PHASE ONE HERITAGE IMPACT ASSESSMENT OF THE PROPOSED NTUMBA VEHICULAR/PEDESTRIAN BRIDGE ACROSS A STREAM IN ROOKDALE, OKHAHLAMBA LOCAL MUNICIPALITY KWAZULU NATAL.

ACTIVE HERITAGE cc.

For: Hanslab (PTY) Ltd

Frans Prins
MA (Archaeology)
P.O. Box 947
Howick
3290

feprins@gmail.com
activeheritage@gmail.com
www.activeheritage.webs.com
Fax: 086 7636380

September 2018

Details and experience of independent Heritage Impact Assessment Consultant

Consultant:	Frans Prins (Active Heritage cc)
Contact person:	Frans Prins
Physical address:	33 Buchanan Street, Howick, 3290
Postal address:	P O Box 947, Howick, 3290
Telephone:	+27 033 3307729
Mobile:	+27 0834739657
Fax:	0867636380
Email:	Activeheritage@gmail.com

PhD candidate (Anthropology) University of KwaZulu-Natal
MA (Archaeology) University of Stellenbosch 1991
Hons (Archaeology) University of Stellenbosch 1989

University of KwaZulu-Natal, Honorary Lecturer (School of Anthropology, Gender and Historical Studies).
Association of Southern African Professional Archaeologists member

Frans received his MA (Archaeology) from the University of Stellenbosch and is presently a PhD candidate on social anthropology at Rhodes University. His PhD research topic deals with indigenous San perceptions and interactions with the rock art heritage of the Drakensberg.

Frans was employed as a junior research associate at the then University of Transkei, Botany Department in 1988-1990. Although attached to a Botany Department he conducted a palaeoecological study on the Iron Age of northern Transkei - this study formed the basis for his MA thesis in Archaeology. Frans left the University of Transkei to accept a junior lecturing position at the University of Stellenbosch in 1990. He taught mostly undergraduate courses on World Archaeology and research methodology during this period.

From 1991 – 2001 Frans was appointed as the head of the department of Historical Anthropology at the Natal Museum, Pietermaritzburg. His tasks included academic research and publication, display conceptualization, and curating the African ethnology collections of the Museum. He developed various displays at the Natal Museum on topics ranging from Zulu material culture, traditional healing, and indigenous classificatory systems. During this period Frans also developed a close association with the Departments of Fine Art, Psychology, and Cultural and Media Studies at the then University of Natal. He assisted many post-graduate students with projects relating to the cultural heritage of South Africa. He also taught post-graduate courses on

qualitative research methodology to honours students at the Psychology Department, University of Natal. During this period he served on the editorial boards of the *South African Journal of Field Archaeology* and *Natalia*.

Frans left the Natal Museum in 2001 when approached by a Swiss funding agency to assist an international NGO (Working Group for Indigenous Minorities) with the conceptualization of a San or Bushman museum near Cape Town. During this period he consulted extensively with various San groupings in South Africa, Namibia and Botswana. During this period he also made major research and conceptual contributions to the Kamberg and Didima Rock Art Centres in the Ukhahlamba Drakensberg World Heritage Site.

Between 2003 and 2007 Frans was employed as the Cultural Resource Specialist for the Maloti Drakensberg Transfrontier Project – a bilateral conservation project funded through the World Bank. This project involved the facilitation with various stakeholders in order to produce a cultural heritage conservation and development strategy for the adjacent parts of Lesotho and South Africa. Frans was the facilitator for numerous heritage surveys and assessments during this project. This vast area included more than 2000 heritage sites. Many of these sites had to be assessed and heritage management plans designed for them. He had a major input in the drafting of the new Cultural Resource Management Plan for the Ukahlamba Drakensberg World Heritage site in 2007/2008. A highpoint of his career was the inclusion of Drakensberg San indigenous knowledge systems, with San collaboration, into the management plans of various rock art sites in this world heritage site. He also liaised with the tourism specialist with the drafting of a tourism business plan for the area.

During April 2008 Frans accepted employment at the environmental agency called Strategic Environmental Focus (SEF). His main task was to set-up and run the cultural heritage unit of this national company. During this period he also became an accredited heritage impact assessor and he is rated by both Amafa and the South African Heritage Resources Agency (SAHRA). He completed almost 50 heritage impact assessment reports nation-wide during an 18th month period.

Frans left SEF and started his own heritage consultancy called “Active Heritage cc” in July 2009. Although mostly active along the eastern seaboard his clients also include international companies such as Royal Dutch Shell through Golder Associates, and UNESCO. He has now completed almost 1000 heritage conservation and management reports for various clients since the inception of “Active Heritage cc”. Amongst these was a heritage study of the controversial fracking gas exploration of the Karoo Basin and various proposed mining developments in South Africa and proposed developments adjacent to various World Heritage sites. Apart from heritage impact assessments (HIA’s) Frans also assist the National Heritage Council (NHC) through Haley Sharpe Southern Africa’, with heritage site data capturing and analysis for the proposed National Liberation Route World Heritage Site and the national intangible heritage audit. In addition, he is has done background research and conceptualization of the proposed

Dinosaur Interpretative Centre at Golden Gate National Park and the proposed Khoi and San Interpretive Centre at Camdeboo, Eastern Cape Province. During 2009 he also produced the first draft dossier for the nomination of the Sehlabathebe National Park, Lesotho as a UNESCO inscribed World Heritage Site.

Frans was appointed as temporary lecturer in the department of Heritage and Tourism, UKZN in 2011. He is also a research affiliate at the School of Cultural and Media Studies in the same institution.

Frans's research interests include African Iron Age, paleoecology, rock art research, San ethnography, traditional healers in South Africa, and heritage conservation. Frans has produced more than fourty publications on these topics in both popular and academic publications. He is frequently approached by local and international video and film productions in order to assist with research and conceptualization for programmes on African heritage and culture. He has also acted as presenter and specialist for local and international film productions on the rock art of southern Africa. Frans has a wide experience in the fields of museum and interpretive centre display and made a significant contribution to the conceptual planning of displays at the Natal Museum, Golden Horse Casino, Didima Rock Art Centre and !Khwa tu San Heritage Centre. Frans is also the co-founder and active member of "African Antiqua" a small tour company who conducts archaeological and cultural tours world-wide. He is a Thetha accredited cultural tour guide and he has conducted more than 50 tours to heritage sites since 1992.

Declaration of Consultants independence

Frans Prins is an independent consultant to Hanslab 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 renumeration 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

TABLE OF CONTENTS

LIST OF TABLES

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 phase one heritage survey of the proposed Ntumba Vehicular/Pedestrian Bridge Development, located In The Okhahlamba Local Municipality Within Uthukela District, Kwazulu Natal identified no heritage sites within the proposed development zone. The paleontological study likewise produced no areas of sensitivity within the footprint. The proposed development may proceed and there is no need for mitigation. 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 archaeological or historical remains as well as graves and fossil material should cease immediately, pending evaluation by the provincial heritage agency. It is important to note that all graves in KwaZulu-Natal, including those younger than 60 years, are protected by provincial heritage legislation.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc) for Hanslab (PTY) ltd
Type of development:	The Okhahlamba Local Municipality identified the need for a vehicular/ pedestrian bridge across a stream in Brookdale, Bergville, KwaZulu-Natal. A feasibility study was undertaken by the applicant, that included a topographical survey and geotechnical investigation. The results of the investigations were thereafter utilised to determine the most cost-effective way to construct the proposed bridge crossing. It should be noted that the upgrade of the access roads leading to the bridge does not form part of the scope of works. The following recommendations were proposed for the bridge construction: − Construct a Low-Level River Crossing Culvert Structure − Protection Gabions and Reno Mattresses The Applicant (ECA consulting Engineers) proposes to construct a vehicular/pedestrian bridge over an unnamed stream within the Rookdale area, Okhahlamba Local Municipality, KwaZulu-Natal. The design specifications are to be confirmed and the it should be noted that the design of the proposed structure is still in the planning phase. However, the project engineer has confirmed that the physical footprint of the structure will be >100m2 and will take place over the unnamed stream, and >15m3 of soil will be removed from the watercourse, and therefore triggers Activity 12 and 19 of Listing Notice 1 of the EIA Regulations, 2017, as amended (07 April 2017).
Rezoning or subdivision:	Not applicable
Terms of reference	To carry out a Phase One Heritage Impact Assessment
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 location of the proposed construction of Ntumba Culvert Bridge will take place within the Ntumba area, Rookdale in Ward 10 of Okhahlamba local Municipality, within Uthukela District Municipality. The site is located 13km West of Bergville and to the immediate east of Woodstock Dam (Figs 1, 2 & 5).

