

**SURVEY OF THE MADUNDUBE LOW COST
HOUSING PROJECT, STANGER, KWAZULU-NATAL**

**FOR K2M CONSULTING
DATE: 1 SEPTEMBER 2015**

By Gavin Anderson

**Umlando: Archaeological Surveys and Heritage
Management**

PO Box 102532, Meerensee, 3901

Phone/fax: 035-7531785 Fax: 0865445631

Cell: 0836585362



TABLE OF CONTENT

INTRODUCTION.....	3
KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008	7
METHOD	9
Defining significance.....	11
RESULTS	13
DESKTOP STUDY	13
FIELD SURVEY.....	19
MAND1	22
MAND9	23
SCATTER 1.....	24
PALAEONTOLOGICAL IMPACT ASSESSMENT	25
MANAGEMENT PLAN	26
CONCLUSION.....	26

TABLE OF FIGURES

FIG. 1 GENERAL LOCATION OF THE STUDY AREA.....	4
FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA	5
FIG. 3: TOPOGRAPHICAL OVERVIEW OF THE STUDY AREA.....	6
FIG. 4: LOCATION OF KNOWN HERITAGE SITES NEAR THE STUDY AREA.....	14
FIG. 5: SURVEYOR GENERAL DIAGRAM IN 1864.....	15
FIG. 6: STUDY AREA IN 1937	16
FIG. 7: STUDY AREA IN 1968	17
TABLE 2: LOCATION OF SETTLEMENTS FROM THE DESKTOP STUDY	18
FIG. 8: LOCATION OF RECORDED SITES	20
FIG. 9: SCENIC VIEW OF THE STUDY AREA	21
FIG. 10: POSSIBLE GRAVE AT MAND0.....	22
FIG. 11: SHEMBE CIRCLE AT MAND0.....	23
FIG. 12: ARTEFACTS AT SCATTER 1.....	24
FIG. 13: SAHRIS PALAEOSENSITIVITY MAP	25

INTRODUCTION

KwaDukuza Local Municipality proposes the formalisation of the Madundube settlement. The housing project entails the construction of subsidised housing units and supporting community facilities which may include educational facilities, clinics and cemeteries. In addition there will be the construction of road networks, installation of water networks and pipelines. The estimated extent of the project area is 520.91Ha.

The Madundube area is located ~10km northwest of Stanger and to the west of the R74. The area was originally a sugar cane farm dating to the mid-late 19th century, but now consists of existing settlements and some sugar cane farming.

Figures 1 – 3 indicates the location of the proposed line.

