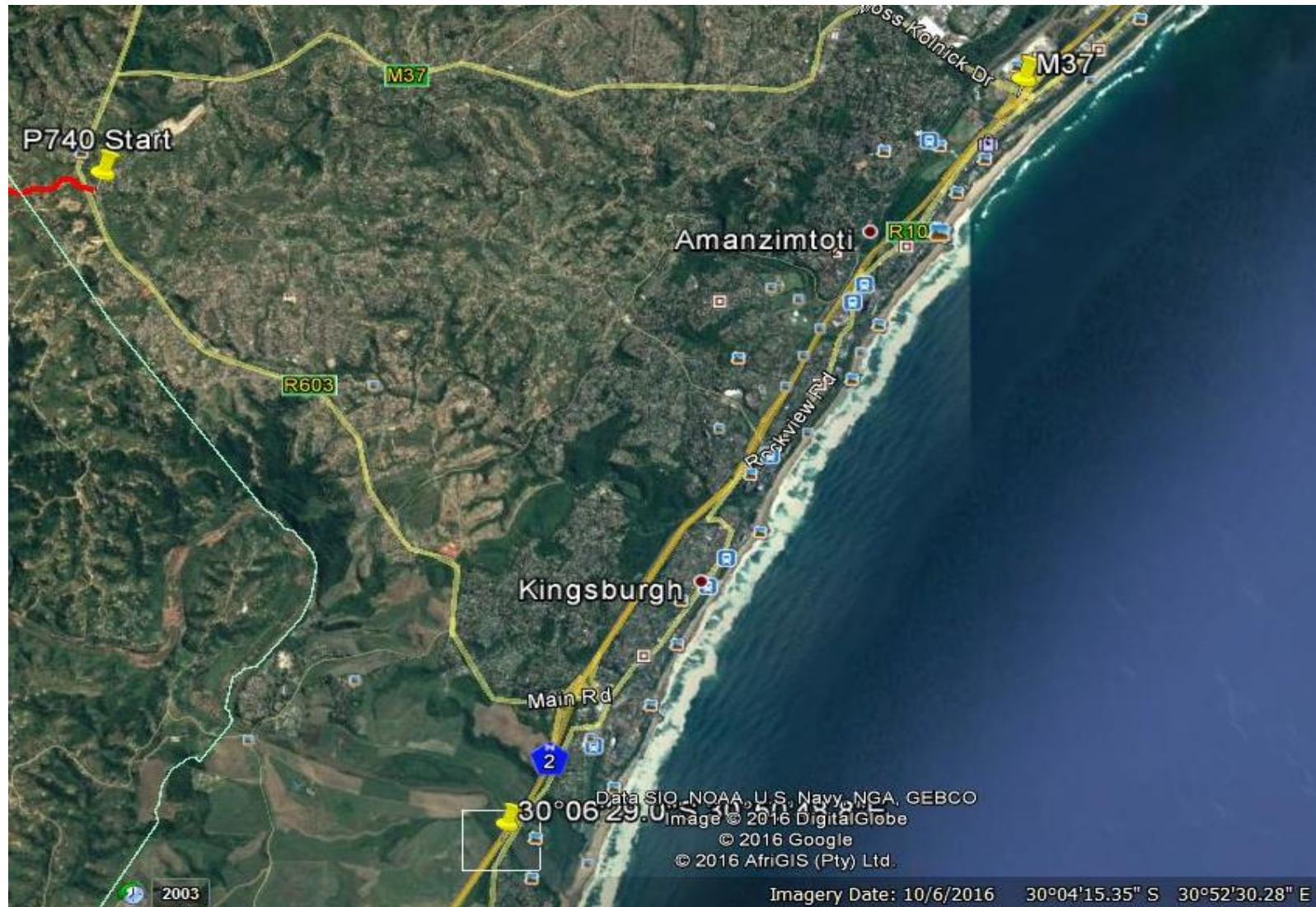


Figure 2: Section of highway between the Lovu River and M37 interchanges

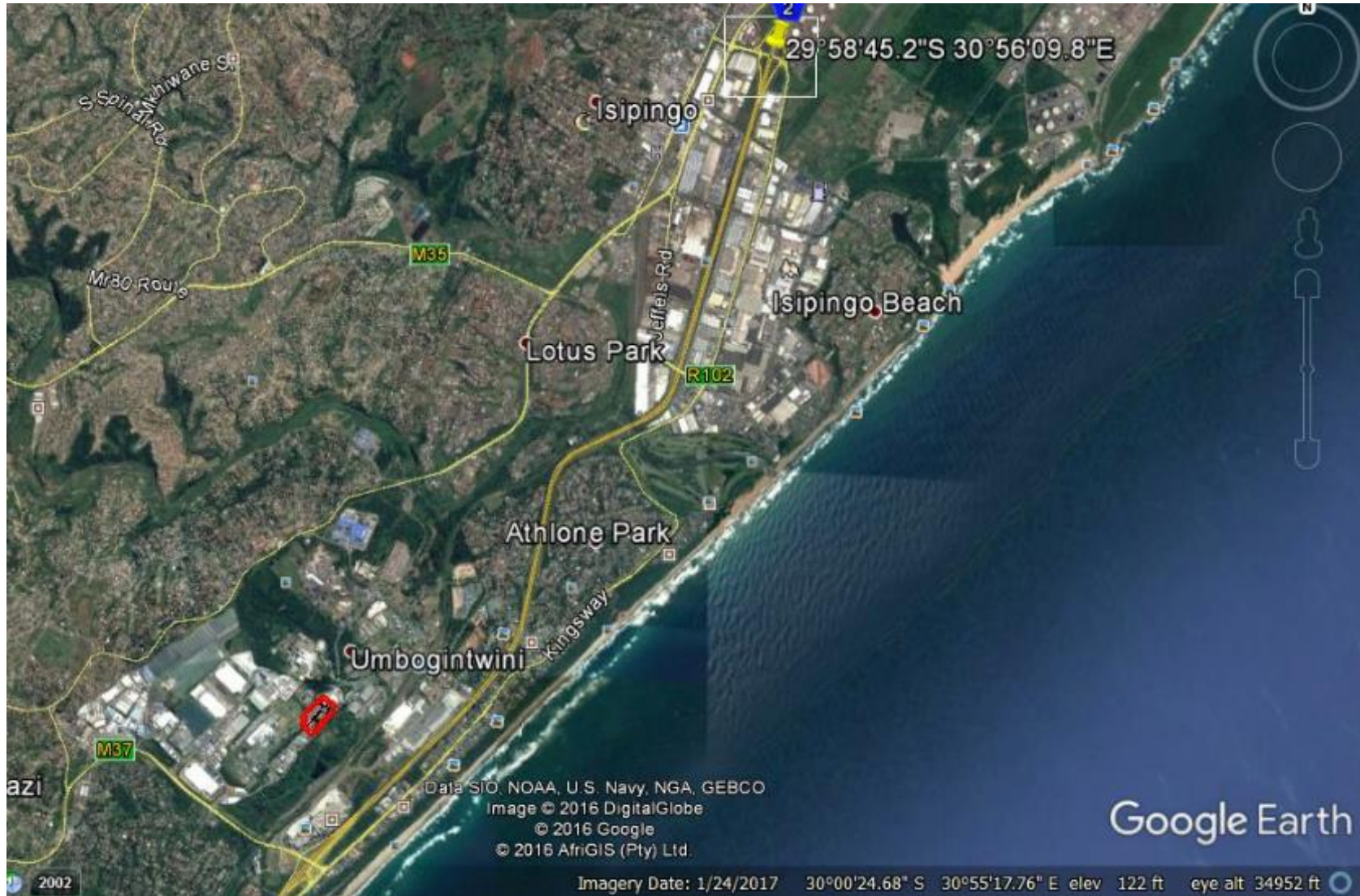


Figure 3: Image of section from M37 to the Umlaas Canal/Prospecton interchange

## 5. METHODOLOGY

A survey of literature, including previous HIAs, was undertaken in order to gain an understanding of potential heritage resources in the section of highway to be upgraded.

An inspection of the section of the highway to be upgraded was undertaken on 19 March 2017. Sections of the highway to be upgraded were inspected on foot and others were inspected by vehicle.