The GPS coordinates for the proposed bridge development are: 28° 42' 48.9" S and 29° 13' 44.5" E.

2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

The greater Drakensberg area is well endowed with cultural heritage, including various wilderness areas within and outside the formal protected area network. Although most literature refers to this heritage mainly in terms of San rock art, the region also contains other categories of cultural heritage features representative of various cultures and time-periods. The cultural heritage of the Drakensberg is diverse and highly fragile. Cultural heritage, unlike natural heritage, is non-renewable and irreplaceable. Once damaged, it is gone forever. San rock paintings and associated Later Stone Age sites, as well as the palaeontology of the area, are unique and have global significance. The remaining categories, however, certainly have national, provincial, and regional significance. The area has had several different cultural groups associated with it, from the San to the southern Sotho, the Zulu-speaking and Xhosa-speaking groups, and, more recently, the Griqua and Anglo-Boer descendants. Each of these groups has its own unique cultural expressions and has related in various ways to the others. These differences are found in the building styles of homes, their way of life as they interact with their environment, traditional dress, and so on. In addition, there are a number of living heritage values associated with all of these groups, many of which are unknown or poorly recorded. The following section is a more detailed description of the various cultural heritage features.

2.1.1 The Early Stone Age

The occurrence of Early Stone Age tools such as hand axes in areas below the 1 800 m contour suggests that the first inhabitants of the area predated modern humans by at least 800 000 years. Sites belonging to this period in the Drakensberg are mostly

characterised by a few surface scatters and individual stone tools – usually in the close vicinity of water. They were most probably manufactured by *Homo erectus*, a predecessor of modern humans.

2.1.2 The Middle Stone Age

Anatomically modern people *(Homo sapiens sapiens)* with a very different economic strategy and more sophisticated stone tool kits moved into the area about 200 000 years ago. Archaeological assemblages left behind by these people have been termed Middle Stone Age. Not only were these societies more effective hunters than their predecessors but Middle Stone Age sites elsewhere in southern Africa also provide convincing evidence for some of the earliest symbolic behaviour in the world. It was Middle Stone Age people from southern and eastern Africa who left the continent roughly between 80 000 – 60 000 years ago to populate the rest of the world. Middle Stone Age sites in the Drakensberg region occur in both Lesotho and South Africa. Sites occur as surface scatters as well as deep cave deposits. Prime archaeological deposits, however, occur in the Eastern Cape and Free State sections of the region. Archaeological excavations at Strathalan Cave in the Eastern Cape Province indicate that the Middle Stone Age persisted in the Eastern Cape Drakensberg until around 22 000 years ago (Mitchell 2002).

2.1.3. The Later Stone Age

The stone tool assemblages belonging to the immediate ancestors of the San or Bushmen have been termed Later Stone Age. Later Stone Age tools are generally much smaller but also more diversified than the earlier tool kits. It was during this period that the bow and arrow was used extensively, and societies exploited their environments distinctly more intensively and effectively. Literally hundreds of Later Stone Age sites prevail in the Drakensberg region. In addition, most of the rock art in the region was created by the San. The earliest evidence for Later Stone Age occupation of the Maloti Drakensberg comes from Sehonghong Cave in south eastern Lesotho and from Strathalan Cave in the Eastern Cape section of the region. Here a specific Later Stone Age period called the Robberg Industry has been dated to approximately 20 000 years ago. In contrast, evidence from Good Hope shelter 1 near the bottom of Sani Pass suggests that the earliest archaeological evidence for San people in the KwaZulu-Natal portion of the Drakensberg dates back to approximately 8 000 years ago. Whereas most parts of the Maloti Drakensberg were only seasonally occupied by San hunter gatherers

for the larger part of the last 20 000 years, the situation started to change during the later part of the Holocene around 5 000 years ago. This was compounded by the arrival of immigrant black farmers in the region soon after 1600 AD and European colonialism around 1834 AD (Wright & Mazel 2007). During the historical period, the Maloti Drakensberg and adjacent mountainous areas became the last stronghold for various southern San groups such as the Baroa, //Xegwi, !Ga!ne, //Kx'au, and //Ku//ke. Their Later Stone Age way of life finally came to an end during the late 19th century. San descendants still live in the area but for all practical purposes have assimilated with their more powerful neighbours. Many place names within the region still retained their original San pronunciations such as the Inxu, Sehonghong, Qomoqomong and Qhoasing rivers, and the Qeme, Qhuqhu, Qhalasi, and Qholaqhoe mountains. Approximately 1 300 Later Stone Age sites are known within the South African side of the Drakensberg.

2.1.4. Rock Paintings

The Maloti Drakensberg region is particularly well known for the occurrence of some of the finest and most complex prehistoric rock paintings in the world. Depictions of humans dominate, although finely executed animals such as eland and rhebuck are common. Some of the art is executed in various colours and in detailed precision that almost renders it a three dimensional aspect. Most researchers support the theory developed by Professor David Lewis-Williams and his colleagues that the figures represent trance induced visions during San religious rites (Lewis-Williams 2003). According to some researchers, the celebrated Rosetta Panel at Game Pass Shelter, situated approximately 20km to the south of the study area, holds the key to our understanding of all San rock art in the sub-Sahara region of Africa. However, this interpretation is not supported by all rock art researchers. Notable deviations from this approach have been developed by Anne Solomon, and more recently by Thomas Dowson. The Maloti Drakensberg is also one of the areas with the highest density of prehistoric rock art in the world and certainly contains the highest concentration of prehistoric art south of the Sahara in Africa. Although the scientific dating of these paintings is still under researched, recent research suggests that the oldest paintings may date to approximately 4000 years ago (Wright & Mazel 2007). This is much older than previously thought. The chronological uniqueness of the art, however, is not so much in its antiquity as in the fact that the Maloti Drakensberg was the last area in Africa south of the Zambezi River where the San rock art tradition was still actively practised. Paintings at two sites in the southern portion of the region were created as recently as 1920 (Prins 2009). The

communal areas of amaNgwane and amaZizi that is part of the greater Mnweni triangle, and includes the project area, contains approximately 300 rock painting sites. These are similar in style and context to the better known art of the Ukhahlamba Drakensberg World Heritage Site.

2.1.5. Iron Age Sites

Around 2 000 years ago the southern African demographic landscape was transformed with the arrival of the first Bantu-speaking agriculturists in the sub-region. These subsistence farmers lived for the most part in the lower altitude, wooded areas of the eastern seaboard. Around 1250 AD certain agriculturists started occupying the higher altitude, grassland areas. Sites belonging to this period in KwaZulu-Natal are referred to as Moor Park settlements and they typically occupy hill tops with a low stone walling effect. Although none occur within the designated Maloti-Drakensberg project area, they can be found at the fringes, at an altitude of approximately 1 200-1 400 m. By 1600 AD, groups such as the amaZizi reached the foothills of the northern Drakensberg near Winterton (Wright and Mazel 2007). Various splinter groups of the amaZizi left KwaZulu Natal and also settled in parts of Lesotho where, over time, they adopted a Sotho identity. The baPhuti of south eastern Lesotho are perhaps the best known of these early immigrants. By the early 1700s various other Sotho and Nguni-speaking groups moved into the area and established chieftaincies in those areas below the 1 800 m contour. Impressive Iron Age sites belonging to this period and built in typical Sotho-style occur near Harrismith and Phuthaditjhaba in the Eastern Free State. Nguni-style sites of this period have also been found in KwaZulu-Natal and the Eastern Cape parts of the Drakensberg. The expansion of the Zulu kingdom around 1818 had a major impact on Iron Age settlement in the region. Various chieftaincies were attacked, and their routed remnants typically traversed the Maloti Drakensberg region in search of better settlement elsewhere. Bandits often hid out in the mountains, and a number allegedly practised cannibalism. Perhaps the most significant development during this period was the founding of the Southern Sotho nation under King Moshoeshoe I. Various sites in Lesotho belong to this period – some of them, like Thaba Bosiu, are typically mountain strongholds. Almost 2 000 Iron-Age sites have been identified in the Maloti Drakensberg region, and most occur in altitudes lower than 1 800 m contour. Some sites belonging to the ancestors of the amaZizi and amaNgwane, the present ethic groups to live in the study area, have been recorded in the nearby Didima Nature Reserve in the south and near Bergville (Maggs 1987). In fact, there is evidence for Later Iron Age occupation in

the foothills of the northern Drakensberg, in the near vicinity of the project area, from about 1400 AD (Huffman 2007).

