

**HERITAGE SURVEY OF THE MHLABATSHANE
BWSS PHASE 2**

FOR Triplo4

DATE: 23 AUGUST 2014

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INTRODUCTION

Umgeni Water (UW) is currently implementing Phase 1 of the Mhlabatshane BWSS as part of a larger Regional Scheme development by Ugu District Municipality (OM). This scheme is aimed at reducing water service backlogs in certain rural areas in the Umzumbe and Hibiscus Coast Local Municipalities. The first phase included the construction of the Mhlabatshane dam, raw and potable water pipelines, a water treatment works and reservoirs. To date, the construction of the dam bulk pipelines has been completed while that of the water treatment works and reservoirs are in progress.

Phase 2 of the Mhlabatshane BWSS is currently being investigated by the Planning Services Department for implementation to meet the future demand requirements of the area. The second phase of the project comprises a proposed weir and pipeline from the Mzimkhulu River to the water treatment plant. Water will be abstracted directly from the Umzimkulu River, pumped to the existing Water Treatment Works (which will need to be upgraded) and then fed into the reticulation system via an existing command reservoir. The construction of the Mhlabatshane Dam has been designed to supply a maximum of 4Ml/day and a further 8Ml/day can be augmented from the Umzimkulu River. Raw water from the Umzimkulu River along with the 4Ml/d from the Mhlabatshane Dam will be treated at the existing water treatment works currently 4Ml/d, to be upgraded to 8Ml/d. The following infrastructure is envisaged for the Mhlabatshane Phase 2 Project:

- oA River abstraction works and weir on the Mzimkhulu River
- oA pipeline to a sand trap
- oA desilting mechanism
- oA pressurised pipeline to the WTW
- oA high lift pump station
- oStorage at the WTW
- oUpgrading of the WTW from 4Ml/d to 8Ml/d

Figures 1 – 3 show the location of the planned industrial development park.

A construction working width of 20m should be assumed for this tender. The total route to be assessed is about 12.5 km for the preferred route as well as alternatives. The Preferred route is approximately 5,4km long; Option 2 is approximately 3,5km long and Option 3 is approximately 3.2 km long.

For the HIA, a buffer of 25m on either side of the pipeline will need to be assessed in addition to the 20m by 12.5km long construction footprint.

The propose BWSS is mostly located adjacent to existing roads. In some instances the pipeline will go through existing maize fields, especially for Option 3. These roads and fields occur at the top of the hills above the Umzimkulu River. When the pipeline descends into the Umzimkulu River Valley, it is often through dense vegetation and at times steep slopes, as is the case for the Preferred Options and Option 3.

Figure 4 shows some of the BWSS routes.