## 6. ASSUMPTIONS AND RESTRICTIONS

### Restrictions:

The weather conditions during the site inspection were not always ideal with intermittent rain and wet conditions that sometimes limited access and visibility. In addition, the vegetation in the road reserve of the highway is heavily overgrown in many parts and visibility was restricted because of this.

Due to the high volume of vehicles using the N2, some areas of the highway were not investigated due to safety considerations. At some points, such as the bridge crossing the Amanzimtoti River, the inspection was undertaken from below the bridge in the town itself.

### Assumptions:

It is the understanding of the specialist that at this stage of the project, no residential or business structures will be affected by the proposed upgrade. If any houses or other buildings are to be impacted by the development, then a Phase 1 HIA of such structures will need to be undertaken to assess their age and heritage significance. In the Doonside area, for example, several residential structures situated immediately above the N2 were noted that could be older than 60 years. Structures older than 60 years are automatically protected by the KZNHA and NHRA as mentioned in section 2 above.

In addition, throughout the section of highway to be upgraded, residential and business structures were found to abut / extend up to the boundary of the road reserve that could be affected by the potential widening of the road reserve. If any structures are to be affected by the proposed

upgrade, then affected buildings/structures that may need to be moved/demolished/altered will need to be assessed for their heritage significance.

## **7. HISTORICAL BACKGROUND OF THE STUDY AREA**

The available evidence, as captured in the Amafa and KwaZulu-Natal Museum heritage site inventories, indicates that the wider project area (the greater Durban area, including the area between Amanzimtoti and southern Durban), contains a wide spectrum of archaeological sites covering a spectrum from Early Stone Age sites to Late Iron Age sites (Prins 2015:12).

Around 1 700 years ago an initial wave of Early Iron Age People settled along the inland foot of the sand dunes on sandy but humus rich soils which would have ensured good crops for the first year or two after they had been cleared. These early agro-pastoralists produced a characteristic pottery style known as Matola. The Matola people also exploited the wild plant and animal resources of the forest and adjacent sea-shore. By 1500 years ago another wave of Iron Age migrants entered the area. Their distinct ceramic pottery is classified to styles known as Msuluzi (AD 500-700), Ndongondwane (AD 700-800) and Ntshekane (AD 800-900). The majority of these sites occur inland along the major river valleys of KwaZulu-Natal below the 1000m contour. Various sites of this period have been recorded along the Umgeni River to the north of the study area, especially in the area close to Inanda Dam (Prins 2015: 12-13).

Some of the shell middens recorded along the coastline of KwaZulu-Natal belongs to the first Nguni-speaking agropastoralists who settled in the province. These sites have been dated to approximately 1200 years ago. A large percentage of more recently recorded sites occur along the dune cordon and slightly inland in the form of shell middens which were mostly created by Iron Age shellfish gatherers although some of the stratigraphic layers may extend back to Later Stone Age periods (Prins 13).

Although there is evidence to suggest Phoenician navigators put in at present-day Durban as long ago as 700 BC, the first reliable written record of Durban dates back to 1497 when Vasco de Gama sighted land on Christmas day and named it Terra de Natalia (Derwent, 2006: 27).

The Isipingo area was ceded to Dick King in 1843 for sugar-cane production as a reward. Richard Philip (Dick) King (1811-1871) rode from Durban to Grahamstown on horseback to secure assistance for beleaguered British troops in 1842. King brought Indian farmers to the area and by 1919, the Indian community had formed the Isipingo Indian Society, later to become the Indian

Civic Association. Isipingo Beach was originally a White area, but was declared an Indian area in 1963. Town Board status was granted to Isipingo Beach and Isipingo Rail in 1972, and one Town Council was formed for both areas. The Prospecton industrial area was developed in the 1960s on land that separates the two residential areas of Isipingo (Wiley *et al* 1996:1).

Originally known as Southern Umlazi, Kingsburgh became a township in October 1942 and reached borough status in August 1952 and was named after Dick King who passed along the section of coastline on 26 May 1842 (Bulpin 1986:425).

Amanzimtoti was founded in 1928, proclaimed a township in 1939 and became a borough in 1952. In 1961 Amanzimtoti, Isipingo Beach and Isipingo Rail were all amalgamated into a single municipality (South Africa History Online 2016:1).