2.1.6. The Historical period

The historical period spans the era of colonialism that started around 1830 AD when the first missionaries and Dutch immigrants arrived from the Cape Colony in the Maloti Drakensberg region. Sites associated with Voortrekker settlement of the area occur in the eastern Free State and the northern portion of KwaZulu-Natal near Winterton and Bergville. For the most part, these were the places where laagers were formed (with very low archaeological visibility) and old farmsteads with associated grave yards. A particular site worth mentioning is Kerkenberg near Oliviershoek Pass, where Debora Retief painted the initials of her father on a rock before the trekkers descended into KwaZulu Natal. In Lesotho, the rebellion by Chief Moorosi and the resultant action by the Cape Colony government at the southern tip of the country left footprints of forts and associated graves at Moyeni Camp, Fort Hartley, Cutting Camp, and Mount Moorosi. The most important structure relating to the history of Bushman raids is most probably Forth Nottingham, in KwaZulu-Natal, which was built around 1852. Various historical mission stations founded in the mid to late 1800s such as those at Morija and St James in Lesotho and Emmaus, Reichenau, and Mariazell in South Africa, are still in active use. The Ongeluksnek Pass in the Eastern Cape is intimately associated with the epic trek of the Griqua people in 1861, led by Adam Kok. The area associated with the first native uprising against the British colonial government, by the celebrated Hlubi chief Langalibalele in 1873, is at Giants Castle Nature Reserve in the uKhlahlamba Drakensberg Park World Heritage Site. Various battle sites associated with the Basotho Wars between the Boer Republic of the Orange Free State and the Sotho Kingdom of Moshoeshoe I are to be found in the eastern Free State and adjacent parts of Lesotho. Sites belonging to the period of the Anglo-Boer War (1898-1901) abound in the eastern Free State portion of the project area. These are typically areas where skirmishes took place or where ammunition was destroyed. A few rock engravings belonging to the Anglo-Boer War period have been documented from the Golden Gate Highland Park. However, thorough research is still required to ascertain the meaning and value of these engravings. Many historical sites can be categorised as belonging to the “built environment” as defined in heritage legislation. These are the physical remnants and traces of historical settlements that underpin the cultural value and meaning of the surrounding communities.

2.1.6.1. The amaNgwane

The amaNgwane has been living near the project area since the early decades of the 19th century. According to oral history the amaNgwane originated in East Africa before migrating to southern Africa close to the present day Swaziland (Bryant 1929). At the time their Inkosi was called Somkhabasi. Around the year 1700, the amaNgwane was to be found near the White Umfolozi River, north of Babanango. During those years the tribe was under the leadership of inkosi Ngwadi. However, during the early years of the expansion of the Zulu state (around 1818 AD) the amaNgwane found themselves attacked by Shaka Zulu. They were forced to flee from Zululand and move towards the foothills of the northern Drakensberg in the Upper Tugela Basin. In the process they displaced sections of the AmZizi and amaHlubi people whom they encountered there. This was the start of the so-called Mfecane – a period of tribal turmoil associated with the militaristic expansion of the Zulu state. These groups fled across the Drakensberg and for a while settled in Lesotho. For years the wars raged until a section of the amaNgwane eventually settled in the valleys in the foothills of the northern Drakensberg near the present day Bergville. Here they lived on land formerly occupied by the AmaZizi and the AmaHlubi. However, Shaka Zulu attacked the amaNgwane once again who then fled westwards into Lesotho and finally travelled to the eastern Cape in the environs of the present day Mthatha. . Through conquering the Tlokoa and Kgolokoes tribes, Matiwane (paramount chief of the AmaNgwane tribe at the time) and his tribe managed to settle temporarily at Basutoland in the territory of Moeshoeshoe. Matiwane and Moshoeshoe, who was the Paramount Chief of the Basotho, had a good relationship; they assisted each other, although there was also periods of intense conflict. The stay of the amaNgwane in Basutoland was disturbed by the arrival of other fleeing sections of the amaZulu under their leader Mzilikazi. The amaNgwane then fled to the Eastern Cape. Matiwane and his following went through Mohaleshoek to the north-eastern Cape up to Mthatha. Here they were confronted by a combined force of European colonial soldiers and Thembu tribesman. The amaNgwane was totally defeated and the tribe dispersed during this battle of Mbolompo Point in 1822. After this period of slaughter and destruction, relative peace returned to the Drakensberg Mountains and the survivors of the various tribes came down from the mountains and re-established themselves in the river valleys. Some tribesmen remained in the Cape under the princes of the AmaNgwane: for example the descendants of Ntsimangs, son of Masumpa, are still ruling the amaNgwane in the Khobodi location. Another section of the tribe followed on Matiwane's trail later, and were settled in the Bulwer district by Sir Theophilus

Shepstone, where they remain to this day. After his return to the northern Drakensberg area Matiwane discovered that Dingane had now become the new king of the Zulu state. Dingane did not fully trust Matiwane and he did not want a powerfull African chief on his western border. He therefore arranged for his execution when Matiwane arrived to pledge his alliance to the Zulu King. .Matiwanes son and successor, fled to Swaziland and sojourned there for some time under Matiwane's friend, King Sobhuza of the Swazis. Other members of the clan fled to the then Colony of Natal, where they settled once again at their former abode in the foothills of the northern Drakensberg Mountains under Inkosi Usikali (Bryant 1929; Houston & Mbhele 2011). The arrival of the Voortrekkers and the English settlers led to further troubles. The clash over hunting grounds, private ownership of land, and the arrival of cattle led to increasing numbers of cattle raids by the Mountain San. In 1849, due to the failure of various attempts to prevent the cattle raids, a series of buffer 'native locations' were established between the European settlers and the Drakensberg Mountains. The Natal Government granted the amaNgwane a location on the upper Tugela River, in the environs of their former abode, where they formed a buffer area between raiding San from the Drakensberg and the European settlers. The amaNgwane also became the agents of the Natal Colony and assisted the settlers with the eradication of the Mountain San in the northern Drakensberg. The main body of the AmaNgwane lives in this area to the present day (Van Warmelo 1938). It is this section of the amaNgwane who is presently living in the study area.

2.1.7. Graves

There are various grave sites belonging to different periods and cultural associations in the Drakensberg region. Perhaps the most famous sites are those belonging to the southern Sotho royalty at Botha Bothe in Lesotho; the grave of Nkosi Langalibalele at Giants Castle; KwaZulu Natal graves associated with the royalty of the amaZizi and amaNgwane near Bergville, KwaZulu-Natal; the grave of Adam Kok at Matatiele, Eastern Cape; and various graves in the Free State belonging to the Voortrekker and Anglo-Boer War periods. Interestingly, graves belonging to the prehistoric San inhabitants of the area are markedly absent or, as yet, have not been identified by researchers.

2.1.8. The Living Heritage

The living heritage of the Drakensberg area is varied and as yet little understood. Yet preliminary investigations by the Maloti Drakensberg Project (Anderson 2007) indicate that certain areas, including sites in communal areas close to Underberg, are still frequented by local communities who afford them ritual or sacred significance. Such locales may include archaeological sites with a living heritage component or natural features such as mountains, forests, boulders, caves, pools, or waterfalls with cultural significance. Living heritage is not only site-specific but also relates to oral history, indigenous knowledge systems, and indigenous languages, practices, and beliefs. Oral history specifically is a rich resource that has been passed down the generations and provides diverse narratives and interpretations concerning places of historical significance. It also provides a window on community perspectives regarding heritage resources, including indigenous names for sites and plant and animal species – all of which are imbued with cultural meaning.

Indigenous Knowledge Systems (IKS) constitute an integral component of local knowledge, at grass roots level, often associated with traditional methods of land management and use. In this regard, IKS can enhance conservation and sustainable management of cultural heritage to which communities may relate. Conservation should provide an enabling environment for communities to continue with the tradition of transmitting knowledge and skills and of safeguarding their cultural heritage. Traditional ceremonies still performed in the larger Drakensberg region include the *Bale* initiation schools among certain southern Sotho groups, the *amemulo* (coming of age) ceremonies among the amaNgwane, in the environs of the study area, the *Nkubelwana* (planting of the first seed) among Zulu-speakers, rainmaking, and various ceremonies associated with the veneration of the ancestors. Six indigenous languages are still spoken in the area, including siBhaca, which was believed to be almost extinct.

