PHASE ONE HERITAGE IMPACT ASSESSMENT OF THE PROPOSED SQUBUDU ROAD UPGRADE NEAR NQUTHU, KWAZULU-NATAL

ACTIVE HERITAGE cc.

For: Hanslab (Pty) Lmt

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Declaration of Consultants independence

Frans Prins is an independent consultant to Hanslab (PTY) Lmt and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances whatsoever that compromise the objectivity of this specialist performing such work.

Frans Prins

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LIST OF ABBREVIATIONS AND ACRONYMS

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1820 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000)
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

EXECUTIVE SUMMARY

A first phase heritage survey of the proposed Squbudu Road Upgrade near Nquthu, KwaZulu-Natal identified no heritage sites or features on the footprint. The area is also not part of any known cultural landscape. There is therefore no reason, from a heritage perspective, why the proposed development may not proceed as planned. However, attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act no 4 of 2008) which, requires that operations that expose additional archaeological or historical remains, as well as graves, should cease immediately, pending evaluation by the provincial heritage agency.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc) for Hanslab (Pty) Ltd
Type of development:	The KwaZulu-Natal Department of Transport (Applicant) proposes to upgrade Squbudu Extension from an existing mud track, to a type 7A gravel road within the Nquthu Municipality. The existing mud track is 4.284 km in length. The road traverses three major watercourses, therefore, the applicant proposes to construct portal culvert causeway structure and pipe culverts at the major crossing points to allow for the natural flow of water within the channel.
Rezoning or subdivision:	Rezoning
Terms of reference	To carry out a Heritage Impact Assessment. A Paleontological Impact Assessment of the area is reported in Appendix 1.
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KwaZulu-Natal Heritage Act, 1997 (Act No. 4 of 2008)

1.1. Details of the area surveyed:

The project area is located approximately 40km to the south east of Dundee and 14 km to the south of Nquthu in the Tugela River Valley. It is situated within the Nquthu Local Municipality (Figs 1 & 2). The present road is a track that runs past rural homesteads

and cultivated fields belonging to small scale subsistence farmers (Fig 4). The GPS coordinates for the proposed road upgrade are as follows:

Starting point of the activity: 28°20´11.73˝ S 30°36´19.53˝ E
Middle point of the activity: 28°21´05.83˝ S 30°36´48.79˝ E
End point of the activity: 28°21´11.52˝ S 30°35´11.93˝ E

The Applicant proposes to construct a portal causeway and pipe culvert structures as part of local road upgrade from a mud track to a gravel road. The GPS coordinates for these proposed structures are provided in Table 2. The proposed activity will require the temporary removal of soil from the watercourse for the proposed construction of the causeway and pipe culvert structures. Approximately 10m3 of soil will be removed from the watercourse to allow for the construction. The bed and banks of the stream will also be modified during the construction phase, as to allow for the linking/re-alignment of the upgraded local road to the proposed structure.

Table 2. GPS coordinates of associated structures

Location of the pipe culverts & causeway structure:	Latitude (DDMMSS)	Longitude (DDMMSS)
Drainage Line 1(Pipe Culvert):	28° 20' 33" S	30° 35' 51" E
Drainage Line 2 (Causeway Structure):	28° 20' 31" S	30° 35' 28" E
Drainage Line3 (Pipe Culvert):	28° 21' 07" S	30° 35' 07" E

BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

1.1 Archaeology

Portions of the greater Nqutu area have been systematically surveyed for archaeological heritage sites in the past. These were mostly conducted by archaeologists attached to the then Natal Museum as well as by Amafa staff. Sixty sites are recorded in the data base of the KwaZulu-Natal Museum. These include fourteen Early Stone Age sites, eight

Middle Stone Age sites, ten Later Stone Age sites, three rock painting sites, and forty Later Iron Age sites. The majority of the Early Stone Age sites occur in open air context in large dongas. Middle and Later Stone Age sites occur in context in four rock shelters. Two of these shelters also contain typical San fine line paintings. The majority of the known Later Iron Age sites are situated to the south east of Nqutu. They were located during a large scale survey of the area by archaeologists who were interested in the Later Iron Age ecology of Zululand (Hall 1980). They are demarcated by characteristic stone walling. Three stone walling typologies have been identified in the area namely Type A, C, and D (ibid).