Different accounts identify the first house in the Amanzimtoti area. It is claimed that a house on the south side of the Amanzimtoti River is the oldest house and another source claims that a house to the north of the river was the oldest. The "first house" in Amanzimtoti, known as Klein Frijstaat ("Little Free State"), was situated on the north side of the back of the old Anglican Church on Adams Road. The house was demolished in 1984. However, the "best guess" for the first house built in Amanzimtoti is 1895, and it may have been on the headland south of Amanzimtoti Lagoon (Prins 2015:14).

## **8. SITE INSPECTION RESULTS**

The section of highway to be upgraded is extensively disturbed by urban development and the proposed section of highway passes through highly developed areas that are predominantly made up of residences and businesses with very few undeveloped areas. The section between Umbogintwini and Isipingo includes the heavily populated South Durban Industrial Basin (SDIB). It is the country's second largest concentration of industrial activity, with more than 300 industrial-scale facilities situated in and amongst highly populated residential areas (Mersham 2016:2).

It should be noted that the specialist started the inspection from the end point of the proposed upgrade.

What appears to be a disused railway line was found on the western side of the highway between the Joyner Road on- and off-ramp and the canal situated just north of the SAB Prospecton Brewery within the SDIB. It appears to fall within the road reserve and if the Joyner Road off-ramp

is to be upgraded the railway line will be impacted. It is believed to have been built during or after the SDIB was developed in the 1960s and is of no heritage significance. The railway line is situated between: 29°59'23.68"S / 30°55'52.40"E and 30°0'3.26"S / 30°55'41.47"E.



**Figure 4: Railway line alongside highway in Prospecton**

The bridge crossing the Mbokodweni River on the N2 was inspected from the Prospecton Road Bridge which is situated parallel to and adjacent to the bridge on the N2 due to safety issues as the highway at this point expands into three lanes with no emergency lane.



**Figure 5: View of Mbokodweni Bridge with Railway Bridge in background**

Sections of the road reserve on Umbogintwini off-ramp was walked. The grass cover was very thick and there were clumps of thick vegetation and bushes that were inspected. No heritage resources were found in this area.



**Figure 6: Dense vegetation and grass cover Umbogintwini**

**Figure 7** below depicts one of several structures situated on the boundary of the road reserve of the N2 highway. The structure is situated on a section of the highway between the Umbogintwini off-ramp and the M35 Moss Kolnick interchange. It appears that these structures will not be affected by the proposed upgrade of the highway apart from increased noise levels and pollution for the inhabitants of the houses.

The Oppenheimer Road overpass situated about 1.5km north of the M35 Moss Kolnick interchange was built in 1963. Any proposed alteration to the bridge will therefore not require permission from Amafa.





**Figure 7: Structure situated on boundary of road reserve**



**Figure 8: Galleria Mall above N2 highway**

The bridge / crossing over the Manzimtoti River was inspected from the town itself as well as the agricultural underpass at Warner Beach. There was no indication on the bridge as to when the structure was built. The area around the bridge was inspected but no heritage resources were found during the inspection.



**Figure 9: Manzimtoti River Bridge**



**Figure 10: Area immediately north of Manzimtoti River and adjacent to N2**

Just after the Doonside off-ramp on the western side of the highway several houses are found situated above the N2 highway. At least one of the houses (as depicted in **Figure 11** below), which is situated close to a pedestrian overpass, could be close to or older than 60 years.



**Figure 11: House and pedestrian overpass**

Power lines cross the highway and certain sections of the highway are characterized by steep slopes and disturbance through terracing as depicted in the figure below.



**Figure 12: Steep terraced embankments with power lines in background**

Between the Doonside interchange and Warner Beach, the N2 crosses the Little Manzimtoti River. Parallel to this crossing is the R102 road and associated river crossing. The bridge on the R102 was built in 1957 which means that it is currently 60 years old. This bridge is situated approximately 20m from the N2, therefore, if the upgrade of the N2 impacts this bridge then

application will need to be made to Amafa aKwaZulu-Natali (Amafa), the provincial heritage body, to alter/demolish the bridge if alteration is to be done after 2017.