FIG. 1 GENERAL LOCATION OF THE MHLABATSHANE BWSS PHASE 2

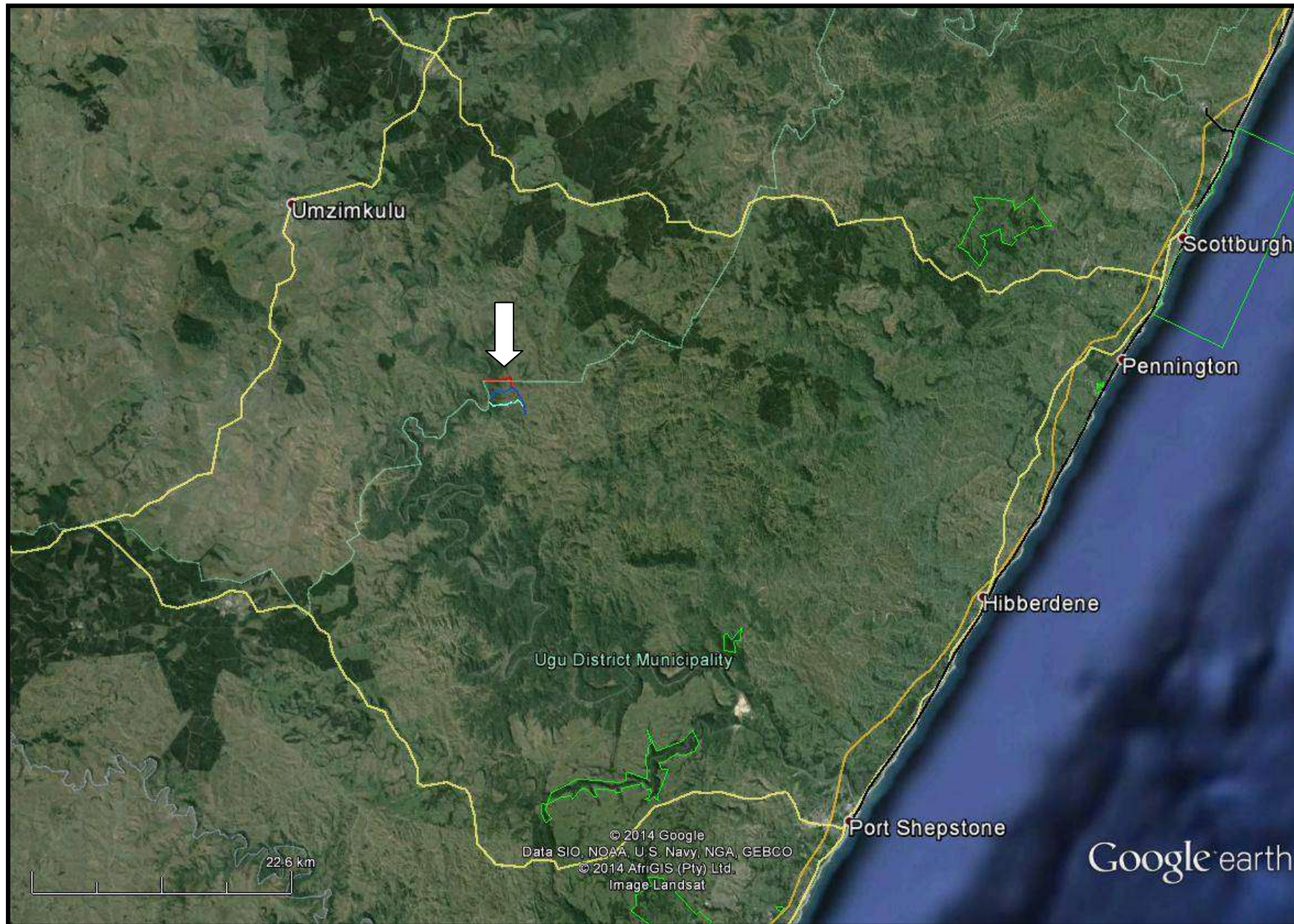


FIG. 2: AERIAL OVERVIEW OF THE MHLABATSHANE BWSS PHASE 2

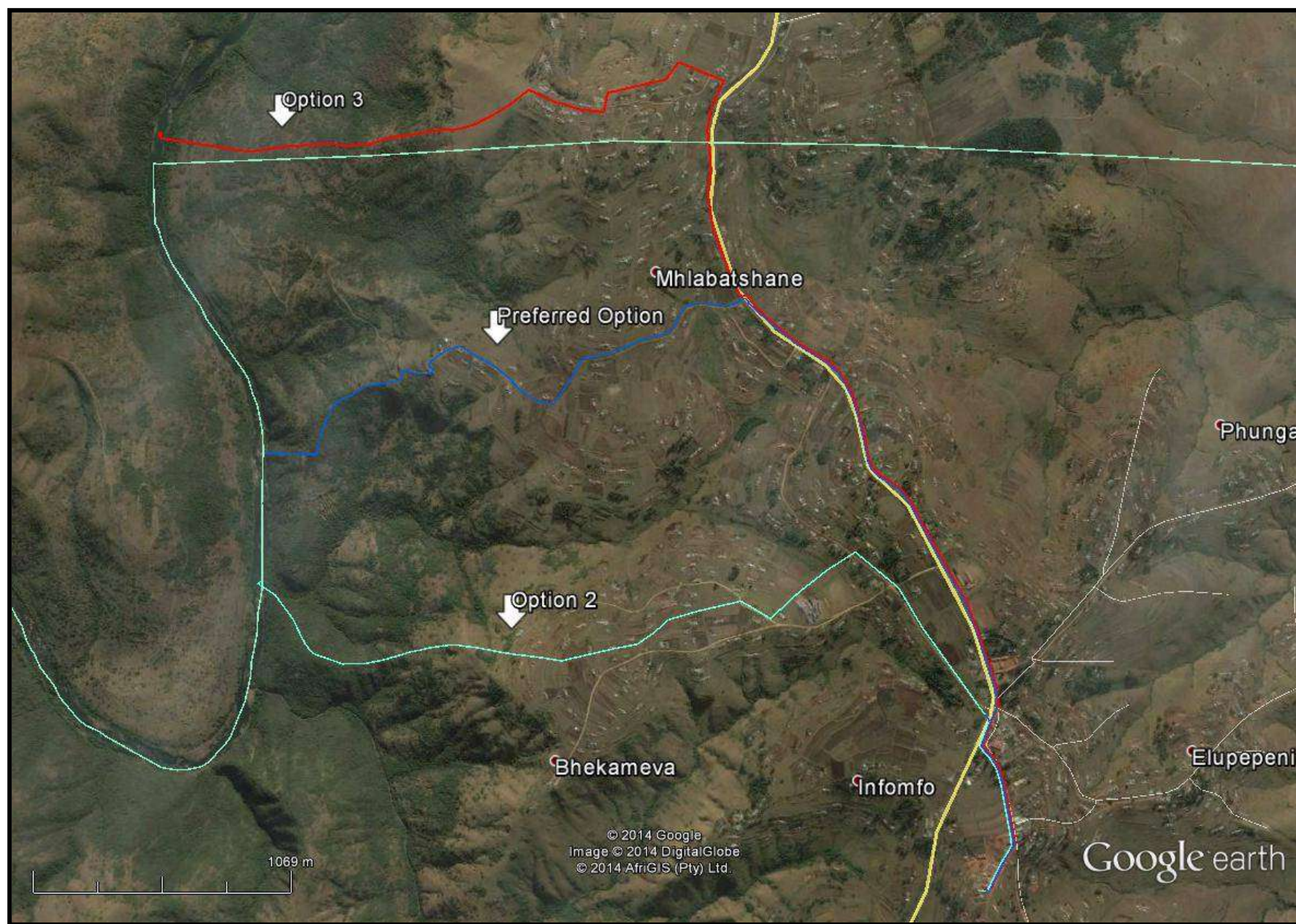


FIG. 3: TOPOGRAPHICAL MAP OF THE MHLABATSHANE BWSS PHASE 2

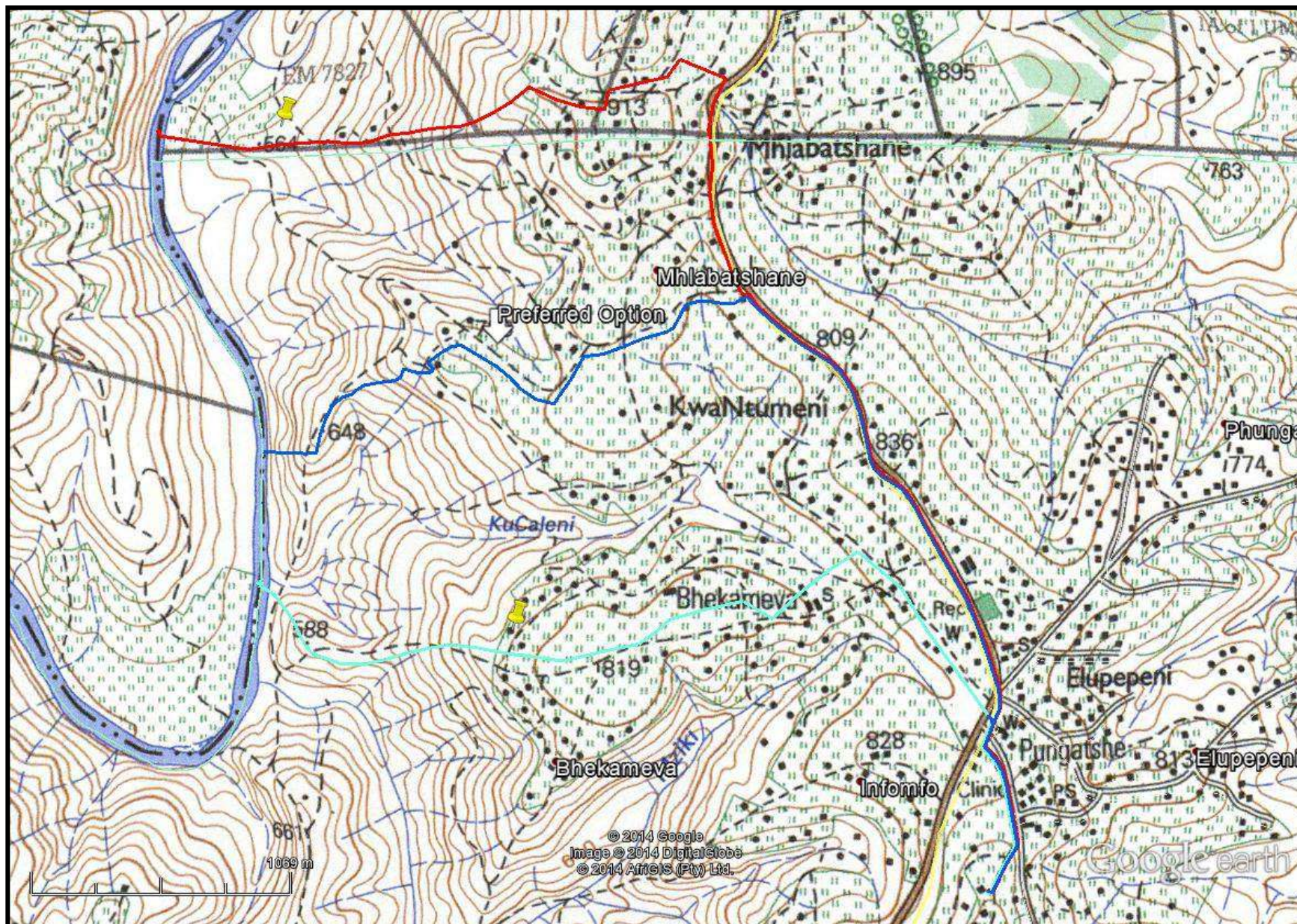


FIG. 4: GENERAL VIEWS OF THE MHLABATSHANE BWSS PHASE 2



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. These databases contain 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 1st and 2nd 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.

RESULTS

DESKTOP STUDY

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 few archaeological sites in the general area; however, this is probably a result of few systematic surveys in the 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.

The 1937 aerial photograph indicates that there are sixteen settlements near the pipeline. These settlements would be the more traditional settlements and would probably all include human graves. The houses would be wattle and daub constructions and are unlikely to occur today. Table 1 lists the locations of these houses. A 50m buffer should be placed around these locations and they should be noted as being sensitive with potential human remains. The graves will be visible only if they were marked

TABLE 1: LOCATION OF SETTLEMENTS IN 1937

| Name | Latitude | Longitude | Option |
|------|--------------|--------------|----------------|
| a1 | 30.401838837 | 30.117226880 | 2 |