Two broad categories of site-specific living heritage sites have been identified:

- Sites of national significance of which nine have been identified in the SA portion of the MDTFCA. These include rock art sites, sandstone shelters without any archaeological remains but used extensively as pilgrimage sites, two sacred forests, and three sacred mountains. All of these sites are frequented by indigenous groups as part of an annual pilgrimage.
- Sites of local significance include various pools, waterfalls, hot springs, kaolin and red ochre deposits, and boulders afforded special significance by traditional healers and

sectarian Christian groupings. Seventeen such sites have been identified in the larger Drakensberg area.

Living Heritage – Wilderness

Areas least influenced by human activities are often said to be representative of a "pristine" landscape. Such areas are recognised by the IUCN. In the context of the Drakensberg, only the Ukhahlamba Drakensberg World Heritage Site has any proclaimed wilderness areas, making up about 48% of the Park. In this regard, a specific wilderness management plan has been produced for the World Heritage site, with the express aim of retaining the integrity of these wilderness areas. In terms of the South African National Environmental Management: Protected Areas Act (no 57 of 2003), a wilderness area is defined as *"an area designated ……for the purpose of retaining an intrinsically wild appearance and character, or capable of being restored to such and which is undeveloped and roadless, without permanent improvements or human habitation*".

In addition, wilderness can be considered as a value of a given area and in this regard can be defined as a *"…largely undeveloped and intrinsically wild character of the area in vast wilderness areas that provide outstanding opportunities to experience solitude and for spiritual renewal*" (EKZNW 2006). There are a number of stakeholders promoting the concept of wilderness, including the Wilderness Action Group and the Wilderness Foundation. From a cultural heritage perspective, the concept is more akin to a western inspired ideal than an academic reality. In this sense the concept of wilderness, as an area where visitors may experience and enjoy pristine nature removed from anthropogenic influence and pollution, is therefore a western expression of living heritage. The wilderness notion, however, finds expression also in the indigenous concepts of cultural landscapes which are usually natural areas with profound cultural significance.

2.1.9. Palaeontology

Given its nature, palaeontology should be a component of geology and biodiversity. Nevertheless, the present heritage legislation in South Africa also covers palaeontology. In fact, the heritage management procedures relating to palaeontology are almost identical to those of archaeology. The palaeontological history of the Maloti Drakensberg area is fascinating as it tells the story of the super southern continent called Gondwanaland and its associated fauna and flora preserved today as fossils (McCarthy

& Rubidge 2005). Fossils and footprints belonging to various periods from around 270 million years ago to around 180 million years ago have been recorded and collected in the geological layers beneath the basalts. These layers, amongst other interesting facts, provide evidence of the greatest mass extinction of species in the world around 251 million years ago towards the end of the Permian period. Some species survived this extinction as attested by abundant fossils of certain species such as Lystrosaurus found deep in the Triassic period layers. Many of these occurrences can be found within a 10km radius from the study area. Whereas the majority of fossilized remains in the area are *therapsids* (mammal-like reptiles, ancestors of most mammal species today), the Maloti Drakensberg also harbours evidence of some of the earliest dinosaurs in the world. Footprints belonging to these early dinosaurs appear in various localities in the Molteno formations of both Lesotho and South Africa. The most celebrated paleontological site occurs in the Golden Gate Highlands National Park. Here the earliest known dinosaur eggs in the world and a near intact embryo of an average sized dinosaur, i.e. *Massospondylus,* were located by scientists some thirty years ago. These early eggs, dated to almost 200 million years ago, are almost 100 million years older than other known dinosaur nest egg sites in the world. In adjacent Lesotho the Qomoqomong Dinosaur footprint and museum site has been developed for tourism purposes. The endemic turkey size dinosaur Lesothosaurus is known from various localities within Lesotho.

3 BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

A desktop study was conducted of the archaeological databases housed in the KwaZulu-Natal Museum. In addition, the available archaeological and heritage literature covering the greater Bergville area was consulted The SAHRIS website was consulted for previous heritage surveys and heritage site data covering the project area. Various heritage impact assessments have been conducted in the greater Bergville area. Most of these cover areas to the east of Woodstock Dam and areas closer to Bergville. The NGO called Bergwatch has been actively involved in the survey and location of rock art and other related heritage sites in the Mnweni Valley to the immediate west of the study area since 1998. Merridy Pfotenhauser, initially of Bergwatch but later in her own capacity, was instrumental in this initiative that saw the active engagement of the local community in the identification of rock art sites in the area. The formation of the 'Mnweni Cultural and Rock Art Group' has been a local community driven event that has led to

the identification of numerous rock art sites. This initiative has been launced in collaboration with Amafa, the provincial heritage agency, and various Amafa based archaeologists, such as Beth Wahl, Vicky Nardell, Justine Wintjes, and more recently Celeste Rossouw has been actively involved in these initiatives during the last twenty years. The heritage agency eThembeni has been instrumental in the initial surveys by qualified archaeologists in this area. In 2001 eThembeni produced a heritage management plan for the area. This document not only focused on the rock art of the area but also the associated cultural landscapes (Wahl 2001). Additional surveys were conducted by Gavin Anderson, then of the CRM Unit at the KwaZulu-Natal Museum. All the sites recorded during these surveys have been submitted to Amafa via the SAHRIS website. The result is that the greater project area has been very well covered by previous surveys in terms of heritage sites. Many, if not all, these surveys have been supported by local communities who actively took part in the surveys and in the identification of sites.

The consultant conducted a ground survey of the footprint on 21 July 2018. The survey was conducted by following acceptable archaeological survey methods. An area of 100m was also surveyed beyond the actual footprint.

3.1.1 Guidance from Desktop Study

- The desktop study indicates that Stone Age Sites of all periods and traditons may occur in the greater Bergville area.
- Middle Stone Age tools have been found in dongas and erosion gullies at various locales in the greater Drakensberg area including areas close to the study area. These sites are usually out of context and of little research value. Middle Stone Age deposts often occur in deep cave deposits throughout KwaZulu-Natal (including the Eastern Cape Drakensberg area and adjacent parts of Lesotho).
- Later Stone Age sites are more prolific in the Drakensberg . These include rock art sites. Almost 1000 rock art sites occur on the greater Drakensberg area. Approximately 300 rock art sites have been located my members of the Mnweni Cultural and Rock Art Group in near vicinity of the project area. The abundance of sandstone shelters and outcrops in the project area do point to the potential occurrence of these sites on the footprint.

- Early Iron Age Sites typically occur along major river valleys below the 700 m contour in KwaZulu-Natal. It is very unusual to find sites above the 1000m contour. The project area is situated above the 700m contour far removed from a major river valley setting. It is therefore most unlikely to expect Early Iron Age sites at the project area.
- Later Iron Age sites may occur in the project area. These sites were occupied by the ancestors of the first Nguni-speaking agriculturists as well as their descendants who settled in KwaZulu-Natal. Later Iron Age sites are known from areas closer to Bergville and further to the east. Often sites are only located with referece to historical or oral data.
- Historical buildings, structures and farmsteads do occur scattered throughout the greater Bergville area.. Historical era buildings and structures could occur at or near the project area.
- 'Living heritage sites' has previously been recorded in the nearby Mnweni Valley. These are mostly rock art sites that are are still being used by sheep herders and other community members as well as pools with religious values.

3.2 Restrictions encountered during the survey

3.2.1 Visibility

Visibility was good.

3.2.2 Disturbance

No disturbance of any potential heritage features was noted. However, soil erosion is evident along the banks of the unnamed stream that will flow under the proposed bridge (Fig 6).

3.3 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.

4 DESCRIPTION OF SITES AND MATERIAL OBSERVED

4.1 Locational data

Province: KwaZulu-Natal
Closest Towns: Bergville
Municipality: Okhahlamba Local Municipality

4.2 Description of the general area surveyed

4.2.1 Backgound

The steep Okhahlamba Drakensberg escapement dominates the area . The project area is situated to the immediate east of Woodstock Dam in the Rookdale area (Figs 1, 2, & 5) and can be described as peri-urban. Although the footprint is situated close to the Maloti Drakensberg World Heritage Site it falls without the buffer zone demarcated for this UNESCO listed World Heritage Site (Fig 4). It does not contain the same cultural landscape features as the Mnweni Valley area to the immediate west of Woodstock Dam. Neverheless, rural and peri-urban homes dominates the area with small-scale subsistence farming still being a dominant part of the local economy. The proposed Ntumba Bridge crosses a local unnamed stream that eventually drains into the Woodstock Dam (Figs 6 & 7).

