



## APPENDIX D

SPECIALIST REPORTS

D3 – HERITAGE IMPACT ASSESSMENT REPORT

**DESKTOP HERITAGE SURVEY OF THE PROPOSED  
TUGELA FERRY BRIDGE**

**FOR AFZALEA ENVIRONMENTAL**

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## INTRODUCTION

The Tugela Ferry Bridge crosses the Tugela River near the old Smits drift Ferry. The proposal intends to build a second bridge on the upstream side of the existing bridge. The existing bridge (Bridge No. 399) is a single lane structure 5.4m wide and 166m long. The traffic backlog on either side of the bridge has been noted, as well as the increased numbers of pedestrians.

The existing “three span structural steel bridge is being refurbished and sidewalks are being added on either side. This refurbishment will not address the vehicle traffic congestion although it will increase the life span of the structure and increase the pedestrian capacity. This bridge has monument status and may not be demolished” (Afzelia 2014). The upgrades to the existing bridge have been approved by Amafa KZN (Case ID: 2334).2

There is an existing servitude on the upstream side of the bridge that is probably related to the existing bridge, AND THIS IS ~15m upstream of the existing structure. The properties to be affected are a house, a butcher shop on the north side and a gauge station on the upstream north bank. A retaining wall will be built on the southern bank that will protect any buildings.

The location of the proposed bridge is shown in Figures 1 – 3. Figure 4 shows the existing Tugela Ferry Bridge.

Umlando was approached by Afzelia Environmental Consultants to undertake an HIA for the project. Umlando suggested that since the area has been heavily affected by previous developments and occasional flooding, that a desktop study should suffice.