FIG. 1 GENERAL LOCATION OF THE STUDY AREA

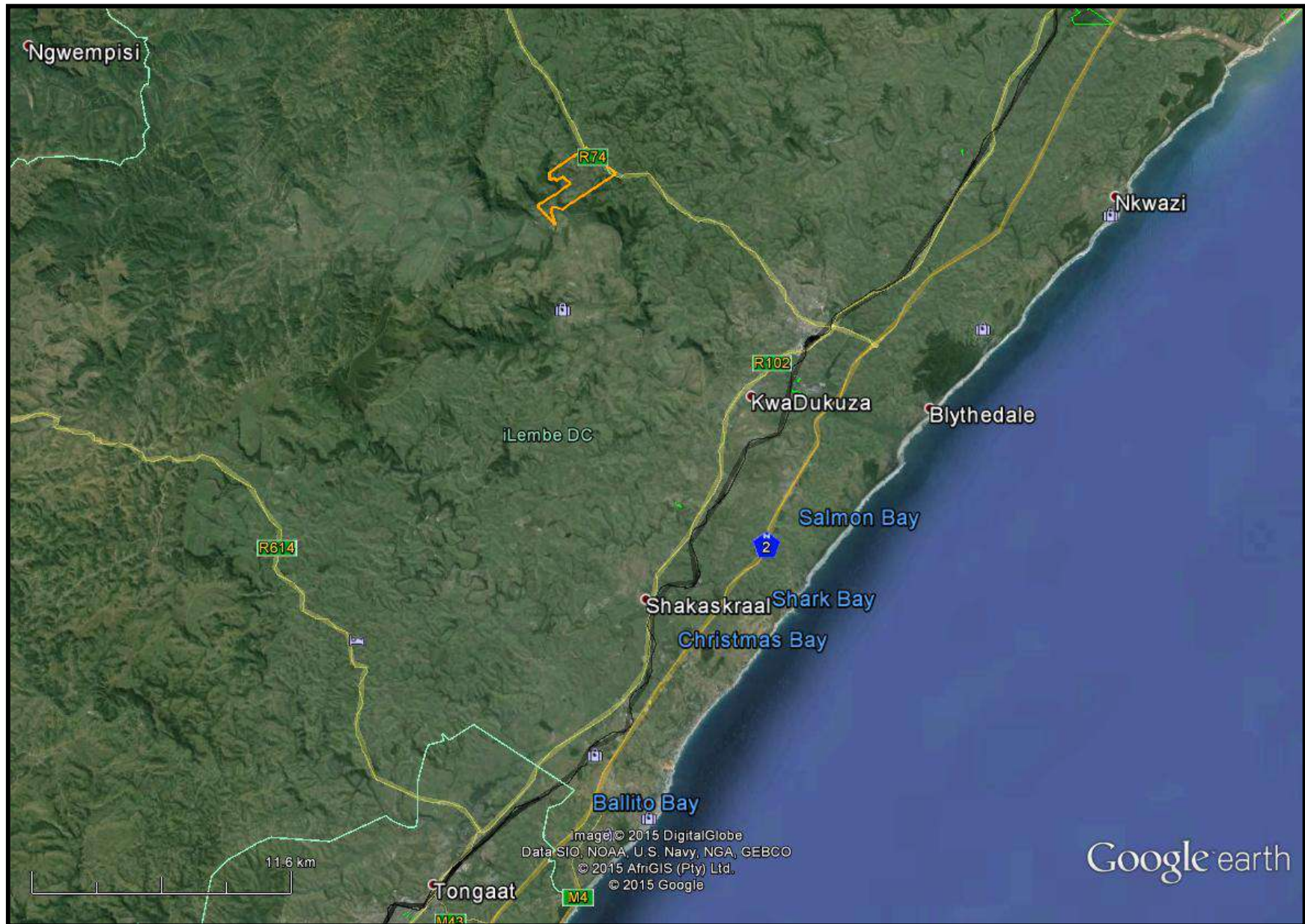


FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA

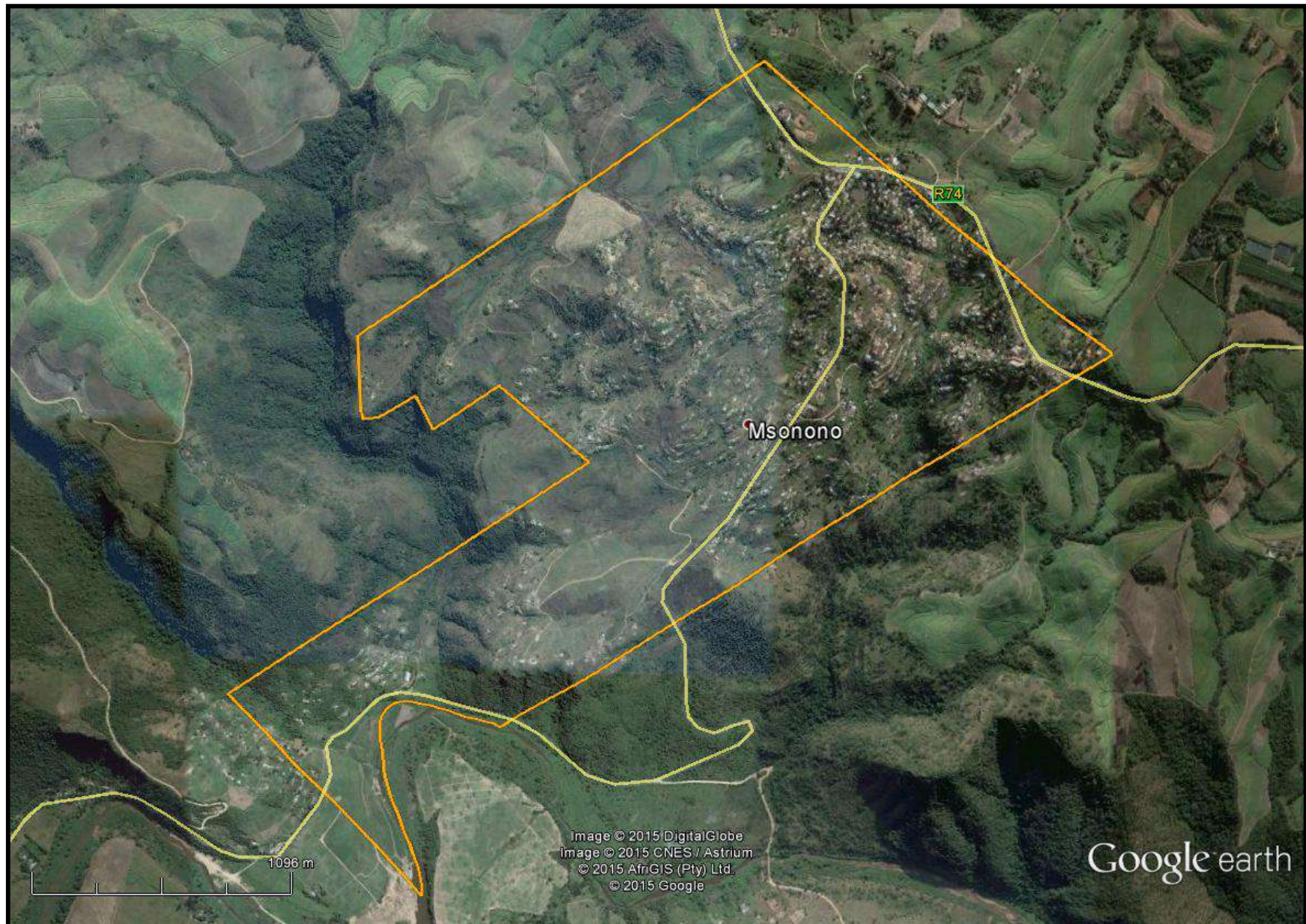
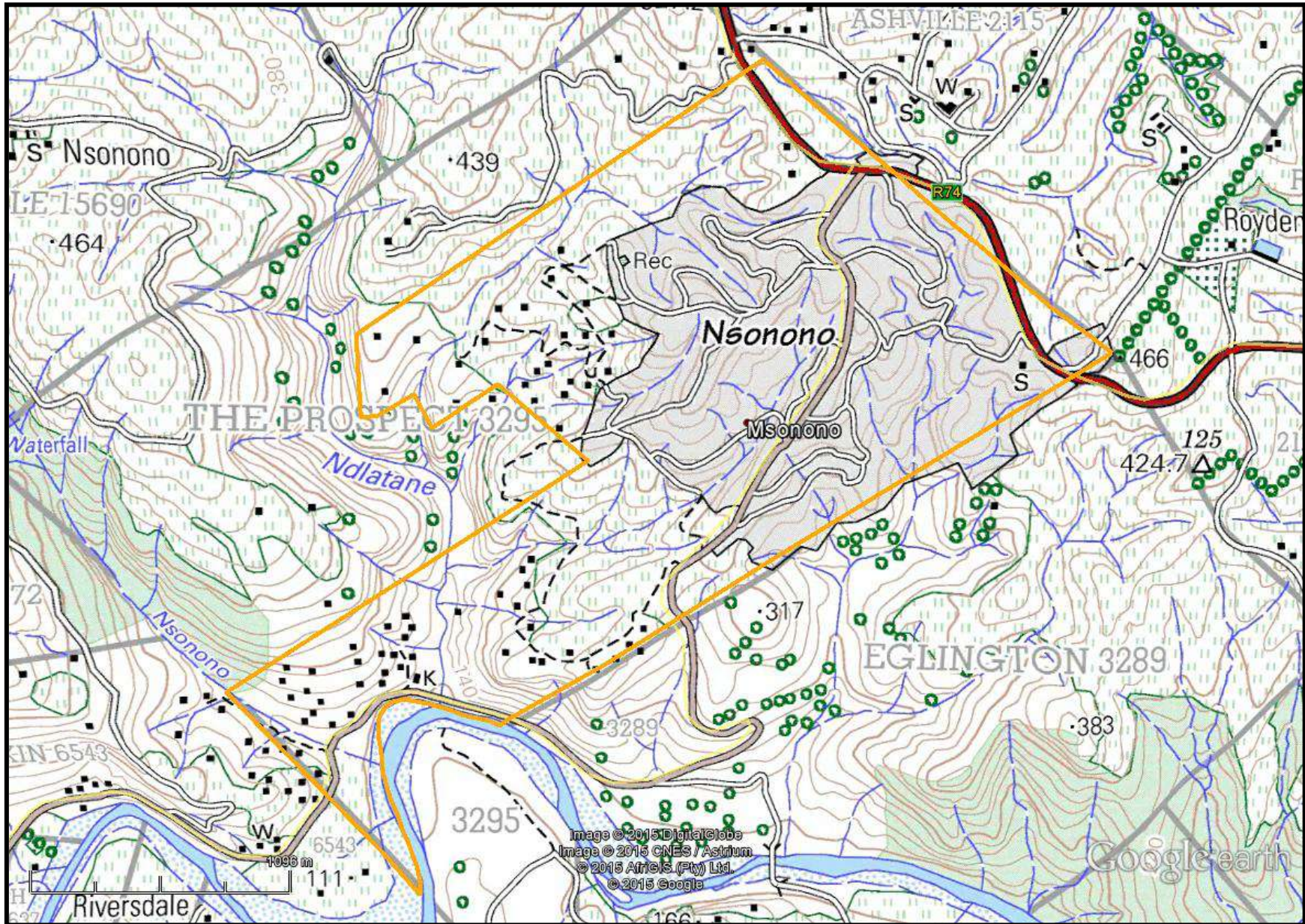


FIG. 3: TOPOGRAPHICAL OVERVIEW OF THE STUDY AREA



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 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 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 and graded according to SAHRA's system (Table 1). 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.

TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES

SITE SIGNIFICANCE	FIELD RATING	GRADE	RECOMMENDED MITIGATION
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	
High / Medium Significance	Generally Protected A		Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B		Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C		On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

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 archaeological sites in the general area (fig. 4). 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. There are several cemeteries outside of the study area.

The Surveyor General map (fig. 5) indicates the land was first surveyed in 1864. No buildings are noted on this diagram.

The historical map desktop study ignores the Msonono area as it is built up and would have removed all previous heritage sites. The 1937 aerial photographs indicate that there are at least 25 settlements in the study area (fig. 6). These include traditional Zulu settlements as well as apparent rectangular buildings. By 1969, there are 38 settlements in the study area (fig. 7). These settlements tend not to overlap with the 1937 settlements. The 1937 settlements will have human graves associated with them, while the later settlements could have human graves.

The locations of these sites are noted in Table 2. These areas should be treated as being sensitive for possible human remains.

FIG. 4: LOCATION OF KNOWN HERITAGE SITES NEAR THE STUDY AREA

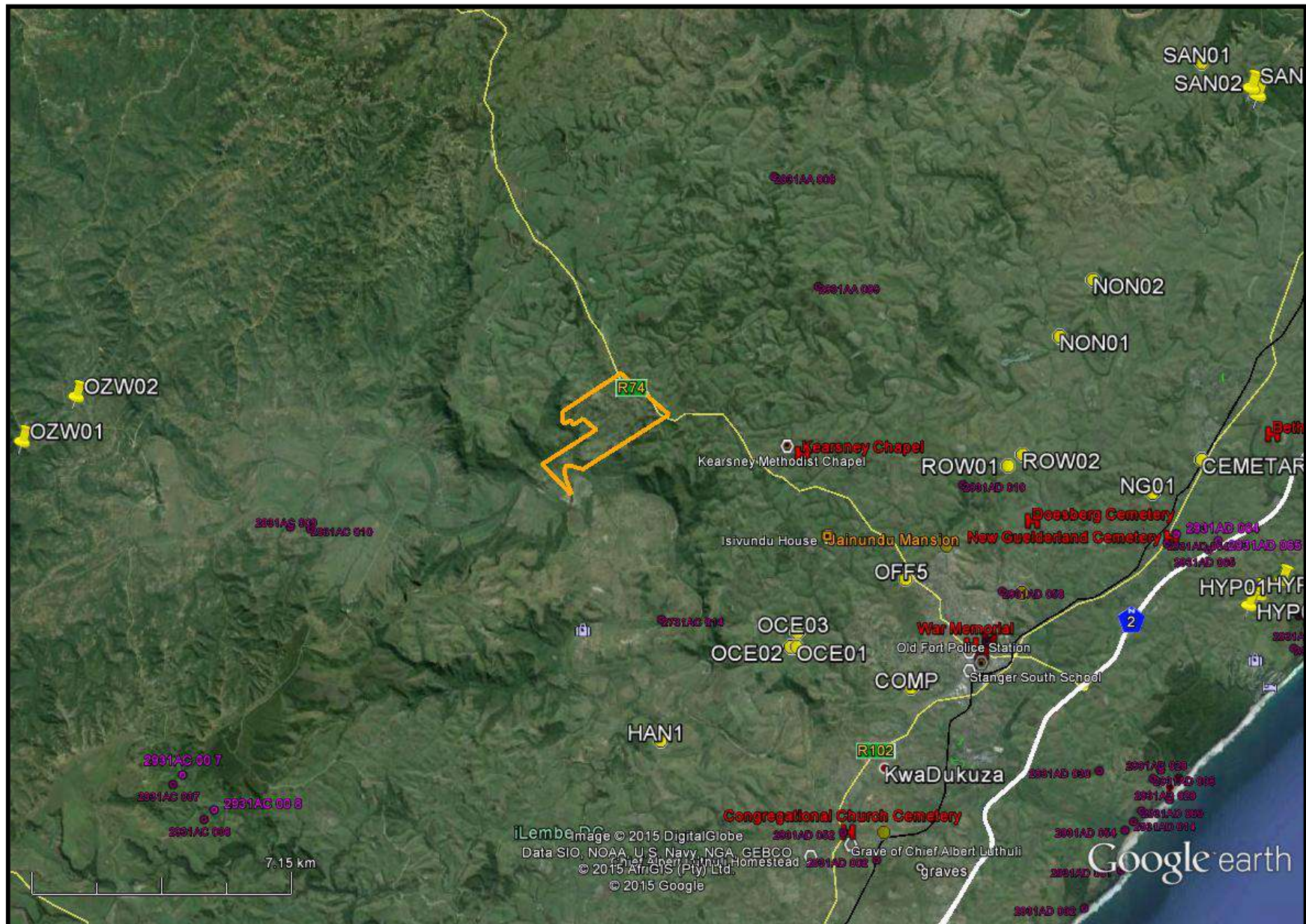


FIG. 5: SURVEYOR GENERAL DIAGRAM IN 1864

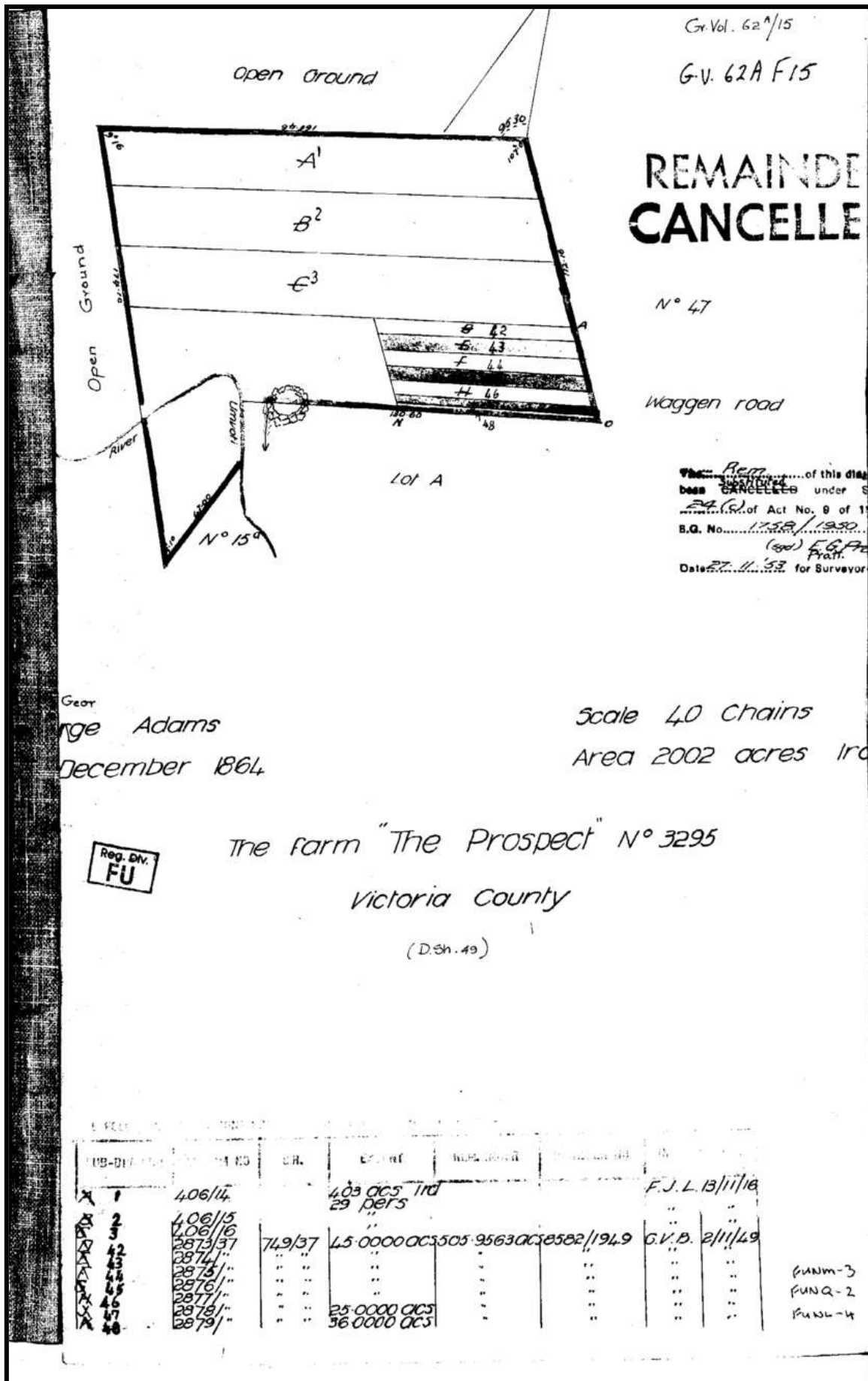