4.2.2 Stakeholder Consultation

In terms of active stakeholder consultation the consultant spoke to local residents whom he encountered near the footprint during the survey. None of them had knowledge of any heritage sites and/or graves that may occur on or near the footprint.

4.3 Heritage sites identified

Although the areas surroubding the footprint is extremely rich in rock art (Figs 3 & 4) none were located during the ground survey. In fact, no heritage sites (including archaeological, historical, graves, and living heritage sites) occur on the footprint. The

footprint also has no paleontological sites or sensitive areas (Appendix 1). The area is not part of any known cultural landscape.

4.4 Field Rating

The rating of heritage sites as developed by SAHRA (Tables 2 & 3) does not apply as no heritage sites occur on the footprint.

Table 2. 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 3. Evaluation and statement of significance (excluding paleontology).

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, cultu-ral 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 CONCLUSION

No heritage sites or features occur on the footprint. The area is also not part of any known cultural landscape. In addition, the palaeontologist reports that there are no paleontological features of any significance on the footprint (Appendix 1). The proposed development of the Ntumba Bridge may proceed from a heritage point of view. However, It is important to take note of the KwaZulu-Natal Heritage Act that requires that any exposing of graves (see Appendix 1) and archaeological and historical residues as well as fossil material should cease immediately pending an evaluation by the heritage authorities.

6 MAPS AND FIGURES

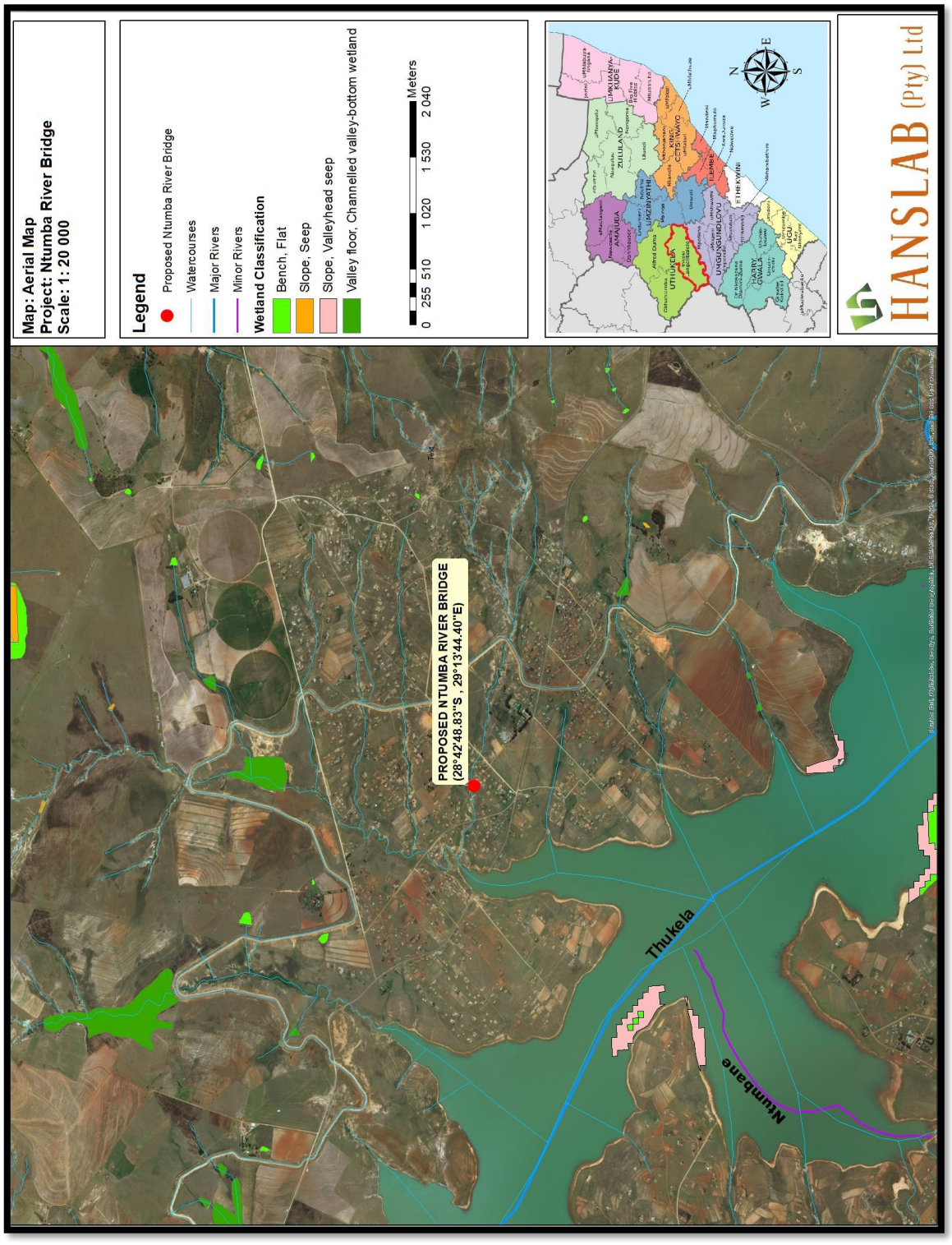

Figure 1. Google Earth Imagery showing the location of the proposed Ntumba Bridge near Bergville, northern KwaZulu-Natal (Source: Hanslab).

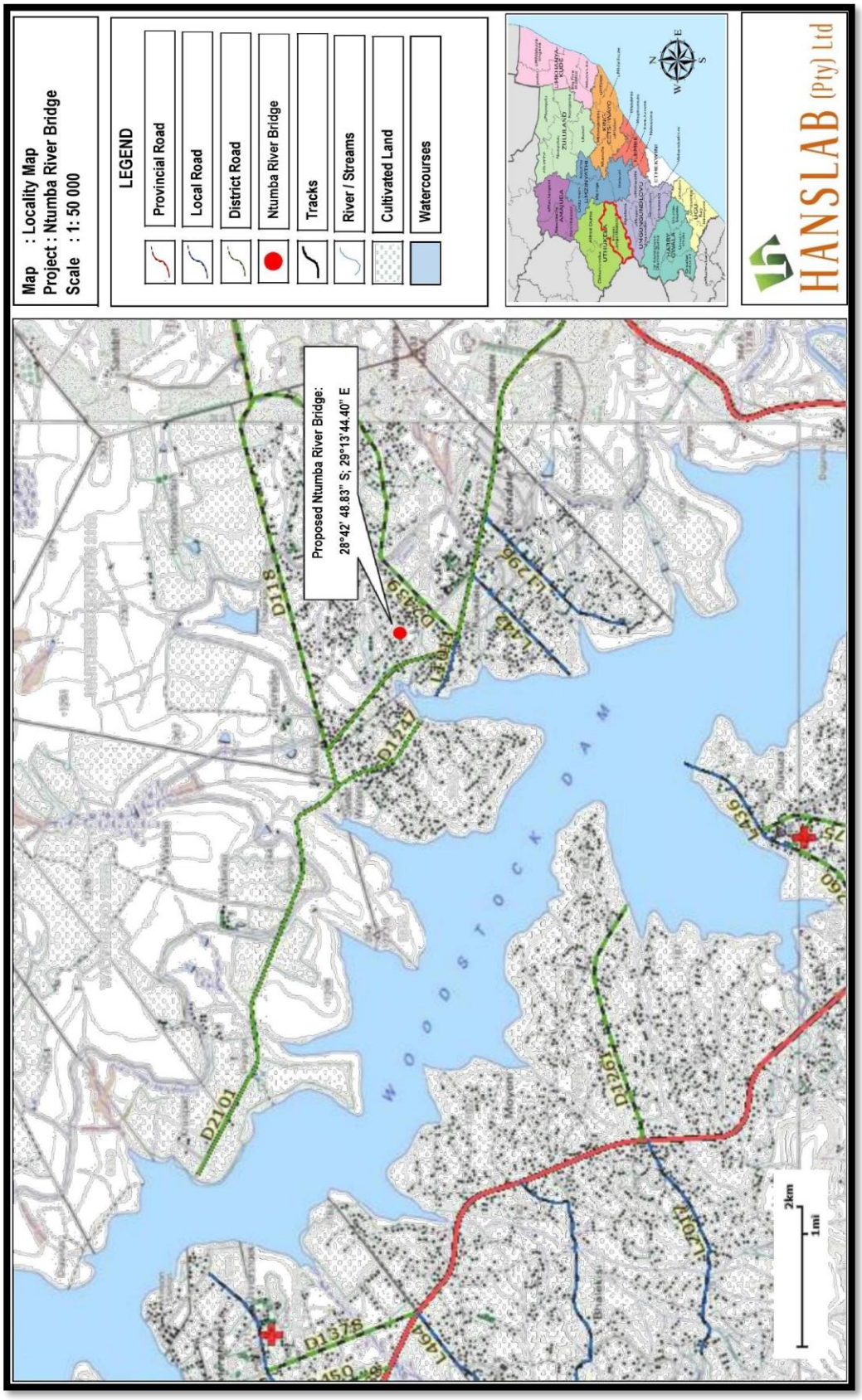

Figure 2. Map showing the location of the proposed Ntumba Bridge near Bergville, northern KwaZulu-Natal (Source: Hanslab)