FIG. 1 GENERAL LOCATION OF THE

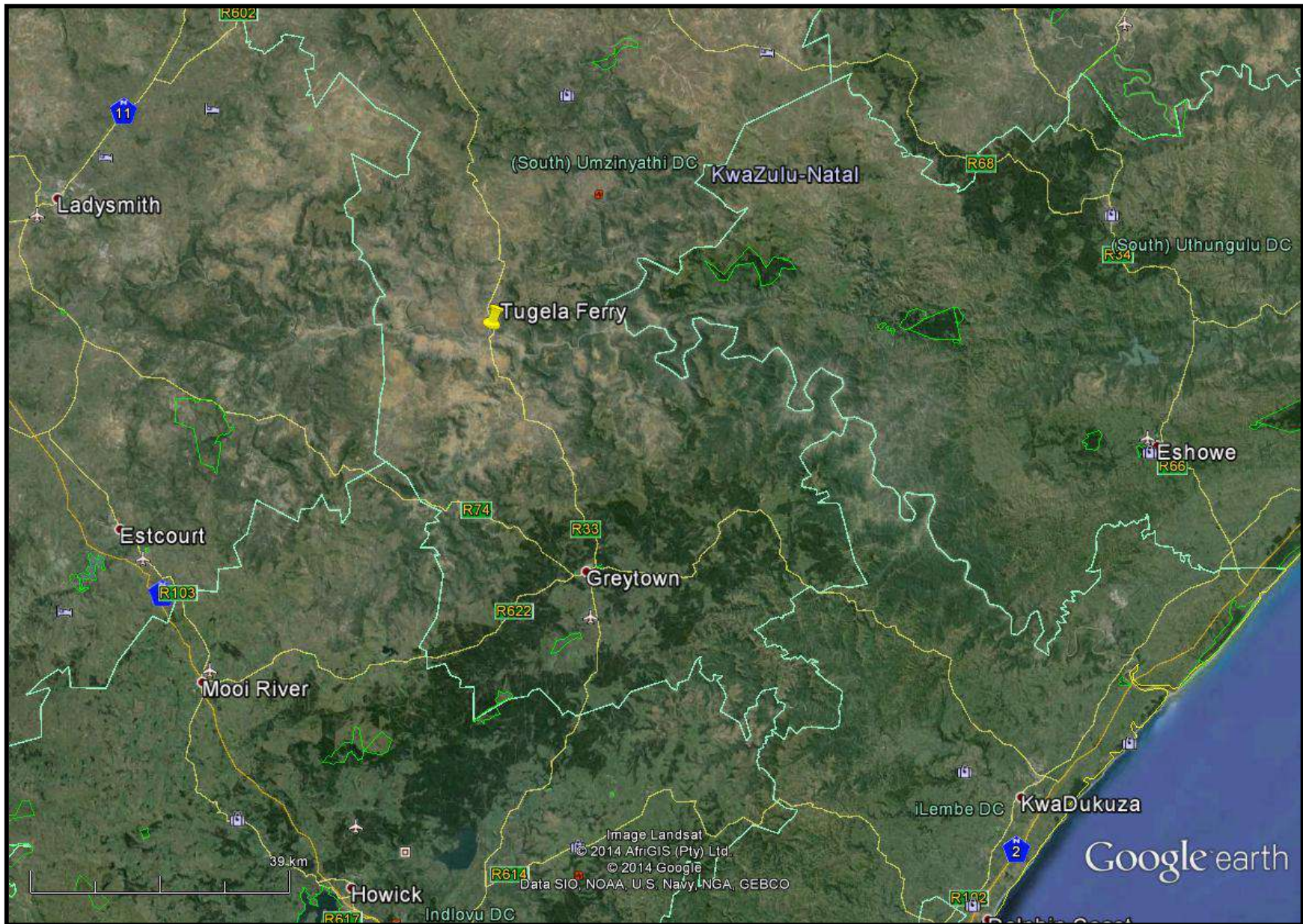


FIG. 2: AERIAL