| a2 | 30.401959314 | 30.121105749 | 2 |
| a3 | 30.401761123 | 30.122600272 | 2 |
| a4 | 30.401899980 | 30.124936447 | 2 |
| a5 | 30.401154668 | 30.133296376 | 2 |
| a6 | 30.401436688 | 30.135610179 | 2 |
| a7 | 30.401652427 | 30.138619682 | 2 |
| a8 | 30.405395004 | 30.139066649 | 2 |
| a9 | 30.407293745 | 30.140487135 | 2 |
| a10 | 30.407904218 | 30.141209729 | Preferred |
| a12 | 30.410932438 | 30.125588230 | Preferred |
| a13 | 30.419664775 | 30.125306404 | 3 |
| a14 | 30.419703926 | 30.139838858 | 3 |
| a15 | 30.418722131 | 30.141350634 | 3 |
| ab1 | 30.424447176 | 30.151877936 | 3 |
| a16 | 30.421740839 | 30.151808540 | Preferred, 2,3 |

By 1968, there has been a movement of people closer to the main road. Most of the 1937 settlements do not show on the maps anymore (fig. 7). As with the 1937 settlements, these houses would tend to be wattle and daub, and may have human graves. These settlements may still be observed. A 50m buffer should be placed around these locations and they should be noted as being sensitive with potential human remains. The locations of these settlements are given in Table 2.

Between 1968 and 2005 several more settlements occur, and have been abandoned. These are visible on the Google Earth images, as circular (for houses and kraals) or rectangular (for maize fields) features. These settlements

are less likely to have human remains but should be treated as being sensitive. Their locations are given in Table 3.

Few of these settlements occur within the 20m buffer of the pipeline.