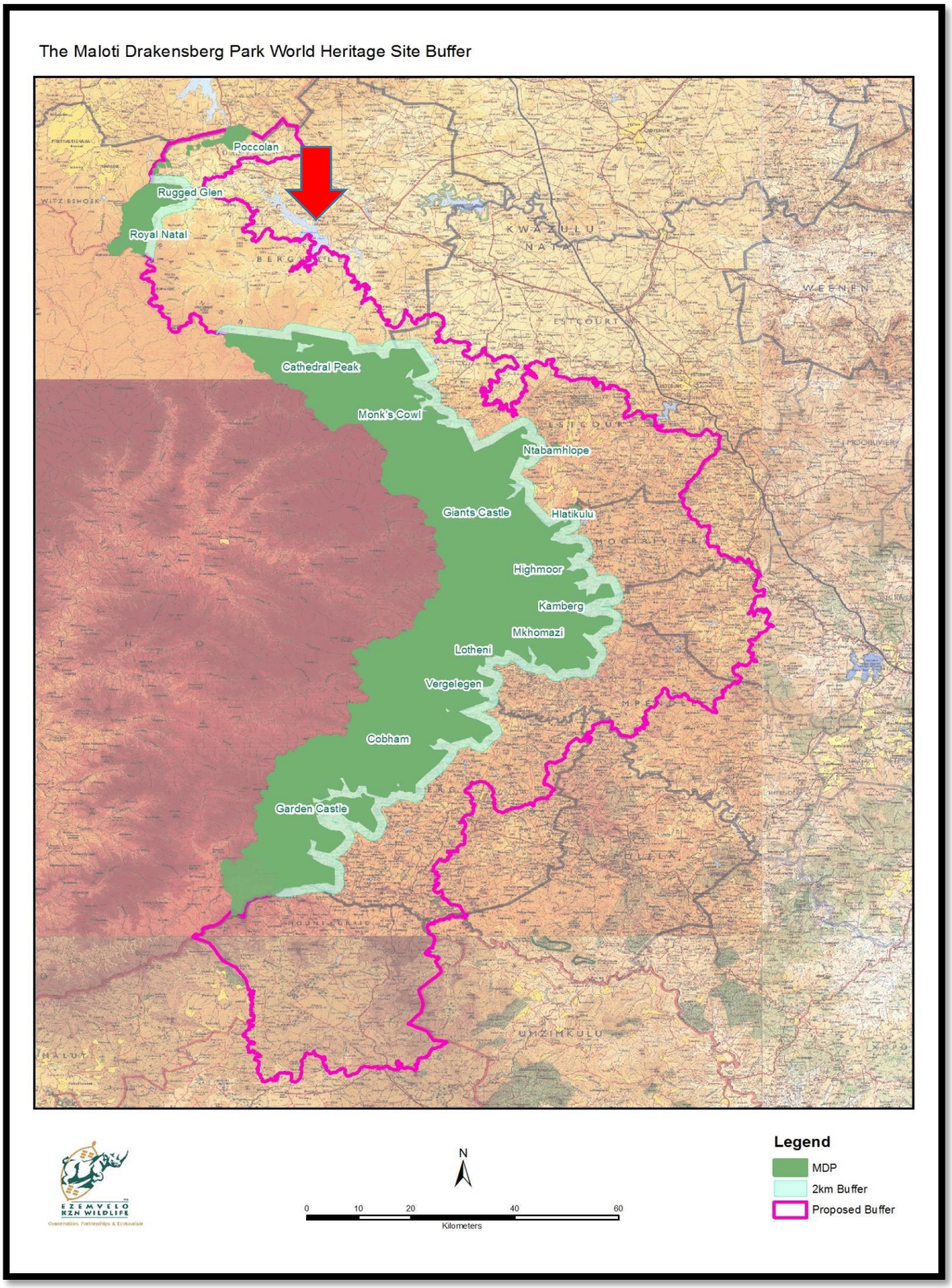

Figure 3. Map showing the proposed buffer zone of the Maloti Drakensberg World Heritage Site. The project area is indicated by the red arrow (Source: Ezemvelo).

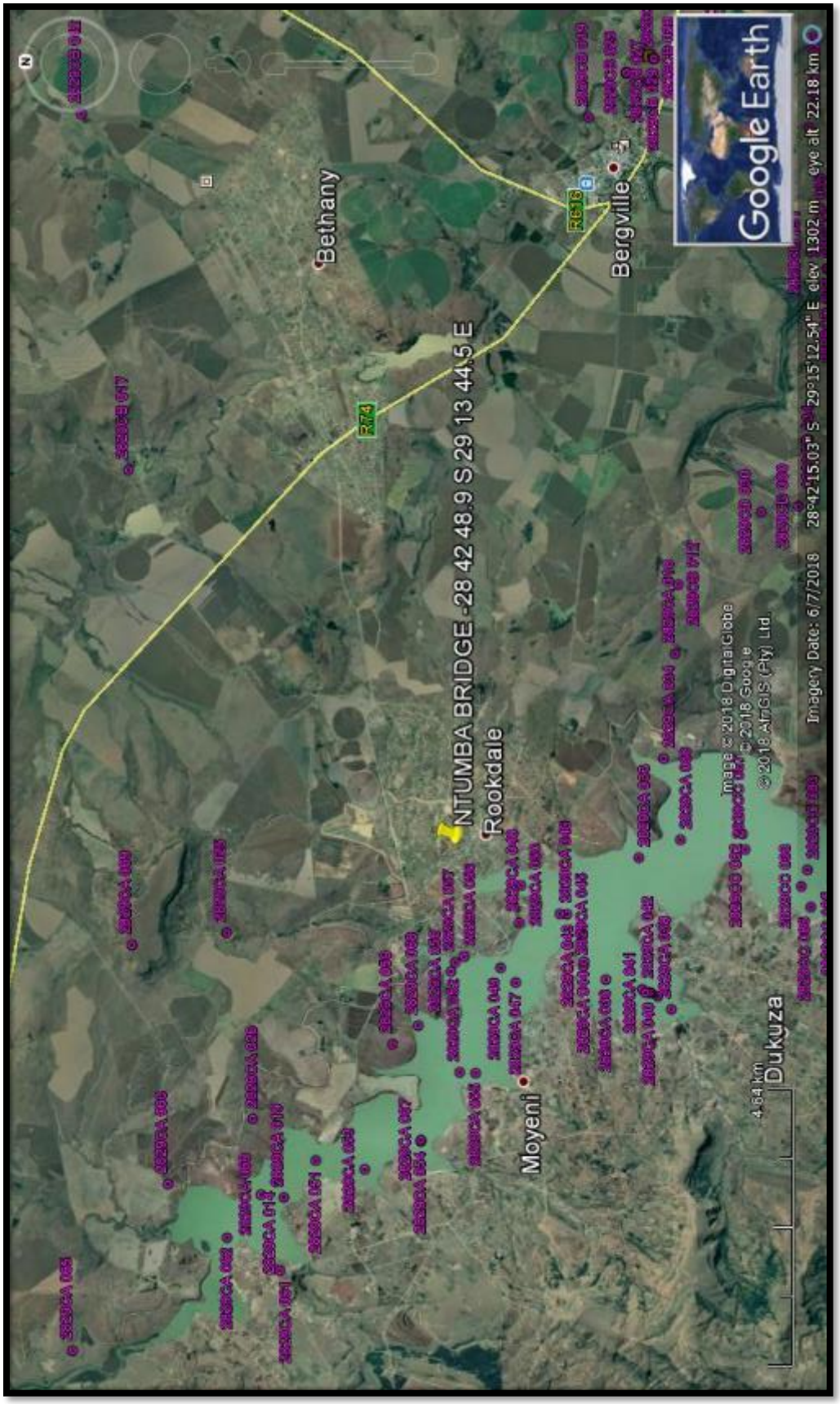

Figure 4. Google Earth Imagery showing the distribution of known heritage sites (purple polygons) in the near environs to the project area.