**Figure 13: R102 road crossing Little Manzimtoti River with pipelines attached to it**

Just over 200m south of the above river crossing is a brick building housing a municipal water treatment plant. The building is approximately 30 m from the N2 so any expansion in this section of the N2 highway may impact the building. The age of the building could not be determined therefore it is recommended that the precautionary principle apply in this regard and permission be obtained from both Amafa and eThekweni Metropolitan Municipality if the building is to be altered, moved or demolished.

The underpass (San Gabriel Avenue) at Warner Beach was inspected. The area immediately west of the underpass is undeveloped with dense vegetation whereas the eastern side is more disturbed. No heritage sites were found in the surrounding area on either side of the underpass.



**Figure 14: Municipal water treatment plant**



**Figure 15: Underpass in Warner Beach**

The area to the east just before the end point of the proposed upgrade at the Lovu River Bridge (which was built in 1987) is congested with the R102 road as well as an existing building. The road and building will be impacted if this side of the highway is expanded. The western side of the N2 highway is a better option for expansion as the land is used for sugar cane farming.



**Figure 16: View of eastern embankment of N2 before Lovu River**

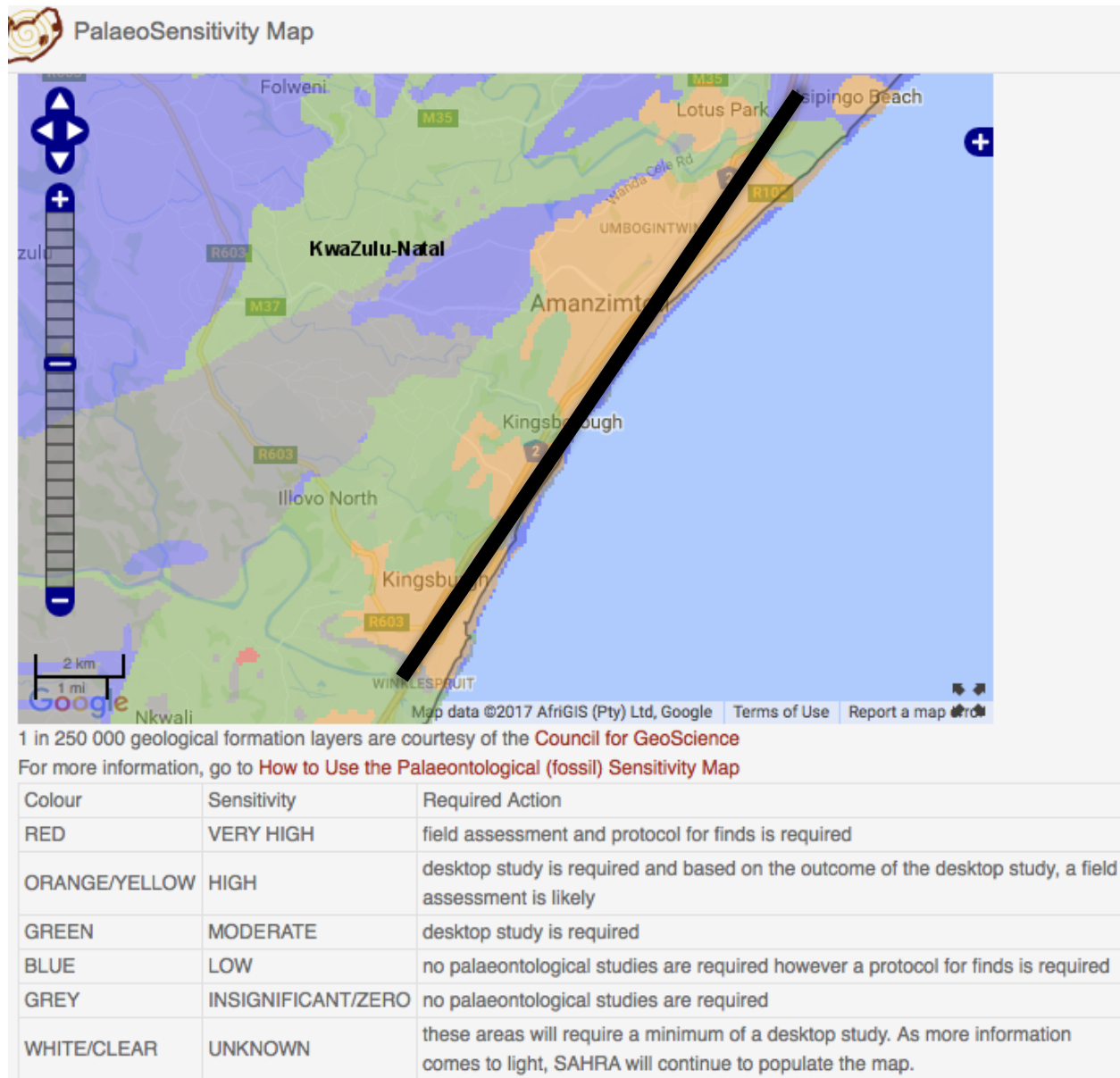


**Figure 17: N2 and R102 Lovu River Bridges**

### **Palaeontological**

The South African Heritage Resources Agency's (SAHRA) Fossil Sensitivity Map indicates that the area to be upgraded crosses various fossil sensitivities with the route predominantly crossing areas of high fossil sensitivity (orange/yellow areas) (see **Figure 18** below). Areas of

high fossil sensitivity require, at a minimum, a desktop study after which, based on the outcome of the desktop study, a field / on site assessment may be required.



**Figure 18: Fossil sensitivity with project area indicated by thick black line**

However, due to the highly developed thus disturbed nature of the section of highway to be upgraded which has occurred because of ongoing infrastructure development, it is unlikely that intact fossils will be found along the area to be upgraded and a desktop assessment is not recommended. It is however recommended that a palaeontologist is placed on stand-by during the excavation of the highway in case fossils are exposed during this phase of the project.

## 9. RECOMMENDATIONS AND CONCLUSIONS

The following is recommended in terms of the potential impact of the proposed upgrade of the N2 highway on heritage resources:

- The bridge crossing the R102, situated between the Doonside interchange and Warner Beach, is 60 years old. If upgrading of the N2 results in this bridge being impacted, then application will need to be made to Amafa after 2017 for any alterations to the bridge.
- The expansion of the N2 highway may impact the brick building housing a municipal water treatment plant which is situated at 30°04'38.17"S / 30°52'01.45"E. As the age of the building could not be determined, it is recommended that the precautionary principle apply in this regard and permission be obtained from both Amafa and eThekweni Metropolitan Municipality if the building is to be altered or demolished.
- At this stage, it is understood that no residential or business structures will be impacted by the proposed upgrade. If the situation arises where structures abutting the highway are to be moved or altered or demolished then a heritage specialist must be appointed to assess the significance of such structures.
- Due to the high palaeontological / fossil sensitivity of the section of highway to be upgraded, a palaeontologist should be put on stand-by during the excavation of the highway in case fossils are exposed during this phase of the project. All work will need to cease in the area of the finds until the palaeontologist has assessed the significance of the find and determined the way forward.

In conclusion, from a heritage perspective, the upgrading of the N2 highway can proceed with the proviso that the recommendations provided above and mitigation measures listed below in section 10 are adhered to and implemented as necessary.

## 10. MITIGATION MEASURES

- For any chance finds of heritage resources, including fossils, all work must cease in the area affected and the Contractor will immediately inform the Project Manager. A registered heritage specialist / palaeontologist must be called to site for inspection. The relevant heritage resource agency (Amafa) must be informed about the finding.
- The heritage specialist will assess the significance of the heritage resource/s found and provide guidance on the way forward.
- Permits must be obtained from Amafa if heritage resources are to be removed, destroyed or altered.



- If fossils are found and the fossils need to be rescued (removed from site), the necessary permit from Amafa must be obtained and the rescued fossils must then be housed in a suitable, recognized institute.
- All heritage resources found in close proximity to the construction area are to be protected by a 5m buffer in which no construction can take place. The buffer material (danger tape, fencing, etc.) must be highly visible to construction crews.
- Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- Should any remains be found on site that is potentially human remains, the South African Police Service should also be contacted.

## 11. REFERENCES

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