TABLE 2: LOCATION OF SETTLEMENTS IN 1968

| Name | Latitude | Longitude | Option |
|------|--------------|--------------|--------------|
| b1 | 30.401585954 | 30.124388592 | 2 |
| b2 | 30.401211227 | 30.125695551 | 2 |
| b3 | 30.418718584 | 30.139805097 | 3 |
| b4 | 30.418699649 | 30.141217942 | 3 |
| b5 | 30.419235264 | 30.142098723 | 3 |
| b6 | 30.417620080 | 30.144793183 | 3 |
| b7 | 30.418123448 | 30.145825053 | 3 |
| b8 | 30.417467444 | 30.146803703 | 3 |
| b9 | 30.418205473 | 30.148121225 | 3 |
| bh1 | 30.421473587 | 30.150891384 | 3 |
| bh2 | 30.423642331 | 30.151022272 | 3 |
| b10 | 30.419123532 | 30.150949294 | 3 |
| bs1 | 30.421228994 | 30.151895044 | 3 |
| b11 | 30.419671258 | 30.151514341 | 3 |
| b12 | 30.420958369 | 30.150547015 | 3 |
| b13 | 30.409693293 | 30.144644848 | Preferred, 2 |
| b14 | 30.410187789 | 30.143040897 | Preferred, 2 |
| b15 | 30.409266984 | 30.141394942 | Preferred, 2 |
| b16 | 30.407266086 | 30.139865365 | 2 |
| b17 | 30.405451240 | 30.139290110 | 2 |

TABLE 3: LOCATION OF SETTLEMENTS BETWEEN 1968 AND 2005

| Name | Latitude | Longitude | Option |
|------|--------------|--------------|-----------|
| g1 | 30.420948685 | 30.129264163 | 3 |
| g2 | 30.420985297 | 30.131183267 | 3 |
| g3 | 30.421761667 | 30.129895242 | 3 |
| g3 | 30.420834964 | 30.130049543 | 3 |
| g4 | 30.420737369 | 30.130481238 | 3 |
| g5 | 30.420622091 | 30.131391753 | 3 |
| g6 | 30.420808000 | 30.132075242 | 3 |
| g7 | 30.420928798 | 30.132900187 | 3 |
| g8 | 30.419366040 | 30.138154860 | 3 |
| g9 | 30.419115483 | 30.139484098 | 3 |
| g10 | 30.417498656 | 30.146598484 | 3 |
| g11 | 30.410653978 | 30.125601206 | Preferred |
| g12 | 30.400696539 | 30.129840259 | 2 |
| g13 | 30.400232612 | 30.130564380 | 2 |
| g14 | 30.400295840 | 30.131506837 | 2 |
| g15 | 30.400983206 | 30.133916586 | 2 |
| g16 | 30.401023168 | 30.135201233 | 2 |