Figure 5. View of the greater project area. The Maloti Drakensberg World Heritage Site is situated in the background with the Woodstock Dam in the foreground. All the residential dwellings are younger than 60 years old.

Figure 6. Although erosion is evident along the unnamed stream identified for the setting of the proposed Ntumba Bridge there were no archaeological artifacts located along the erosion banks.

Figure 7. Photograph showing the exact llocality identified for the construction of the proposed Ntumba Bridge (Source: Hanslab)

7 REFERENCES

Anderson, G. 2007. Living Heritage Survey of the Ukhahlamba Drakensberg World Heritage Site. Unpublished report conducted for the Maloti Drakensberg Transfrontier Project: Howick

Bryant, A. T. 1965. *Olden times in Zululand and Natal*. Cape Town: C. Struik.

Bulpin, T.V. 1966. *Natal and the Zulu Countr*y. Cape Town: Books of Africa.

Derwent, S. 2006. *KwaZulu-Natal Heritage Sites: A Guide to Some Great Places*. David Phillips: Cape Town

Wahl, B. 2001. *Cultural Landscape Heritage Management Plan for the Mnweni Triangle.* eThembeni Report. Unpublished Report submitted to Amafa.

Huffman, T. N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press. Pietermaritzburg.

Lugg, H.C. 1949. *Historic Natal and Zululand*. Pietermaritzburg: Shuter and Shooter.

Maggs, T. The Iron Age farming communities. In Duminy, A. and Guest, B. 1989. *Natal and Zululand: from Earliest Times to 1910. A New History*. Pg. 28-46. University of Natal Press. Pietermaritzburg.

Mazel, A. The Stone Ages. In Duminy, A and Guest, B. 1989*. Natal and Zululand: from Earliest Times to 1910.* A New History. Pg. 1-27. University of Natal Press. Pietermaritzburg.

Mitchell, P. 2002. *The Archaeology of Southern Africa*. Cambridge University Press: Cambridge

SAHRA, 2005. *Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports, Draft version 1.4.*

APPENDIX 1

PALAEONTOLOGICAL IMPACT ASSESSMENT (PHASE 2) FOR THE CONSTRUCTION OF THE NTUMBA VEHICULAR AND PEDESTRAIN BRIDGE AT BROOKDALE, KWAZULU-NATAL

Gary Errol Trower

MA Environmental Management, UFS

13 September 2018

Introduction

In terms of the National Environmental Management Act 107 of 1998, Section 38 (8) of the National Heritage Resources Act 25 of 1999 (sections 34-36), and the KwaZulu-Natal Heritage Act 4 of 2008 (sections 33-36), all aspects of heritage are protected. Proposed developments that are likely to impact on heritage resources (i.e. historical, archaeological, palaeontological & cosmological) require a desktop and/or field assessment to gauge the importance of such resources (if present) in order to ensure (through detailed documentation; mitigation measures or rescue excavation) that such sites are not damaged or destroyed by the processes that threaten them.

The Okhahlamba Local Municipality, KwaZulu-Natal proposes to construct a low-level vehicular and pedestrian bridge over a small stream that flows west into the Woodstock Dam in order to improve access, especially during high water levels when crossing becomes dangerous for pedestrians (Figure 1 & 2). The construction will include a culvert structure, protection gabions and reno mattresses. The proposed bridge is situated within an area where the underlying geology is likely to yield palaeontological material, given the highest ranking of red (highly sensitive) according to the SAHRIS map (www.sahra.org.za/sahris/map/palaeo). Therefore a ground survey was required to conduct a palaeontological impact assessment of possible fossil material at the site of the proposed development.

Figure 1: Satellite image of the area where the bridge will be constructed, on the eastern banks of the Woodstock Dam within the Rookdale area. Modified Google Earth image, DigitalGlobe 2018

Figure 2: Satellite image showing a zoomed-in view of the site of the proposed vehicular and pedestrian bridge. The STREAM flows into the Woodstock Dam and during periods of high rainfall becomes dangerous for pedestrians to cross, necessitating the construction of the bridge to ensure safe access. Modified GoogleEarth image, DigitalGlobe2018

Geological background

In terms of geology the site contains rocks belonging to the Beaufort Group, a deposit characterized by various lenses of sandstone, mudstone and shale representing a fluvial palaeoenvironment. This depositional unit accumulated from the Middle Permian to the early part of the Middle Triassic in southern Gondwana and follows conformably after the Ecca Group. The Beaufort Group forms an important component and subdivision of the stratigraphy of the Karoo Supergroup of southern Africa, an extensive inland basin which preserves a rich array of tetrapod fauna which existed through the Permo-Triassic (Rubidge 2005, Smith *et al*. 1993).

In the Bergville district most deposits of the Beaufort Group belong to the arenaceous Katberg Formation, with the exposed strata predominated by mudstones deposited in a braided fluvial system. However this zone also includes the argillaceous Palingkloof Member, uppermost unit of the Balfour Formation and the lower third of the Burgersdorp Formation (Groenewald & Kitching 1995). The Katberg and Burgersdorp Formation are considered to be one of the best records in the world of Lower to early Middle Triassic terrestrial faunas, containing palaeontological material falling within the *Lystrosaurus* and *Cynognathus* Assemblage Zones. These zones are named after the characteristic genera abundantly present in these horizons, and these mammal-like reptiles are the biostratigraphic markers or index fossils for the depositional structures preserved in these units.

Fossils found in the broader Bergville district include amphibians (e.g. *Lydekkerina*, *Micropholis*, *Broomistega*), therocephalians (e.g. *Moschorhinus*, *Tetracynodon*, *Scaloposaurus*), gorgonopsians (*Cyonosaurus*), cynodonts (e.g. *Thrinaxodon*, *Glochinodontoides*), dicynodonts (e.g. *Lystrosaurus*, *Dicynodon*, *Oudenodon*),

parareptilians (e.g. *Procolophon*), fish, insects and plants (ESI database, Ponomarenko & Mostovski 2005, Rubidge 2005, Seldon& Nudds 2011). Furthermore, the rocks from this assemblage zone have yielded the most diverse Mesozoic amphibian fauna in Africa (Schoch & Rubidge 2005).