The San were the owners of the land for almost 30 000 years but the local demography started to change soon after 2000 years ago when the first Bantu-speaking farmers crossed the Limpopo River and arrived in South Africa. Around 800 years ago, if not earlier, Bantu-speaking farmers also settled in the greater Nqutu area. Although some of the sites constructed by these African farmers consisted of stone walling not all of them were made from stone. Sites located elsewhere in the KwaZulu-Natal show that many settlements just consisted of wattle and daub structures. These Later Iron Age sites were most probably inhabited by Nguni-speaking groups who were the direct ancestors of the Zulu (Bryant 1965). However after 1840 some Southern Sotho-speaking Tlokwe people also settled in the area. With the expansion of the Zulu kingdom of King Shaka in the early 1820's the study area became firmly incorporated into this pre-capitalist kingdom. It is not surprising that this area played such a central part in the colonial period history of KwaZulu-Natal. The Battle of Blood River, between Boer and Zulu, took place to west of the study area in 1838, but it was the Anglo-Zulu war of 1879 that was to a large part acted out in the immediate vicinity of the project area. These battle field sites as well as associated graves and buildings of the era are proclaimed heritage sites and are protected by provincial heritage legislation (Derwent 2006).

1.2 Anglo-Zulu War

The Anglo-Zulu War was a military conflict between the British Empire and the Kingdom of Zululand, taking place from January 8 to July 4, 1879, in South Africa. The root cause of the Anglo-Zulu War was the discovery of diamonds in the region, in the land near the Vaal River, in 1867. This led to an increased British interest in the area. But there were two obstacles: the Boers (politically organized in the Orange Free State and the Republic of Transvaal), and the Kingdom of Zululand, which arose in the first half of the 19th

century. During the 1870s, West Griqualand, which was the territory where diamonds had been discovered, was annexed to the British Empire. In December 1878, the British High Commissioner, Sir Henry Bartle Frere, sent an ultimatum to Cetshwayo, the King of Zululand. Having obtained no answer to the ultimatum, 15,000 British troops, under the command of Lord Chelmsford, began the invasion of Zululand by January 8, 1879.

The Anglo-Zulu War was savage and comprises a series of eight battles, beginning with the Battle of Isandlwana in the immediate environs of the study area. Here 22,000 Zulu warriors defeated 1,800 British soldiers on January 22, 1879. Isandlwana was an unexpected blow to the morale of the British empire as it was the scene of the defeat of Imperial & Colonial forces on 22 January 1879 mostly from the 24 Regiment, Natal Carbineers and Natal Native Regiments. This epic battle took place in the immediate environs of the project area and a memorial on the site commemorates the brave warriors who gave their lives on this day (Derwent 2006). The defence of Rorke's Drift on 22 January 1879, to the south of the project area, followed the defeat of the British forces at Isandlwana and commenced at 16.30 pm and went on through the night to about 4 am. The Mission Station at the foot of the Oskarberg was held by 1st & 2nd Company of the 24th Regiment. It had been left under the command of Major Henry Spalding. The battle eventually left about 370 Zulu dead (4000 under the command of Prince Dabulamanzi kaMpande), and 17 British soldiers dead out of a force of about 100 men. The Zulu's eventually withdrew. Having overcome three military defeats (Battle of Isandlwana, Battle of Intombe, and Battle of Hlobane), the British began gaining the upper hand as they obtained decisive victories in the last four battles of the war: Battle of Kambula (March 29), Battle of Gingindlovu (April 2), Battle of Eshowe (April 3), and Battle of Ulundi (July 4, 1879). After the defeat at Isandlwana, the British were determined to take revenge and defeat the Zulu's led by King Cetshwayo kaMpande, and crossed the White Umfolozi on 4 July 1879 with a force of approximately 5124 men. Led by Lord Chelmsford a, battle took place that day which led to the Zulu defeat. Fort Marshall, situated to the north of the project area, was occupied between May & July 1879 by the 24th Regiment. There are 11 soldiers buried there, most dying of wounds from the battle of Ulundi. The ramparts and graves are still visible. As a result of the British victory over the Zulus, the Kingdom of Zululand lost its independence and it became part of a British Colony (ibid).