OVERVIEW OF THE

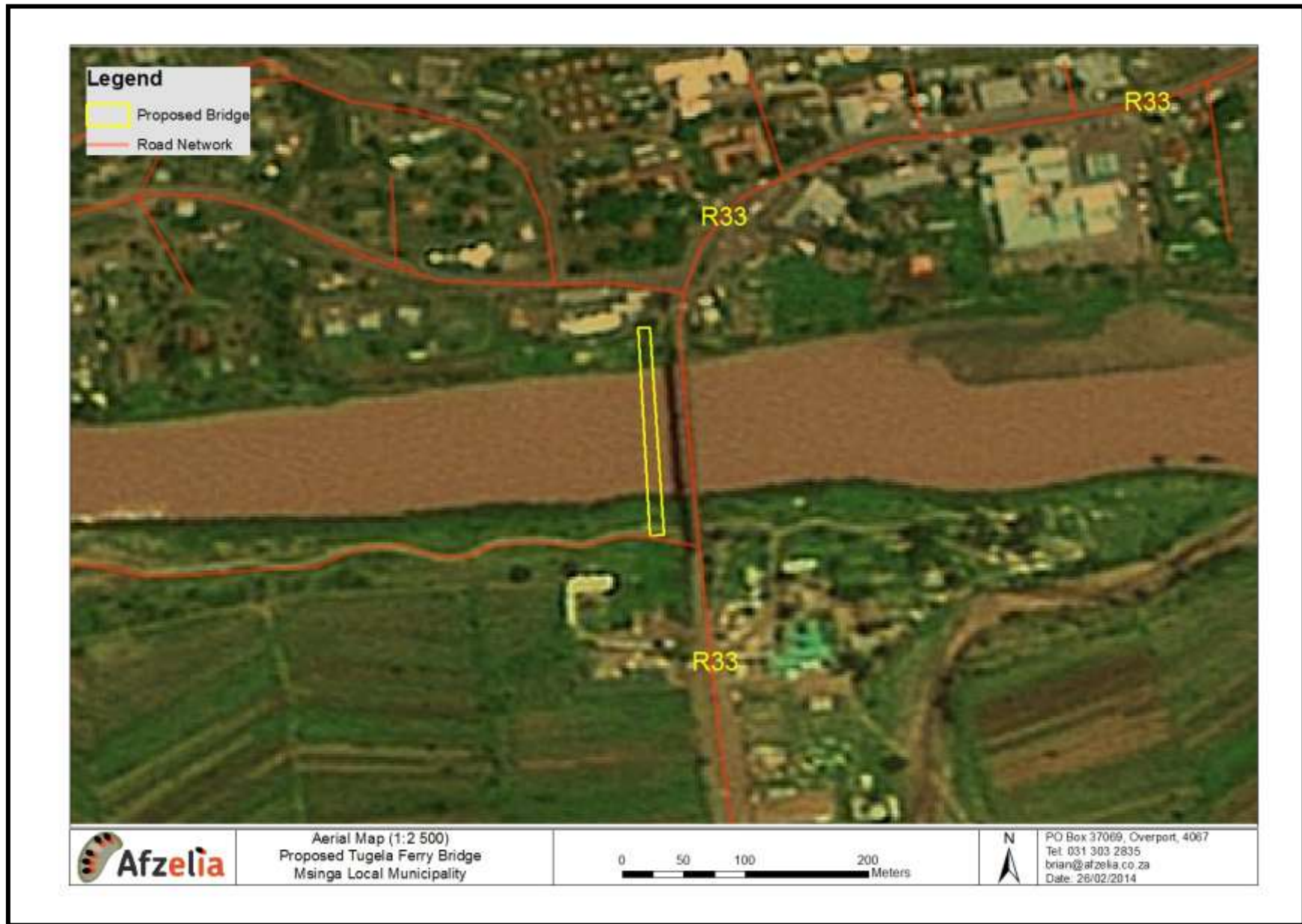


FIG. 3: TOPOGRAPHICAL MAP OF THE