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

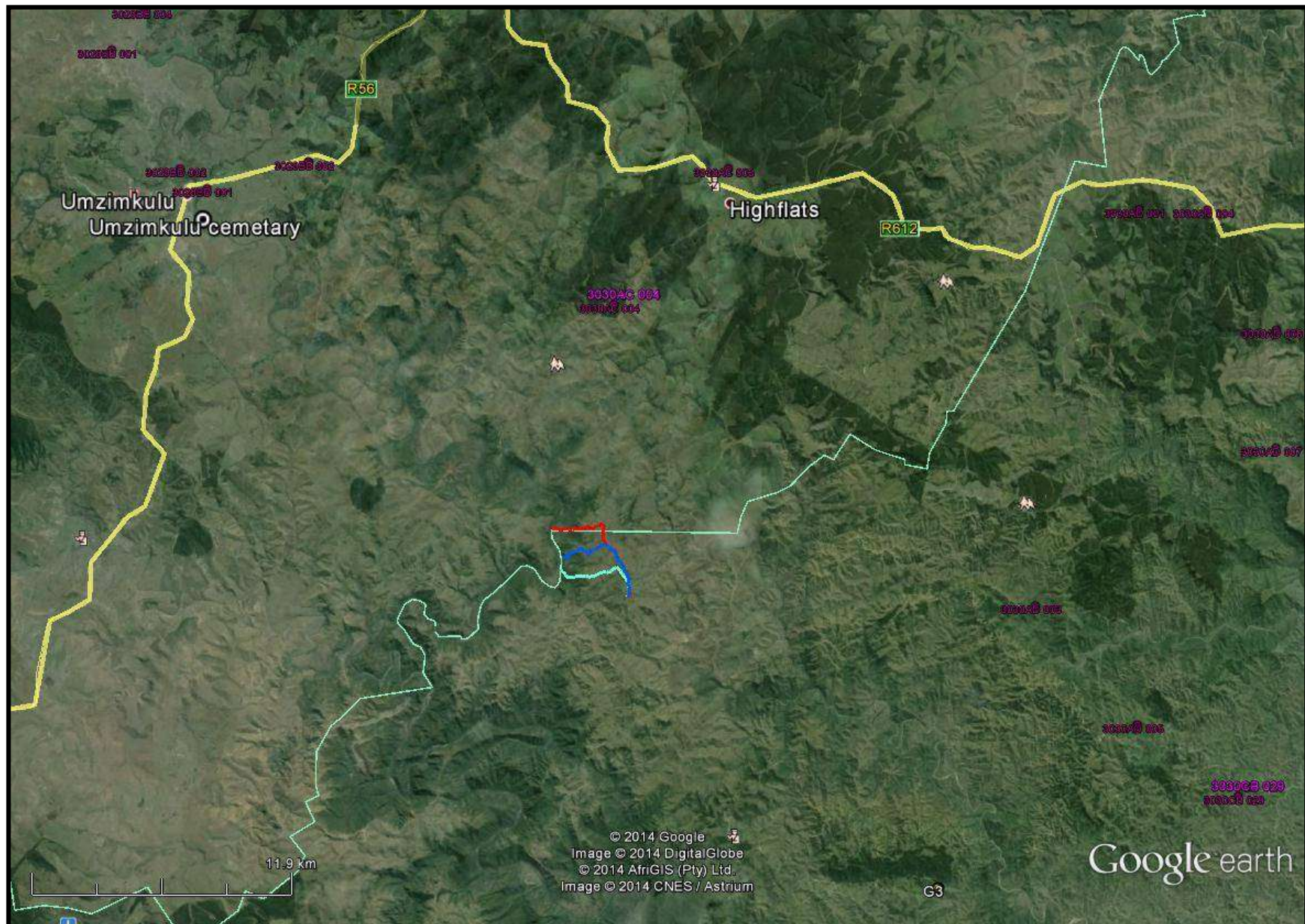


FIG. 6: STUDY AREA IN 1937

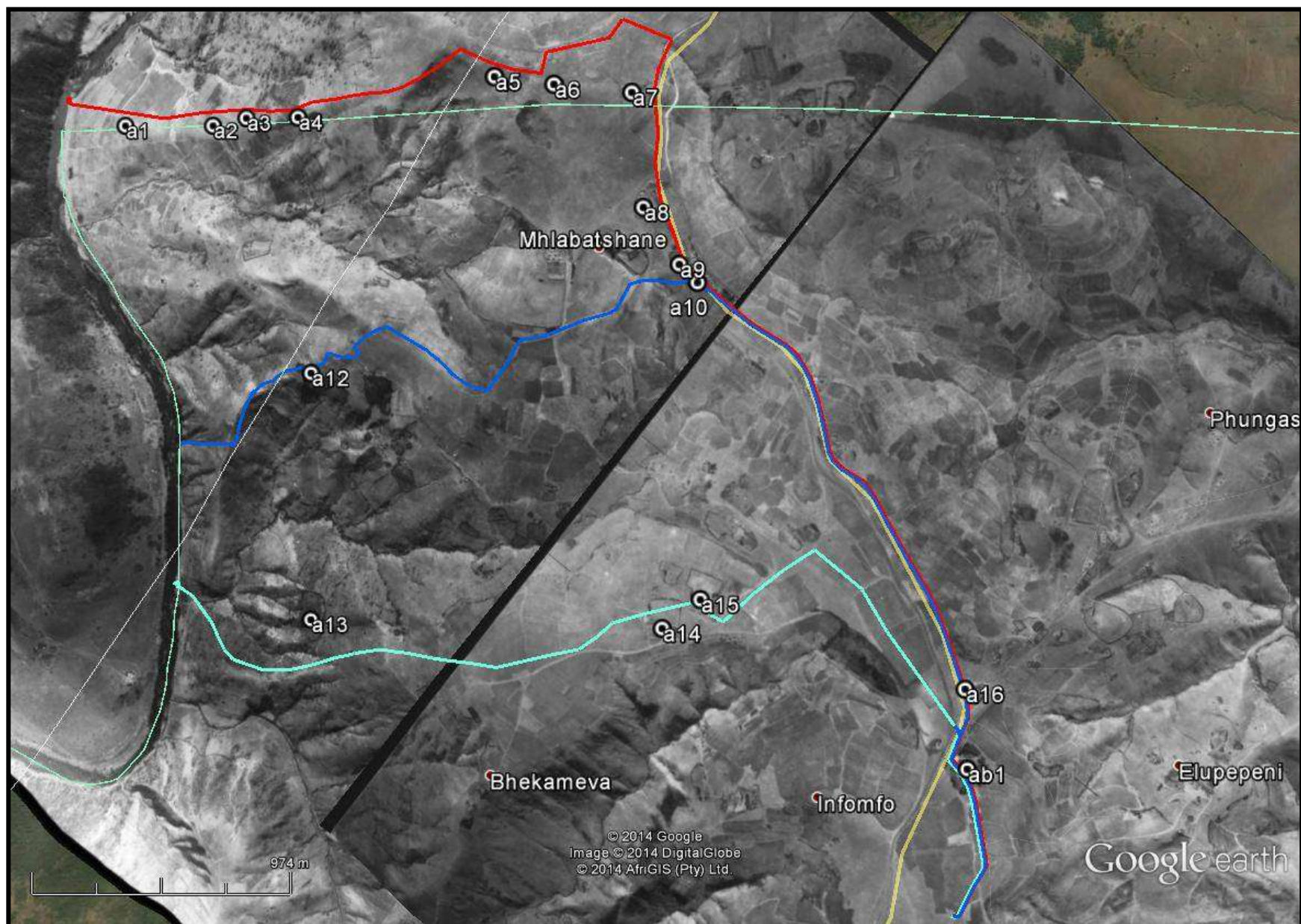
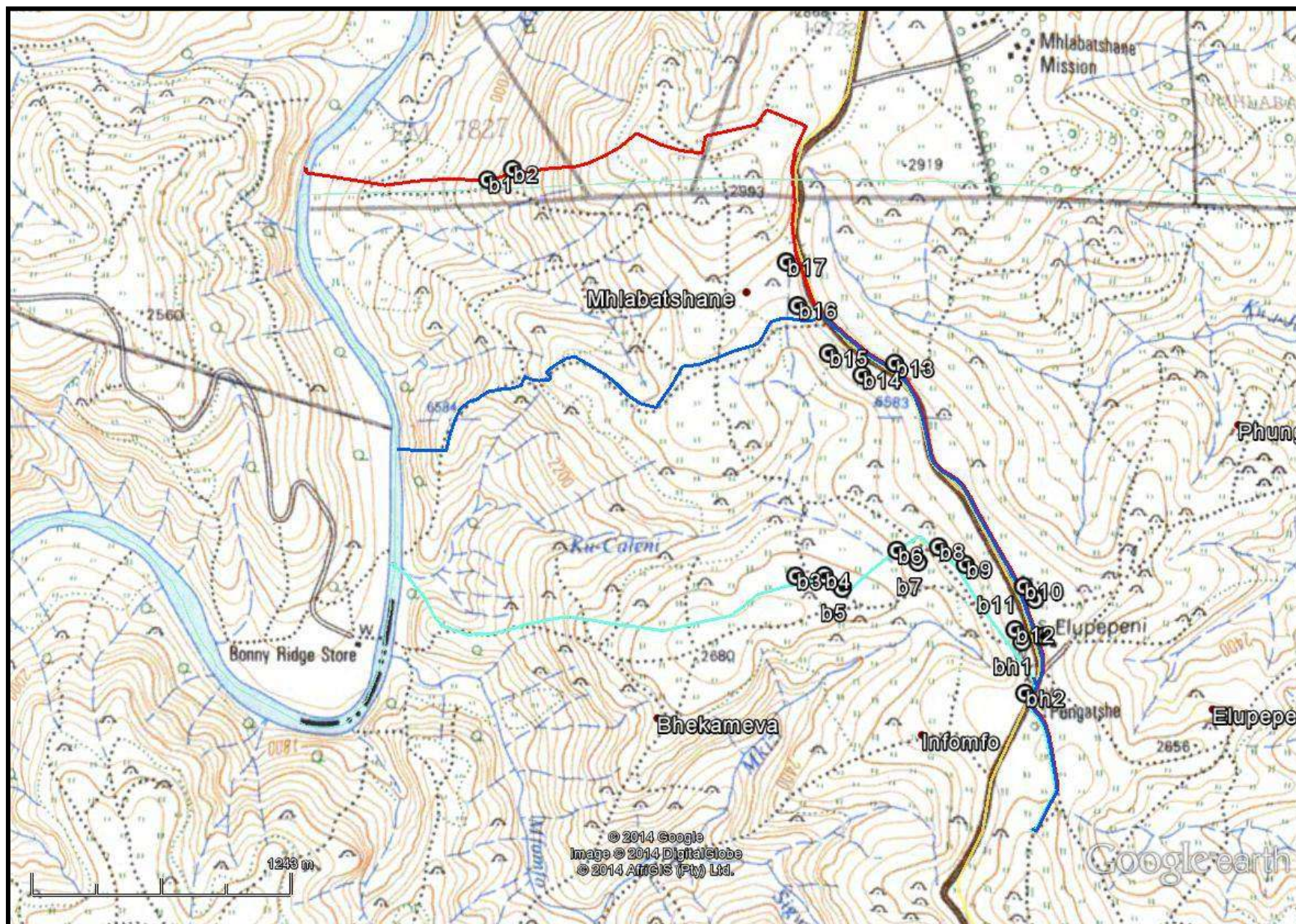