2 BACKGROUND INFORMATION OF THE SURVEY

2.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. The SAHRIS website was consulted for previous heritage surveys and heritage site data covering the project area. In addition, the available archaeological and heritage literature covering the greater Tugela Valley area was also consulted.

A ground survey, following standard and accepted archaeological procedures, was conducted on the 28 March 2017.

2.2 Restrictions encountered during the survey

2.2.1 Visibility

Visibility was good.

2.2.2 Disturbance

No disturbance of any potential heritage features was noted.

2.3 Details of equipment used in the survey

GPS: Garmin Etrek
Digital cameras: Canon Powershot A460
All readings were taken using the GPS. Accuracy was to a level of 5 m.

3 DESCRIPTION OF SITES AND MATERIAL OBSERVED

3.1 Locational data

Province: KwaZulu-Natal
Municipality: Nquthu Local Municipality
Towns: Dundee & Nquthu

3.2 Description of the general area surveyed

Numerous archaeological sites, mostly Later Iron Age but also some later Stone Age and rock art sites, occur within a radius of 5km from the footprint (Fig 3). The project area is also surrounded by Battle Sites and historical structures of the Anglo-Zulu War of 1879. In fact, the project area is wedged between the Battle Sites of Rorkes Drift and Isandhlwana (Fig 3). However, no archaeological sites or other heritage sites are situated on the actual on the footprint. All the historical and Battle Sites are situated more than 4km from the footprint. Although rural homesteads (Fig 5) are situated adjacent to the proposed road upgrade and associated structures none have graves that could be compromised by the development. Those graves noticed were all situated more than 30m from the proposed road upgrade and associated structures. Some isolated Stone Age flakes occur in the near vicinity of the proposed road upgrade (Fig 6). However, these isolated surface occurrences do not constitute archaeological sites as such and there is no need for mitigation. Later Iron Age stone walled features were observed during the survey (Fig 7) but none of these occur closer than 50m to the proposed road upgrade and there is no need for mitigation. The proposed road upgrade is therefore not significant in terms of heritage values (Tables 3 & 4)

4 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

4.1 Field Rating

Not applicable as no heritage sites occur on the actual footprint.

Table 3. Field rating and recommended grading of sites (SAHRA 2005)

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

Table 4. Evaluation and statement of significance.

Significance criteria in terms of Section 3(3) of the NHRA		
	Significance	**Rating**
1.	**Historic and political significance -** The importance of the cultural heritage in the community or pattern of South Africa's history.	None.
2.	**Scientific significance** – Possession of uncommon, rare or endangered aspects of South Africa's cultural heritage.	None
3.	**Research/scientific significance** – Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.	None
4.	**Scientific significance** – Importance in demonstrating the principal characteristics of a particular class of South Africa's cultural places/objects.	None
5.	**Aesthetic significance** – Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.	None
6.	**Scientific significance** – Importance in demonstrating a high degree of creative or technical achievement at a particular period.	None
7.	**Social significance** – Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	None.
8.	**Historic significance** – Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.	None.
9.	The significance of the site relating to the history of slavery in South Africa.	None.

5 RECOMMENDATIONS

The proposed development of the Squbudu Ext Road and associated structures near Nqutu, KwaZulu-Natal identified no heritage sites or features on the actual footprint. Although graves and Later Iron Age sites occur in the general area none of them occur closer than 30m to the proposed road upgrade. There is therefore no reason, from a heritage perspective, why the proposed development may not proceed as planned. However, the developers should restrict all work to the proposed road trajectory. Any deviations from the trajectory can only be allowed once a phase two heritage impact assessment of the area has been initiated. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act no 4 of 2008) which, requires that operations that expose additional archaeological, historical or paleontological remains should cease immediately, pending evaluation by the provincial heritage agency.