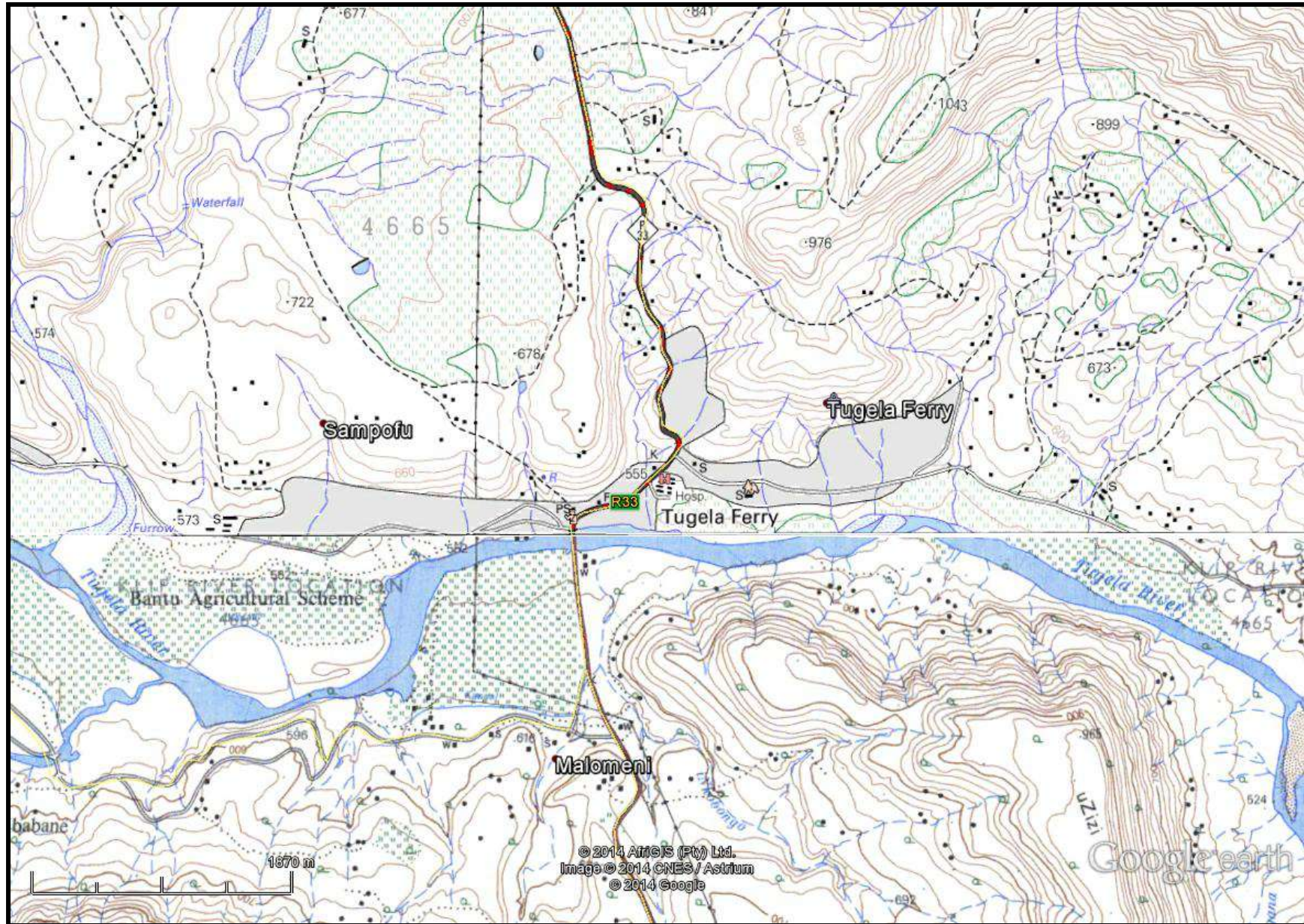
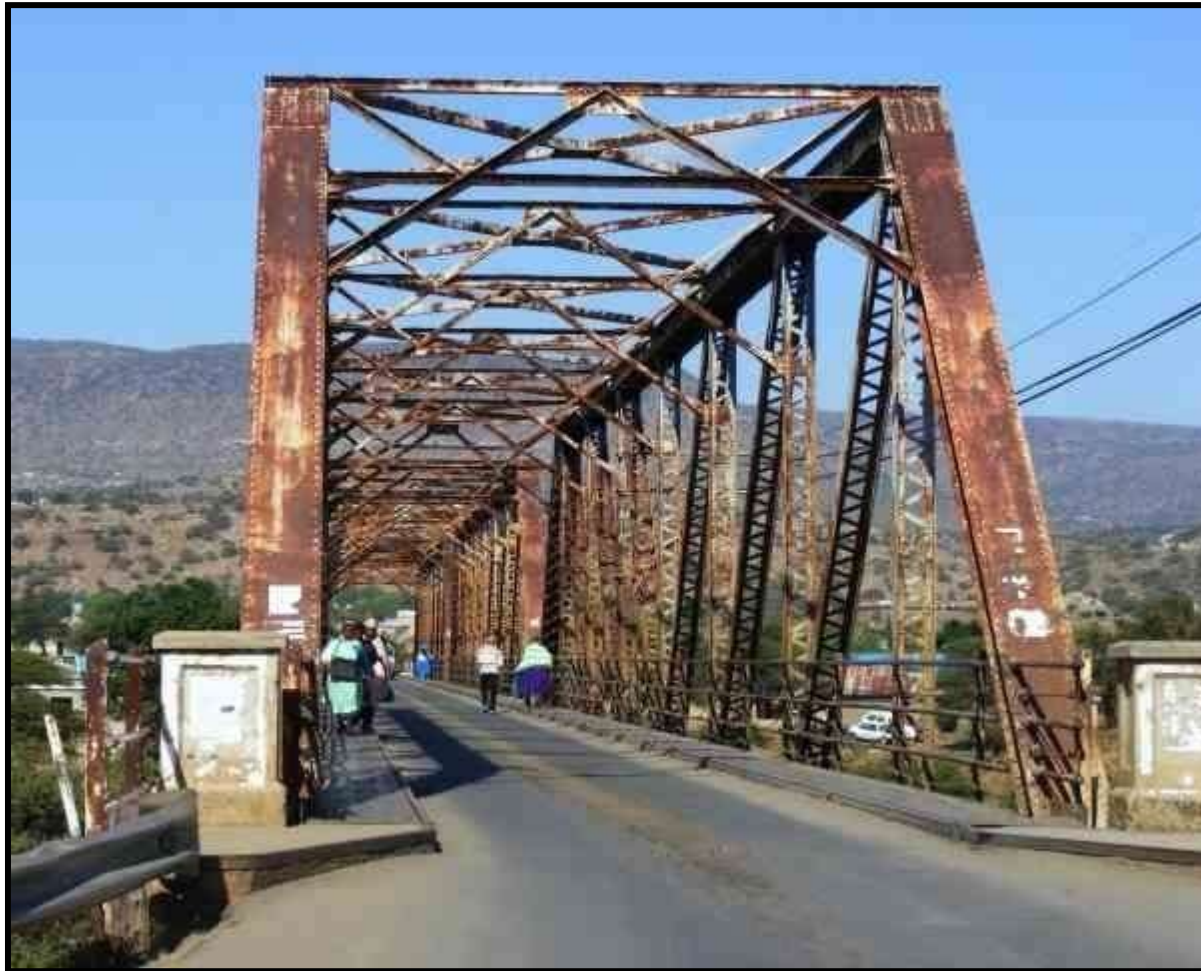