FIG. 7: STUDY AREA IN 1968



FIELD SURVEY

Nine heritage sites were noted during the survey. The Preferred Option and Option 3 each have one site (MHL07 and MHL01 respectively), while Option 2 has seven sites. The settlements noted in the desktop study were mostly visible along Option 2, while those along the Preferred Option and Option 3 have been built over and no longer exist. Table 4 gives the location of these sites.

TABLE 4: LOCATION OF RECORDED HERITAGE SITES

| Name | Latitude | Longitude | Altitude (M) | Description |
|-------|--------------|--------------|-----------------|--|
| GR? | 30.400885027 | 30.125085041 | 676.6 | Possible Grave |
| MHL01 | 30.420746030 | 30.131016998 | 777.7 | Settlement |
| MHL02 | 30.401578965 | 30.123129962 | 636.5 | Settlement |
| MHL03 | 30.401716009 | 30.124769965 | 685.2 | Settlement |
| MHL04 | 30.401152996 | 30.125660039 | 696.5 | Settlement |
| MHL05 | 30.401019976 | 30.125356028 | 686.0 | Settlement |
| MHL06 | 30.401099017 | 30.117091974 | 546.7 | Settlement with terracing and possible 2 graves |
| MHL07 | 30.410547014 | 30.126473000 | 744.0 | Settlement |
| MHL08 | 30.400291001 | 30.131965997 | 900.1 | Graves |
| MHL09 | 30.400994557 | 30.133891849 | 898.1 | Settlement |
| TER | 30.401739981 | 30.123389969 | 644.5 | Long area Terracing |

Site locations are taken from the centre of the site, or on the grave, or centre point of two graves. All graves are considered to be of high significance. All settlements have the possibility of containing unmarked human graves.

MHL01

MHL01 is located on the edge of the hill overlooking the Umzimkulu River. The site is a recently abandoned settlement. Only two house floors and the terracing was still visible (fig. 8). No graves were observed. The site is too recent to be protected by the KZNHA.

Significance: The site is of low significance

Mitigation: No further mitigation is required.

SAHRA Rating: N/A

FIG. 8: HOUSE FOUNDATIONS AT MHL01



MHL02

MHL02 is a settlement consisting of terracing and artefacts (fig. 9). Neither graves nor house foundations were observed. The Inecto bottle dates to the 1940s, however other artefacts at the site post-date 1970s. MHL02 may relate to A3 from the desktop study.

Significance: The site is of low significance.

Mitigation: Option 2 will affect the site. No mitigation is required although the area should be demarcated as sensitive for possible human remains.

SAHRA Rating: 3C

FIG. 9: TERRACING AND ARTEFACTS AT MHL02



MHL03

MHL03 occurs on a gentle slope. The site consists of terracing and three house floor remains. No artefacts or graves were observed; however, there is a *Euphorbia ingens* between MHL02 and MHL03 that could be a grave marker. MHL03 could be related to A4 and/or B1 from the desktop study.

Significance: The site is of low significance. The *Euphorbia ingens* should be regarded as demarcating a potential human grave and not disturbed.

Mitigation: No mitigation is required.

SAHRA Rating: 3C

FIG. 10: TERRACING AND EUPHORBIA INGENS AT MHL03



MHL04

MHL04 is further upslope from MHL03 and consists of terracing for houses. I did not observe house floors or graves. MHL04 is related to B2 from the desktop study.

Significance: The site is of low significance

Mitigation: No mitigation is required

SAHRA Rating: 3C

FIG. 11 TERRACING AT MHL04



MHL05

MHL05 is located ~40m northwest of MHL04. The site consists of well defined terracing with a retaining wall and three house floors (Fig. 12 a- b). There is a disturbed stone cairn ~20m northwest of the terracing that could be a human grave.

Significance: The site in general is of low significance, but the cairn would be of high significance.

Mitigation: No mitigation is required as it falls out of the pipeline footprint.

SAHRA Rating: 3a for the cairn,

FIG. 12A: TERRACING AT MHL05



FIG. 12B: RETAINING WALL AND STONE CAIRN AT MHL05



MHL06

MHL06 is located at the base of the hill, just above the flood plain. There is some faint terracing in the general area, and the site may be related to A1 from the desktop study. Just below the terracing, are two stone cairns that are possible graves (fig. 13). The area between MHL02 and MHL06 has several terraces that occur off the line. These vary between terraces for houses and maize. The pipeline is 21m from these cairns.