6 MAPS AND FIGURES

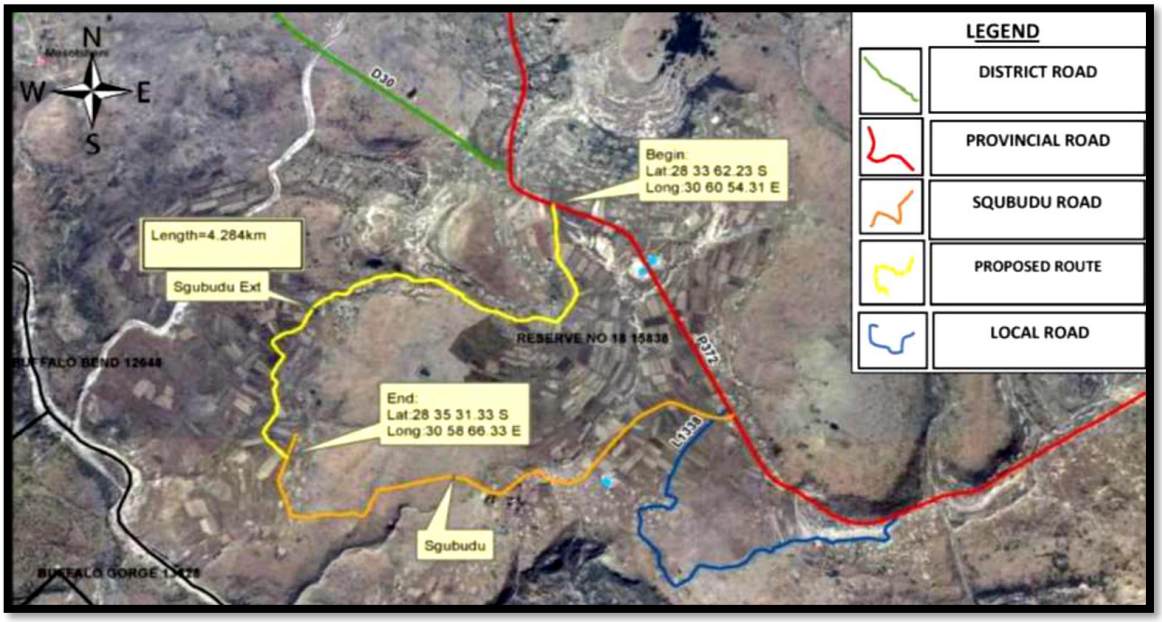

Figure 1. Google aerial photograph showing the location of the proposed road upgrade (Source: Hanslab).

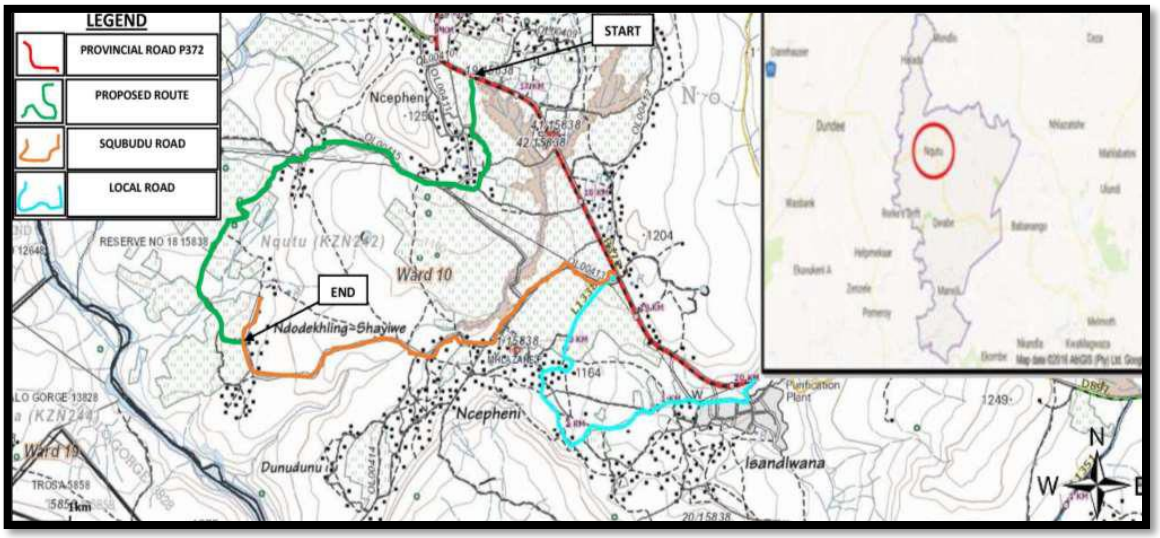

Figure 2. Topographical map showing the location of the proposed road upgrade (Source: Hanslab)

Figure 3. Google aerial photograph showing the distribution of known heritage sites in the greater project area. The purple polygons indicate archaeological sites and the yellow polygons historical period sites.