FIG. 6: STUDY AREA IN 1937

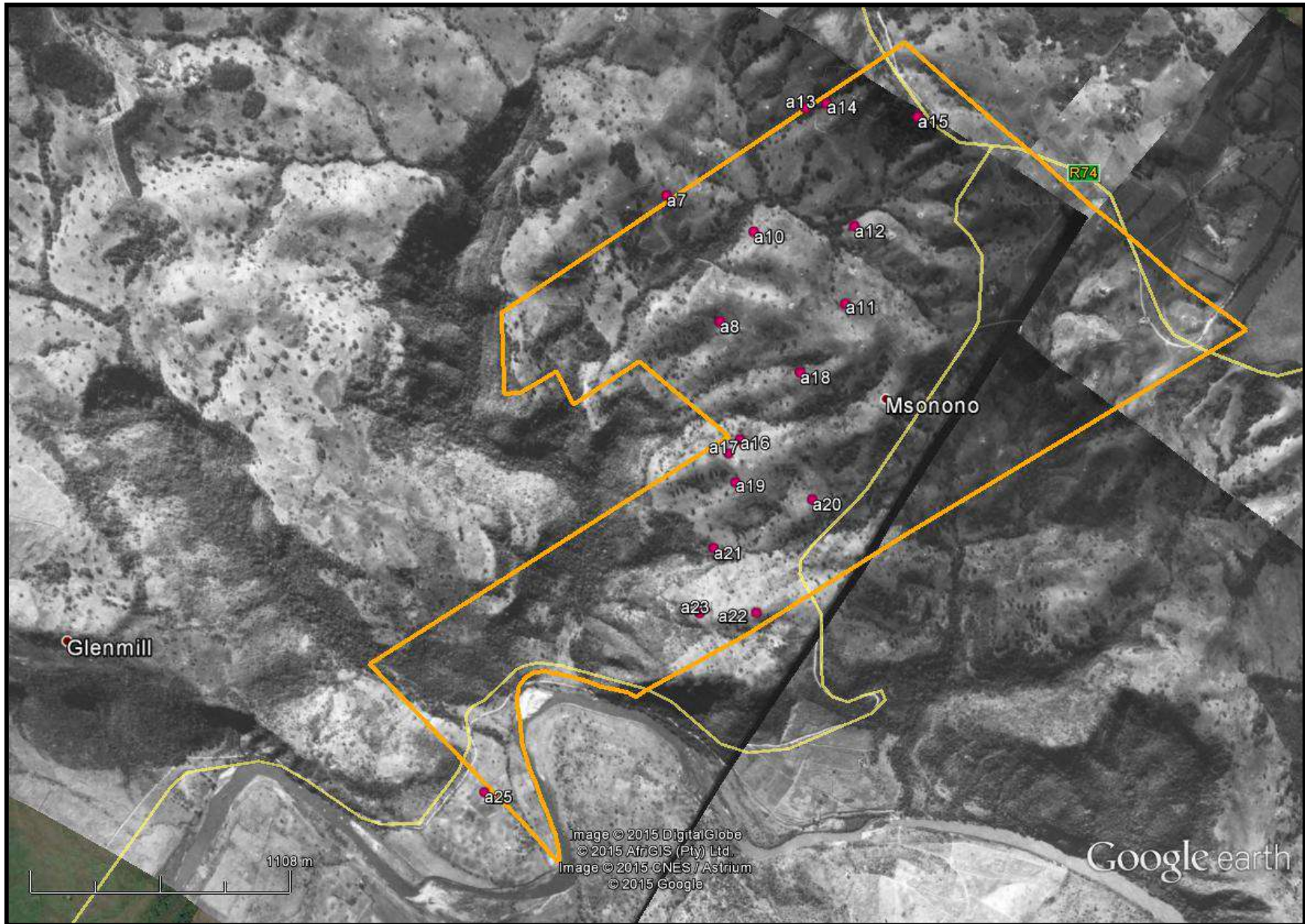


FIG. 7: STUDY AREA IN 1968

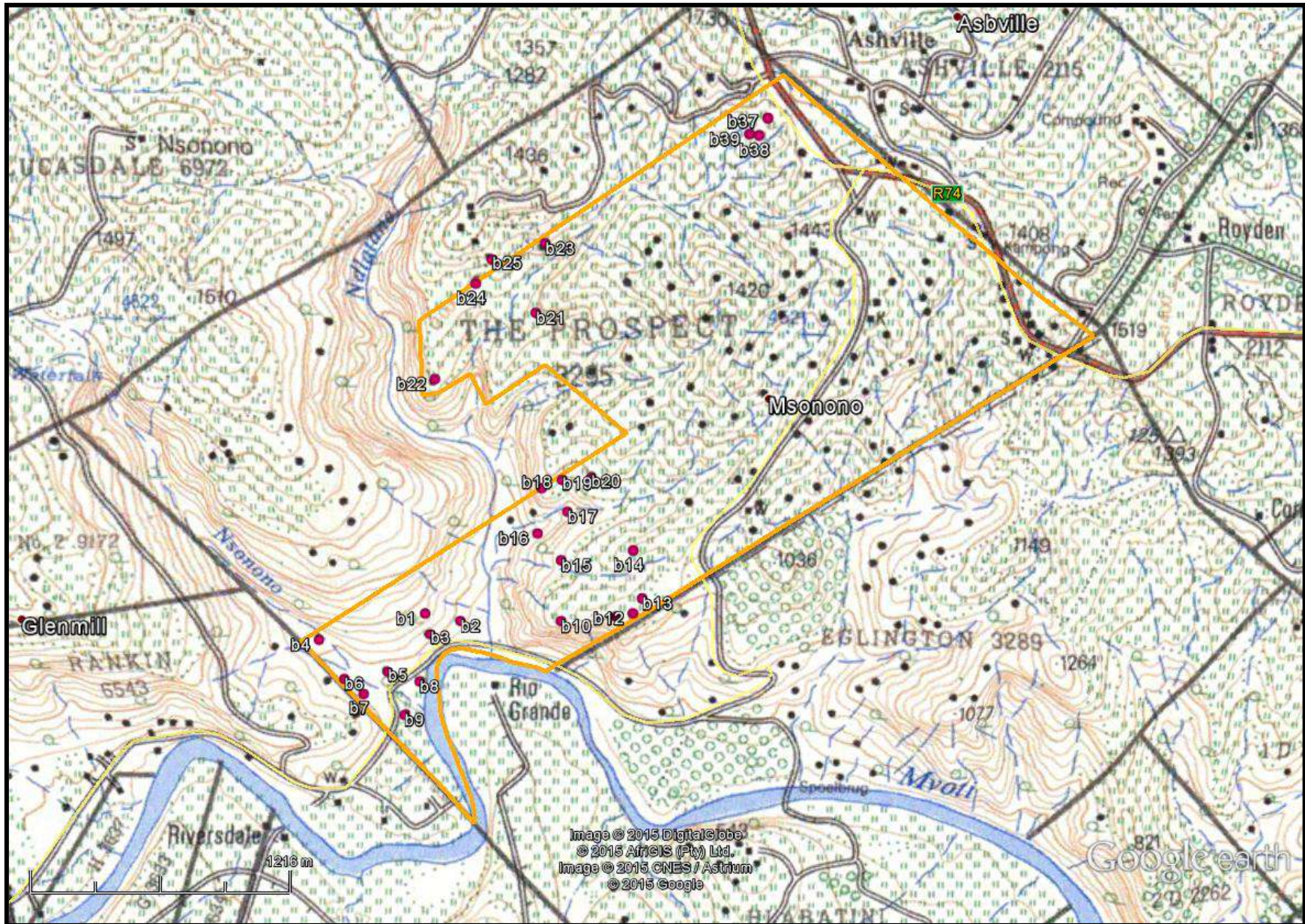


TABLE 2: LOCATION OF SETTLEMENTS FROM THE DESKTOP STUDY

NAME	LATITUDE	LONGITUDE
b1	-29.288230749	31.171883270
b2	-29.288591987	31.173511530
b3	-29.289134144	31.172074241
b4	-29.289351567	31.166731933
b5	-29.290739536	31.169988887
b6	-29.291017609	31.167909801
b7	-29.291665565	31.168836811
b8	-29.291177723	31.171501394
b9	-29.292584449	31.170775007
b10	-29.288432509	31.178497548
b11	-29.288205078	31.181123011
b12	-29.288070444	31.181904200
b13	-29.287448840	31.182343510
b14	-29.285481249	31.181921116
b15	-29.285931082	31.178502096
b16	-29.284842581	31.177326245
b17	-29.283924746	31.178776060
b18	-29.282947055	31.177550084
b19	-29.282603495	31.178544190
b20	-29.282516845	31.179923317
b21	-29.275771999	31.177365286
b22	-29.278441834	31.172554241
b23	-29.272969685	31.177820287
b24	-29.274584189	31.174566952
b25	-29.273636408	31.175357533
b37	-29.268158136	31.188094855
b38	-29.268808471	31.187703697
b39	-29.268750936	31.187274716
a7	-29.271798093	31.178940845
a8	-29.276438370	31.181201786
a10	-29.273216759	31.182594289
a11	-29.275907303	31.186370067
a12	-29.273022311	31.186802468
a13	-29.268733115	31.184741488
a14	-29.268591982	31.185623081
a15	-29.269144585	31.189344004
a16	-29.280804984	31.182083796
a17	-29.281316123	31.181600527
a18	-29.278363177	31.184546296
a19	-29.282404997	31.181917755
a20	-29.283035944	31.185181459
a21	-29.284873872	31.180977494
a22	-29.287273719	31.182797742
a23	-29.287303557	31.180372994
a25	-29.294447775	31.170860852