FIG. 4: EXISTING TUGELA FERRY BRIDGE





## KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008

“General protection: Structures.—

- No structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior written approval of the Council having been obtained on written application to the Council.
- Where the Council does not grant approval, the Council must consider special protection in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- The Council may, by notice in the *Gazette*, exempt—
- A defined geographical area; or
- defined categories of sites within a defined geographical area, from the provisions of subsection where the Council is satisfied that heritage resources falling in the defined geographical area or category have been identified and are adequately protected in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.

General protection: Graves of victims of conflict.—No person may damage, alter, exhume, or remove from its original position—

- the grave of a victim of conflict;
- a cemetery made up of such graves; or
- any part of a cemetery containing such graves, without the prior written approval of the Council having been obtained on written application to the Council.
- General protection: Traditional burial places.—
- No grave—
- not otherwise protected by this Act; and
- not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council.

The Council may only issue written approval once the Council is satisfied that—

- the applicant has made a concerted effort to consult with communities and individuals who by tradition may have an interest in the grave; and
- the applicant and the relevant communities or individuals have reached agreement regarding the grave.

General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites.—

- No person may destroy, damage, excavate, alter, write or draw upon, or otherwise disturb any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- Upon discovery of archaeological or palaeontological material or a meteorite by any person, all activity or operations in the general vicinity of such material or meteorite must cease forthwith and a person who made the discovery must submit a written report to the Council without delay.
- The Council may, after consultation with an owner or controlling authority, by way of written notice served on the owner or controlling authority, prohibit any activity considered by the Council to be inappropriate within 50 metres of a rock art site.
- No person may exhume, remove from its original position or otherwise disturb, damage, destroy, own or collect any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- No person may bring any equipment which assists in the detection of metals and archaeological and palaeontological objects and material, or excavation equipment onto any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, or meteorite impact site, or

- use similar detection or excavation equipment for the recovery of meteorites, without the prior written approval of the Council having been obtained on written application to the Council.
- The ownership of any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site, on discovery, vest in the Provincial Government and the Council is regarded as the custodian on behalf of the Provincial Government.” (KZN Heritage Act of 2008)

## **METHOD**

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. This databases contains archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (<http://www.vuvuzela.com/googleearth/monuments.html>) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1<sup>st</sup> and 2<sup>nd</sup> edition 1:50 000 topographical and 1937 aerial photographs where available, to assist in general location and dating of buildings and/or graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan.