Figure 4. The proposed Squbudu Extension Road that has been earmarked for upgrading.

Figure 5. Zulu homesteads occur adjacent to sections of the proposed road upgrade but no graves are situated closer than 30m to the road reserve.

Figure 6. Some Stone Age flakes situated in the near vicinity of the proposed road upgrade. These isolated occurrences, however, do not constitute archaeological sites (photograph by Gary Trower).

Figure 7. Later Iron Age stone walled structures observed during the survey. However. None of these structures are situated closer than 50m to the proposed road upgrade and they are not threatened (photograph by Gary Trower).

7 REFERENCES

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APPENDIX 1

Palaeontological Impact Assessment for the proposed upgrade of Squbudu Extension (between Ncepheni and Ndodekhling-Shayiwe, KwaZulu-Natal) from a mud track to Type 7a gravel road

Conducted by Gary Trower (MSc in Environmental Management, UFS)

April 2017

Declaration of Consultants independence

Gary Trower is an independent consultant to Hanslab (PTY) Lmt and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances whatsoever that compromise the objectivity of this specialist performing such work.

Gary Trower

Introduction

In terms of the National Environmental Management Act 107 of 1998, Section 38 (8) of the National Heritage Resources Act 25 of 1999, and the KwaZulu-Natal Heritage Act 4 of 2008, all aspects of cultural heritage are protected and proposed developments that are likely to impact on heritage resources (i.e. historical, archaeological, palaeontological & cosmological) require a field assessment in order to ensure that such resources are not damaged or destroyed in the process.

The KwaZulu-Natal Department of Transport proposes to upgrade a mud track/footpath to a Type 7A gravel road. The improved road will be located close to the village of Ncepheni and will join another road leading up to Ndodekhling-Shayiwe (Figure 1). As the road will cross three watercourses where underlying bedrock may be exposed and the development will take place in a region with a high sensitivity rating (in terms of palaeontological material), a survey of the landscape was required in order to conduct an assessment of the possible heritage resources which could be at risk.

Geology

Several rock formations in this region are part of the sedimentary package which make up the Karoo Basin. This accumulation is one of the richest fossil sites in the world, representing a phenomenal geological succession which preserves the evolution and development of several tetrapod lineages, including Synapsids (the ancestors of mammals), diapsids (the ancestors of dinosaurs and reptiles) and Anapsids (the ancestors of tortoises and turtles). The geology in the vicinity of the site is dominated by Carboniferous and Permian deposits of the Dwyka and Ecca Groups. There are also several outcrops of dolerite in the region, representing Jurassic lava intrusions which gave rise to the dolerite dykes in the landscape. Considerably younger alluvial deposits occur

alongside many of the drainage lines within the valleys and are Quaternary in age (Figure 2). Rocks of the Karoo Basin are therefore rich repositories for palaeontological material and developers need to be aware when carrying out work which may disturb or destroy fossils preserved in these underlying beds