FIELD SURVEY

All steep valleys, existing settlements and the Msonono areas were omitted from the survey. These areas are highly disturbed and or unlikely to have been used for settlements in the past. Fig. 2 clearly shows that most of the study area that has been disturbed by housing development. Much of the sugar cane was cut; however, there were thickets that made poor visibility, especially those around old settlements. Many of the old settlements from the 1968 map no longer exist; however, they are visible only because of the terracing used for the house. The terraces were not recorded unless they were associated with a grave.

Eight heritage sites and one archaeological occurrence were recorded during the survey. These sites are shown in fig. 8 and listed in Table 2. The sites are not numbered in consecutive order as the site plan had changed and some of the sites have now been omitted from the report.

TABLE 3: LOCATION OF RECORDED SITES

Name	Latitude	Longitude	Description
Erythrina	-29.271136997	31.179374987	Erythrina spp. tree
MAND1	-29.269232964	31.184187038	Settlement & Grave
MAND9	-29.275301965	31.187763009	
POTS	-29.269538987	31.184358029	Scatter of stone pottery shards
SCATTER	-29.285306018	31.183353039	Scatter of stone tools

Figure 9 shows the general views of the study area.

FIG. 8: LOCATION OF RECORDED SITES



FIG. 9: SCENIC VIEW OF THE STUDY AREA



MAND1

MAND is located at the bottom of the valley on a small spur overlooking a stream. The site consists of a possible grave, a terrace and a few pottery shards (fig. 10). The pottery sherds are undecorated sherds that occur uphill from the terrace. The sherds appear to date to the Late Iron Age or Historical Period. The sherds are too few to be called site.

Significance: The grave is of high of significance. The pottery is of low significance.

Mitigation: A 20m no development buffer needs to occur around the grave. The grave should have a fence located around it that is 5m from the grave.

SAHRA Rating: 3A

FIG. 10: POSSIBLE GRAVE AT MAND0



MAND9

MAND is located in the “centre” of Msonono. The site consists of Shembe Circle (fig. 11).

Significance: The site is of high significance due to its religious component.

Mitigation: The site should not be disturbed without consent from the people who use the temple.

SAHRA Rating: 3C

FIG. 11: SHEMBE CIRCLE AT MAND0



SCATTER 1

Scatter 1 is located on a spur on the top of a hill... The artefacts consist of a general scatter of Late Stone Age (LSA) stone tools on quartz and a piece of pottery (fig. 12). The stone tools are generic LSA artefacts consisting of flakes and irregular cores. The pottery shard is thin-walled and undecorated.

Significance: The site is of low significance. The area is a scatter of artefacts and does not warrant being called a site.

Mitigation: No mitigation is required.

SAHRA Rating: 3C

FIG. 12: ARTEFACTS AT SCATTER 1



PALAEONTOLOGICAL IMPACT ASSESSMENT

The area is of low palaeontological sensitivity and no further work is required (fig. 13).

FIG. 13: SAHRIS PALAEOSENSITIVITY MAP



COLOUR	SENSITIVITY	REQUIRED ACTION
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

MANAGEMENT PLAN

All graves and potential graves require a 20m buffer between the grave and the development. IN addition to this, all graves need to be demarcated with a 5m buffer between the grave and the demarcation. This is required to occur before construction begins.

Those sites noted in the desktop study should be viewed as sensitive for possible human remains. A 50m radius around each point should be created as the sensitivity area. These sites do not require buffering, but an awareness for possible human remains.

The two sites identified as Late Iron Age sties will require a general destruction permit from Amafa KZN.

CONCLUSION

A heritage survey was undertaken for the Madundube Low Cost housing project. Nine heritage sites were noted form the survey and sixty from the desktop study. Most of the sites from the desktop study do not exist anymore and have been noted as sensitive for possible human remains.

One possible grave was recorded during the survey, as well as archaeological sites of low significance.

There are no objections to the development provided that the required mitigation is undertaken.