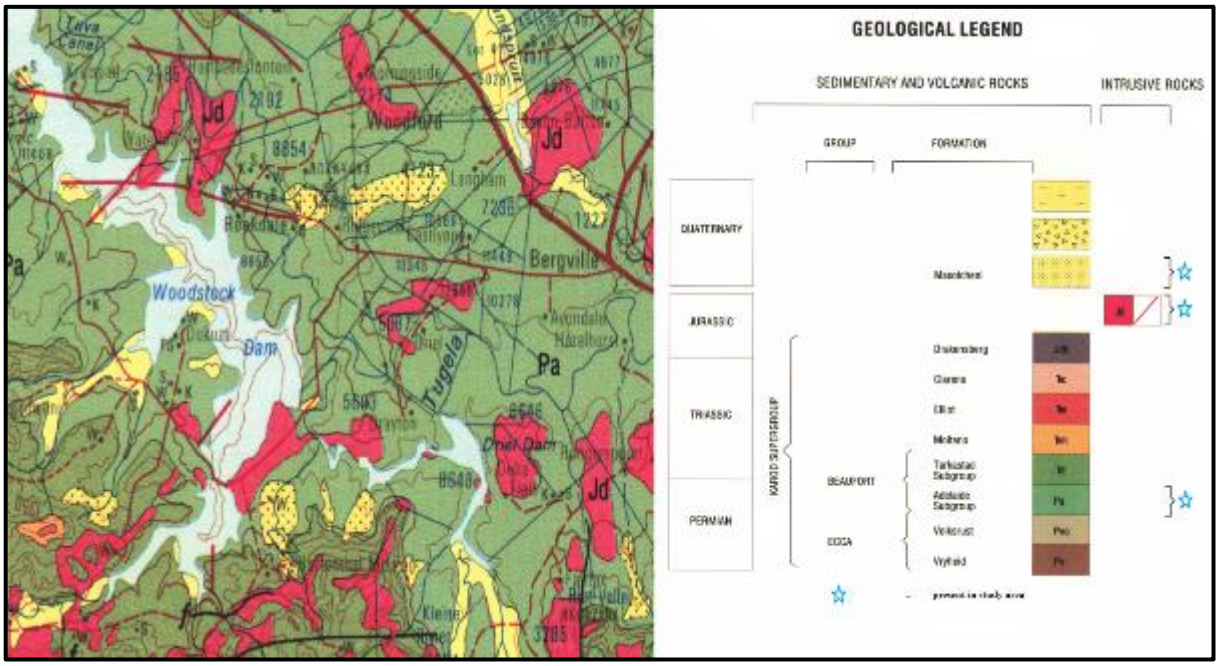

Figure 3: Map showing geology of the region, an area dominated by Late Permian-aged sediments. Rock types which occur in the study area are indicated with a blue star. The proposed development will take place on top of the Adelaide Subgroup (Pa) of the Beaufort. Patches of Jurassic-aged dolerite rocks are also present (Jd), as well as Quaternary-aged deposits (yellow). (Modified from 2828 Harrismith, 1:250 000 Geological Series, Council for Geoscience, 1998)

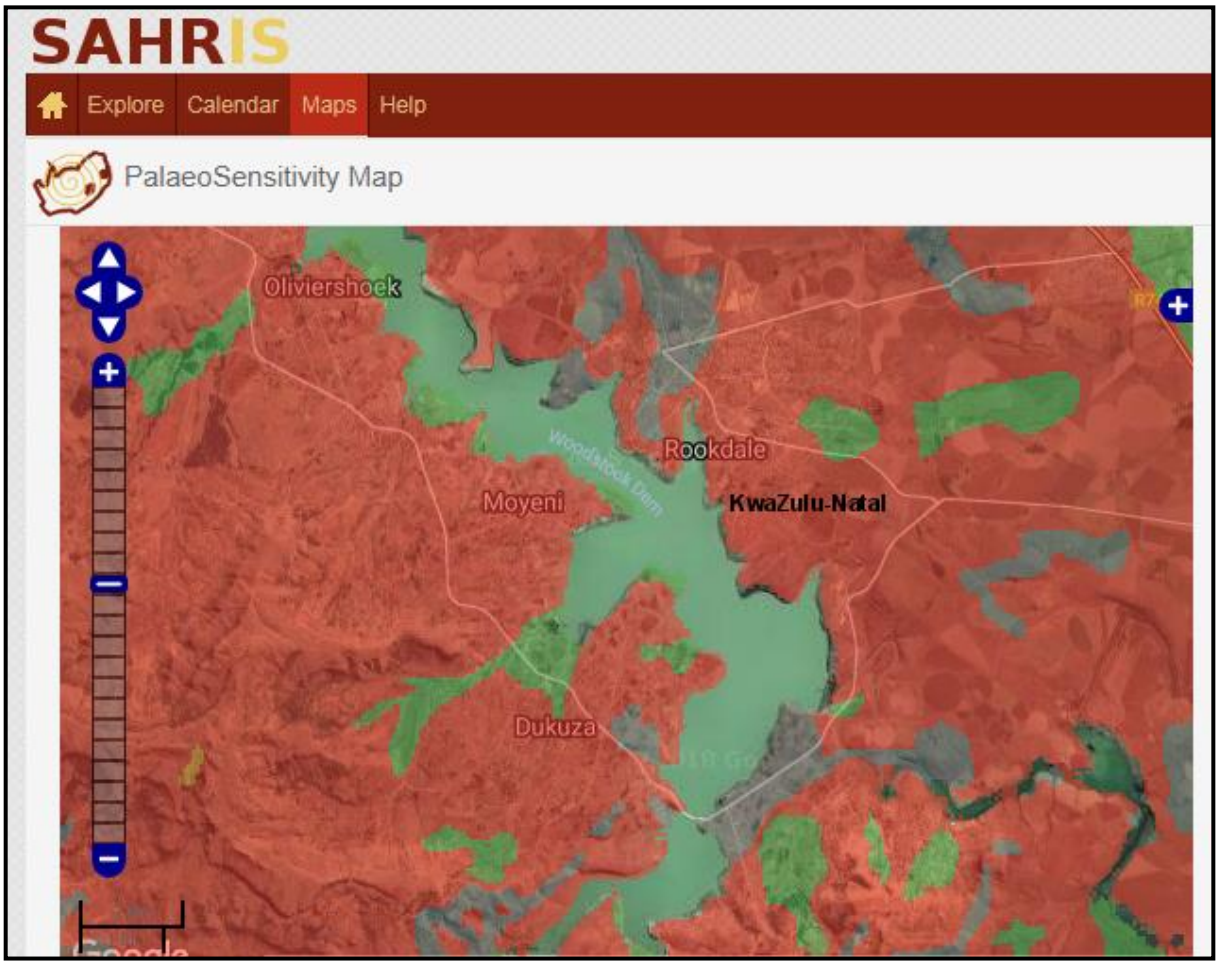

Figure 4: SAHRIS PalaeoSensitivity Map showing that the study area has the highest ranking (red) for potential fossil occurrences. Quaternary deposits within the study area are given a green rating, meaning that they have a low potential for the presence of fossils. Although Quaternary deposits may contain archaeology, it this region they appear to be devoid of fossil material (modified from www.sahra.org.za/sahris/map/palaeo)

Site observations

This development occurs in a highly sensitive region in terms of palaeontological resources (Figure 4). However the survey of the exposed geology at the study site (Figures 5-8) revealed no fossil material. In addition, no trace fossils in the form of footprints, invertebrate trails or coprolites were observed during the survey. As the rocks

of this region are highly fossiliferous, it is probable that fossil material is located within the general area but was not observed at the study site.

Figures 5-8: Photographs showing exposed Beaufort bedrock and Quaternary alluvial deposits at the site of the proposed bridge. During the ground survey no palaeontological material was observed within either of these exposures

Recommendations

Although several fossil and archaeological sites are known within the broader district, the construction of the bridge will have no impact on palaeontological resources. Based on the assessment from the field survey, my recommendation is that the construction of the bridge can go ahead. Infrastructure upgrades should proceed with caution, and in a sensitive manner, as heavy machinery may expose fossils not visible during the ground

survey. If construction activities should reveal palaeontological material, construction should halt immediately. The relevant heritage resources agency in the province (Amafa) would need to be informed and a field palaeontologist would be required to visit the site to evaluate such fossil discoveries.

Conclusion

The development can go ahead as no palaeontological material will be threatened by this development. Furthermore the people living within the study area will benefit from this bridge as it will serve local communities on either side of it and make access easier, especially for school children who currently struggle to navigate the crossing.

References

1) Evolutionary Studies Institute fossil collection database

2) Groenwald, G.H. and Kitching, J. 1995. Biostratigraphy of the *Lystrosaurus* Assemblage Zone; pp. 35-39 in B.S. Rubidge (ed.), Biostratigraphy of the Beaufort Group (Karoo Supergroup). South African Committee for Stratigraphy, Biostratigraphic Series 1.

3) Ponomarenko, A.G. and Mostovski, M.B. 2005. New beetles (Insecta: Coloeptera) from the Late Permian of South Africa. *African Invertebrates* 46: 253-260

4) Rubidge, B.S. 2005. Re-uniting lost continents - fossil reptiles from the ancient Karoo and their wanderlust. *South African Journal of Geology* 108 (1): 135-172

5) Schoch, R.R. andRubidge, B.S. 2005. The Amphibamid *Micropholis*from the *Lystrosaurus* Assemblage Zone of South Africa. *Journal of Vertebrate Paleontology* 25(3): 502-522

6) Selden, P. and Nudds, J. 2011. Evolution of Fossil Ecosystems, Chapter 9, "Karoo" (2nd ed.).Manson Publishing. pp. 104-122.

7) Smith, R.M.H., Eriksson, P.G. and Botha, W.J. 1993. A review of the stratigraphy and sedimentary environments of the Karoo-aged basins of Southern Africa. *Journal of African Sciences 16*: 143-169