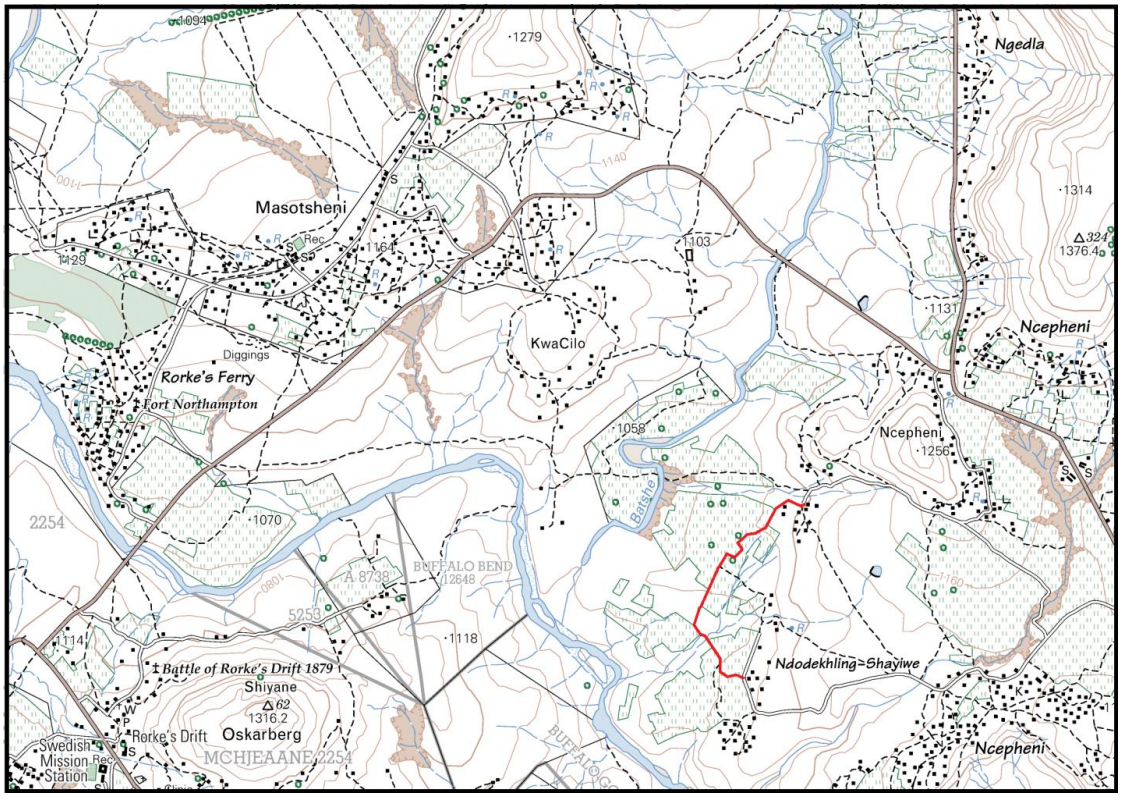

Figure 1: Map showing the location of the proposed road and route it will follow highlighted in red. The road will follow an existing footpath which moves from the top of hill down towards the valley (modified from 2830BC Rorke's Drift, 1: 50 000, Chief Directorate: National Geo-spatial Information)