Significance: The graves are of high significance.

Mitigation: The pipeline needs to be moved further south so that there is at least 20m buffer between the footprint and the cairns.

SAHRA Rating: 3A

FIG. 13: STONE CAIRNS AT MHL06



MHL07

MHL07 is located near the top of the hill. The site consists of a recent terrace and house floor remains. The terrace is ~70m wide. No graves were observed.

The pipeline will pass through the western part of the terrace.

Significance: The site is of low significance.

Mitigation: No further mitigation is required.

SAHRA Rating: N/A

FIG. 14: TERRACING AT MHL07



MHL08

MHL08 is located on the top of the hill. The site consists of several settlements next to, and overlapping, each other. The settlement consists of terraces and house floors. There are two graves on the western side of the site. The graves are in an east-west orientation.

The graves are in the pipeline footprint

Significance: The graves are of high significance.

Mitigation: The pipeline will need to be moved if this option is chosen.

SAHRA Rating: 3A

FIG. 15: TWO GRAVES AT MHL08



MHL09

MHL09 consists of two recent graves within an existing settlements' boundary. I did not take a photo of the graves, as people were around the graves, and it could have been disrespectful. MHL09 is also related to G15 from the desktop study. The graves occur in the pipeline footprint.

Significance: The graves are of high significance.

Mitigation: The pipeline will need to be moved if this option is taken.

SAHRA Rating: 3A

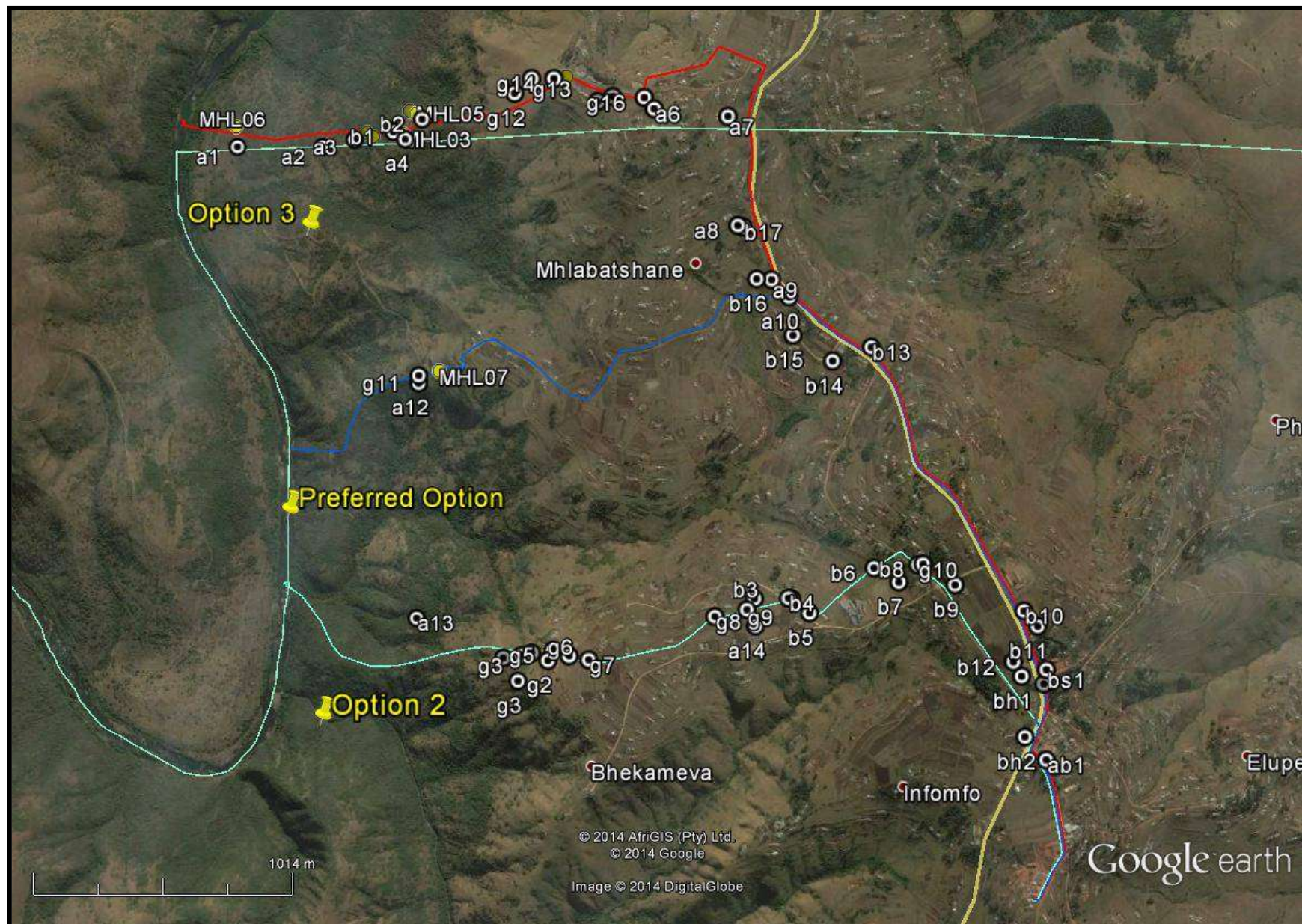
PALAEONTOLOGICAL IMPACT ASSESSMENT

No PIA is required, as the pipeline does not occur in a sensitive area as per SAHRIS palaeosensitivity map.

PIPELINE OPTIONS

There are three for the pipeline. Fig. 16 shows the number of all sites noted during the survey. Option 3 has the most settlements dating to the historical and recent past. This option would be directly affecting several heritage sites and would need to be re-aligned due to the graves. Option 2 has fewer sites than Option 3; however, there are several areas with possible human remains. These graves would be subsurface features. These sites were noted during the desktop study. The Preferred Option will only affect one recent settlement and has the overall lowest impact on heritage sites. The preferred Option will not require further management plans.