All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

### Defining significance

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

#### **1. State of preservation of:**

- 1.1. Organic remains:
  - 1.1.1. Faunal
  - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
  - 1.5.1. Ash Features
  - 1.5.2. Graves
  - 1.5.3. Middens
  - 1.5.4. Cattle byres
  - 1.5.5. Bedding and ash complexes

#### **2. Spatial arrangements:**

- 2.1. Internal housing arrangements

2.2. Intra-site settlement patterns

2.3. Inter-site settlement patterns

**3. Features of the site:**

3.1. Are there any unusual, unique or rare artefacts or images at the site?

3.2. Is it a type site?

3.3. Does the site have a very good example of a specific time period, feature, or artefact?

**4. Research:**

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

**5. Inter- and intra-site variability**

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

**6. Archaeological Experience:**

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

**7. Educational:**

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

**8. Other Heritage Significance:**

8.1. Palaeontological sites

8.2. Historical buildings

8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites

8.4. Graves and/or community cemeteries

8.5. Living Heritage Sites

8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

## DESKTOP STUDY RESULTS

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous archaeological surveys. The archaeological database indicates that there are archaeological sites in the general area (fig. 5). These sites include all types of Stone Age and Iron Age sites. No sites occur in the study area.

No national monuments, battlefields, or historical cemeteries are known to occur in the study area, although the Tugela Ferry Bridge is reported to be a Provincial Monument (fig. 4). This bridge is not shown on list of heritage sites ([http://en.wikipedia.org/wiki/List\\_of\\_heritage\\_sites\\_in\\_KwaZulu-Natal](http://en.wikipedia.org/wiki/List_of_heritage_sites_in_KwaZulu-Natal)), however this may be an omission.

The original store and ferry site at Smits drift was granted to Mr Frank Carter on 25/02/1918. This was 7.1 acres at a rental cost of £50 per annum (South African house of Assembly, 1918. Case No. 52.). The document does not state the exact location of the trading store.