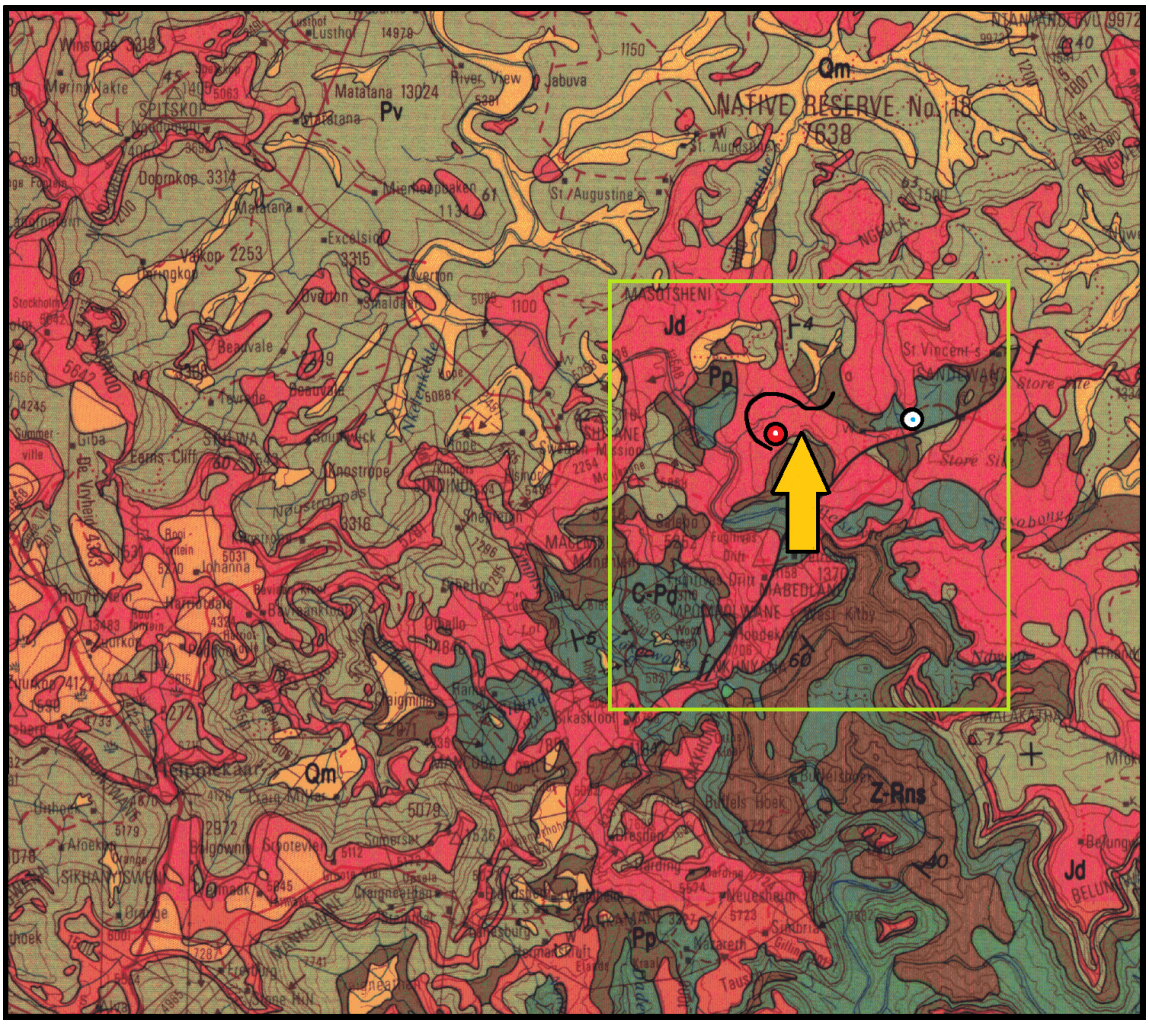

Figure 2: Geological map of the region where the proposed development will take place, highlighted within the green square. The yellow arrow points to the road, the pathway of which is indicated in black. The white dot with the blue centre indicates the village of Ncepheni whereas the red dot with the white centre indicates the position of the village of Ndodekhling-Shayiwe. Lithology comprises Jd: Dolerite; Pp: Dark-grey shale; Pv: medium-coarse-grained sandstone, grey micaceous shale and coal; C-Pd: Tillite, minor shale, varved shale and sandstone; Z-Rns: Quartzite, tuff, basaltic lava and subordinate conglomerate; Qm: basal boulder bed and yellow-brown sandy clay. Geology relative to study comprises Dwyka (C-Pd); Ecca (Pv and Pp) and Quaternary

Field observations

During the survey of the landscape in the area of the proposed road, no bedrock was observed within 50m of the pathway of the road. The road surface started off well (Figure 3), but due to the large size of the boulders on the route of the proposed trackway, it was not possible to drive a Sedan vehicle all the way from start to finish. Therefore the remainder of the survey was done on foot (Figure 4).

Figure3: The start of the proposed road to be upgraded, S 28° 20' 10.7" E 30° 36'

Figure 4: looking SW towards Ndodekhling-Shayiwe

No palaeontological material was observed along this route as almost all of the underlying bedrock was covered by several meters of topsoil and colluvial deposits. This thick sediment package is advantageous for the construction of the road as this layer will act as a buffer to any possible palaeontological material which could be buried several meters underground

When viewing the PalaeoSensitivity map on the SAHRA website (www.sahra.org.za/sahris/map/palaeo), the area where the proposed development will take place is given as green, grey and red. Grey is the lowest sensitivity rating and does not require a palaeontological study, whereas green indicates moderate sensitivity to development and only requires a desktop study. Red is the highest sensitivity rating for

palaeontological resources but in spite of this, no palaeontological material was visible in the vicinity or along the route of the proposed road upgrade.

Figure 5: The end of the proposed road, looking NE and standing next to the road on the way to Ndodekhling-Shayiwe, S 28° 21ˈ 11.15″ E 30° 35ˈ 11.76″

Recommendations

The proposed upgrade of the road can proceed as no palaeontological material was noted along the entire length of the planned route. Although it is possible that fossils may occur in the region and some of these may lay buried in the vicinity of the road (based on the SAHRA sensitivity map), the overlying soil horizon may act as a buffer to the disturbance of such material and the fact that no fossiliferous outcrops were found adjacent to the proposed road (within 50 meters) indicates that the probability of any disturbance to possible fossil occurrences is unlikely.