FIG. 16: LOCATIONS OF ALL SITES IN THE STUDY AREA



CONCLUSION

A heritage survey was undertaken for the Mhlabatshane BWSS Phase 2 project. Three pipeline options were surveyed. The desktop survey noted that several settlements occur on all three options. Option 3 has a higher density of human occupation over the last 100 years and would require the pipeline to be re-aligned to avoid human graves. Option 2 also has several human historical settlements and potential for human remains to occur. The Preferred Option would have the lowest impact on heritage sites, and would be the better option in terms of the HIA.

Amafa KZN will need to be contacted if any archaeological sites and/or human graves are unearthed during the construction process.

APPENDIX A
Site Record Forms

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period:

Recorder's Site No.: MHL01

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 25 14.7 E30 07 51.7 Alt: 778 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road.

MHL01 is located 2.0km from here, on the edge of the hill overlooking the Umzimkulu River.

SITE DESCRIPTION:

Type of Site: Modern

Merits conservation: No

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

The site is a recently abandoned settlement. Only two house floors and the terracing were still visible. No graves were observed. The site is too recent to be protected by the KZNHA.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: MHL02

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 05.7 E30 07 23.3 Alt: 636 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road. MHL02 is located 3.0km from here.

SITE DESCRIPTION:

Type of Site: Settlement

Merits conservation: Yes. Option 2 will affect the site. No mitigation is required although the area should be demarcated as sensitive for possible human remains.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

MHL02 is a settlement consisting of terracing and artefacts. Neither graves nor house foundations were observed. The Inecto bottle dates to the 1940s, however other artefacts at the site post-date 1970s. MHL02 may relate to A3 from the desktop study.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period:

Recorder's Site No.: MHL03

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 06.2 E30 07 29.2 685 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road.

MHL03 is located 3.0km from here, on a gentle slope.

SITE DESCRIPTION:

Type of Site: Settlement

Merits conservation: Yes. The site is of low significance. The *Euphorbia ingens* should be regarded as demarcating a potential human grave and not disturbed.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

The site consists of terracing and three house floor remains. No artefacts or graves were observed; however, there is a *Euphorbia ingens* between MHL02 and MHL03 that could be a grave marker. MHL03 could be related to A4 and/or B1 from the desktop study.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period:

Recorder's Site No.: MHL04

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 04.2 E30 07 32.4 Alt: 696 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road.

MHL04 is located 3.1km from here, further upslope from MHL03.

SITE DESCRIPTION:

Type of Site: Terracing

Merits conservation: No. The site is of low significance and no further mitigation is required.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

Site consists of terracing for houses. I did not observe house floors or graves. MHL04 is related to B2 from the desktop study.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: MHL05

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 03.7 E30 07 31.3 Alt: 686 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road. MHL05 is located ~40m northwest of MHL04.

SITE DESCRIPTION:

Type of Site: Terracing and a possible grave

Merits conservation: The site in general is of low significance, but the cairn would be of high significance.

However, as it falls out of the pipeline footprint, no mitigation is required.

Threats: No

What threats: None

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

The site consists of well-defined terracing with a retaining wall and three house floors. There is a disturbed stone cairn ~20m northwest of the terracing that could be a human grave.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: MHL06

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 04.0 E30 07 01.5 Alt: 547 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road.

MHL06 is located 3.6km from here at the base of the hill, just above the flood plain.

SITE DESCRIPTION:

Type of Site: Terracing and possible graves

Merits conservation: Yes. The graves are of high significance. The pipeline needs to be moved further south so that there is at least 20m buffer between the footprint and the cairns.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

There is some faint terracing in the general area, and the site may be related to A1 from the desktop study. Just below the terracing, are two stone cairns that are possible graves. The area between MHL02 and MHL06 has several terraces that occur off the line. These vary between terraces for houses and maize. The pipeline is 21m from these cairns.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: MHL07

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 38.0 E30 07 35.3 Alt: 744 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. After 23.1km, turn right onto an unpaved road. MHL07 is located 1.8km from here, near the top of the hill.

SITE DESCRIPTION:

Type of Site: Modern

Merits conservation: No. The site is of low significance. No further mitigation is required.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

The site consists of a recent terrace and house floor remains. The terrace is ~70m wide. No graves were observed. The pipeline will pass through the western part of the terrace.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: MHL08

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 01.0 E30 07 55.1 900 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. Turn right onto an unpaved road after 20.9km. MHL08 is located 926m from here, on the top of the hill.

SITE DESCRIPTION:

Type of Site: Settlements and graves

Merits conservation: Yes. The graves are of high significance. The pipeline will need to be moved if this option is chosen.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

The site consists of several settlements next to, and overlapping, each other. The settlement consists of terraces and house floors. There are two graves on the western side of the site. The graves are in an east-west orientation.

The graves are in the pipeline footprint

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period:

Recorder's Site No.: MHL09

Official Name:

Local Name:

Map Sheet:

GPS reading: S30 24 03.1 E30 08 02.4 Alt: 898 m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From the N2/ Murchison Street intersection outside Harding, drive northwest and turn right onto the R56 after 19.0km. Follow the R56 for 63.3km then turn right onto the R612. Drive for 22.1km then turn right onto the P68-1. Turn right onto an unpaved road after 20.9km. MHL09 is located 712m from here.

SITE DESCRIPTION:

Type of Site: Settlement and graves

Merits conservation: Yes. The graves are of high significance. The pipeline will need to be moved if this option is taken.

Threats: Yes

What threats: THE MHLABATSHANE BWSS PHASE 2

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 07/08/2014

Owner:

References:

Description of site and artefactual content.

MHL09 consists of two recent graves within an existing settlements' boundary. I did not take a photo of the graves, as people were around the graves, and it could have been disrespectful. MHL09 is also related to G15 from the desktop study. The graves occur in the pipeline footprint.