FIG. 5: LOCATION OF KNOWN HERITAGE SITES NEAR THE STUDY AREA

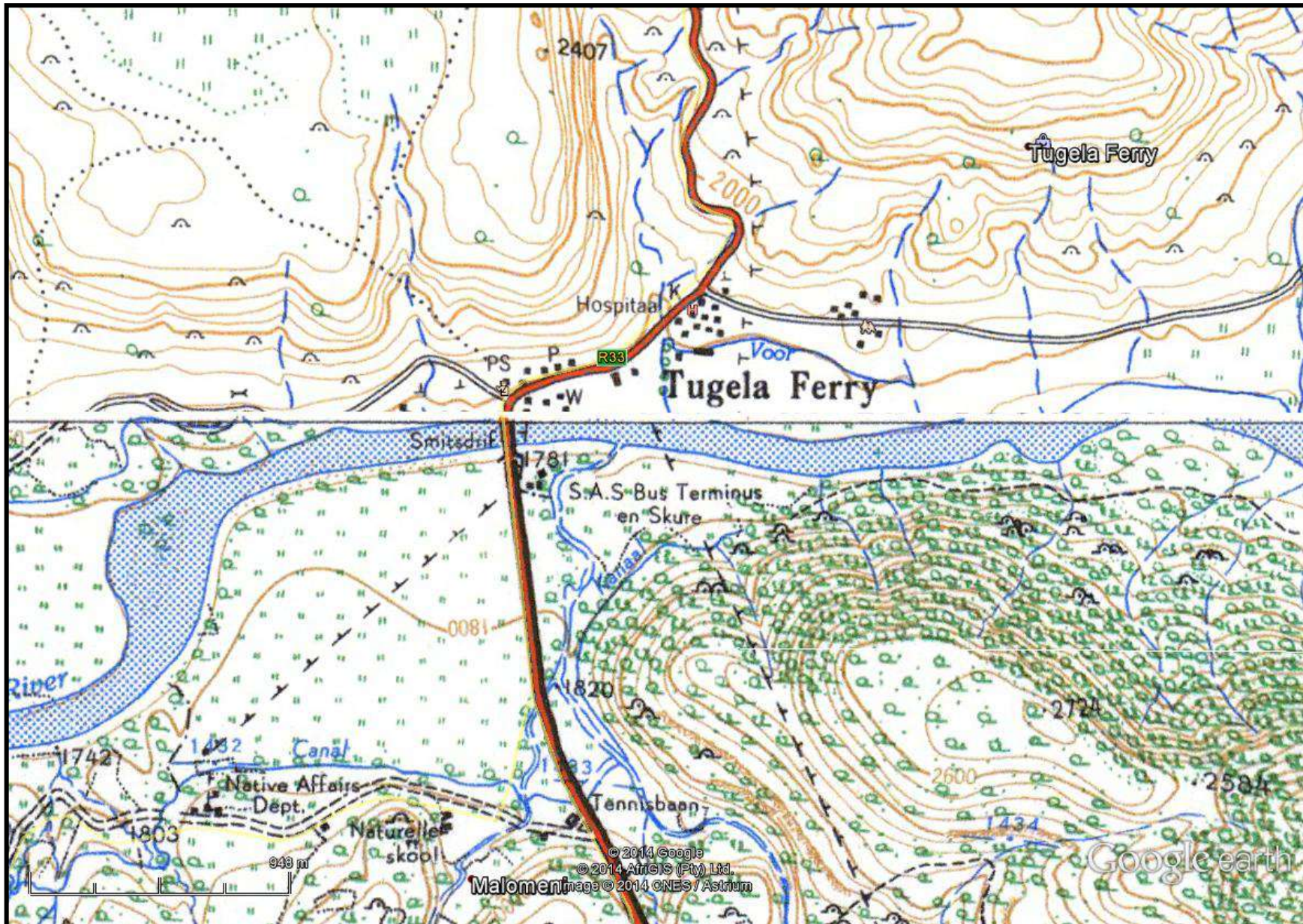


FIG. 6: STUDY AREA IN 1973





FIG. 7: STUDY AREA IN 1948 and 1965



The 1973 aerial photographs indicate that the area south of the bridge has been extensively ploughed (fig. 6). The area alongside the banks does not appear to have been farmed. The farming appears to extend before 1948 (fig. 7). Buildings are noted on the 1948 and 1965 topographical maps; however, these are on the eastern side of the existing bridge. This suggests that there were no buildings on the western side of the bridge before 1948 and 1965.

The area may have remains of Iron Age sites; however, it has been too disturbed to make any significant findings. If any artefacts did occur in the area, they would be out of context due to ploughing and road, bridge, building construction activity.

Fig. 8 shows the north and south crossing areas to be affected. These photos indicate the already disturbed land.

The SAHRIS palaeontological sensitivity map indicates that this area is coded as 'blue' and 'green' Blue requires no paleontological impact assessment (PIA), while green requires at least a desktop PIA. However since the area to be affected is small, and the area has already been disturbed, I would suggest that the PIA desktop is exempt as well.

FIG. 8: NORTH AND SOUTH VIEWS OF THE AFFECTED AREA



## CONCLUSION

A desktop heritage survey was undertaken for proposed Tugela Ferry Bridge. The bridge will be placed just upstream of existing bridge and link into existing roads. Only buildings along the northern side will be affected, however these are new buildings and do not warrant investigation.

The land directly affected by the bridge construction has been disturbed by previous construction activities, and it is unlikely that any heritage remains would still exist.

No heritage sites were observed on the databases or historical maps.

Umlando suggests that the bridge construction be exempt from further HIA studies.

## REFERENCES

South African House of Assembly 1918. First report of the Select Committee on Native Affairs. Cape Town: Cape Times Ltd. Government Printers