HERITAGE SURVEY OF THE UMSOBOMVU 1 WIND ENERGY FACILITY, EASTERN AND NORTHERN CAPE

FOR EOH COASTAL AND ENVIRONMENTAL SERVICES

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INTRODUCTION

"InnoWind (Pty) Ltd proposes the development of a wind energy facility (WEF) on the border between the Northern Cape and Eastern Cape Provinces. In the Northern Cape, the proposed WEF falls within the UMSOBOMVU Local Municipality, in the Pixley ka Seme District Municipality, as well as in the Inxuba Yethemba Local Municipality and Chris Hani District Municipality in the Eastern Cape. The wind farm will host approximately eighty one (81) turbines, with a potential power output of one hundred and forty (140) megawatts (MW).

The above farms collectively total over 12 744 ha of land, but the development footprint of the wind turbines and associated infrastructure will potentially occupy less than 2% of this area. Topographically, the area is characterised by undulating plains and river valleys [with low-lying hills and mountains that range from 1400m to 29150m asl]...

The energy generated by the WEF will be fed directly into 400kV power lines, from a small on site substation.

Other infrastructure associated with the proposed WEF will be:

- Concrete foundations to support the wind towers
- Approximately 6 meter wide internal access roads to each turbine
- Underground cables connecting each turbine to the other and to the mini substation
- A building to house the control instrumentation and interconnection elements, as well as a storeroom for maintenance equipment
- An onsite mini substation to facilitate interconnection of the WEF with the Eskom grid" (EOH Coastal & Environmental Services BID, 2014).

Umlando was contracted to undertake the HIA for this project.

FIG. 1 GENERAL LOCATION OF THE UMSOBOMVU WEF

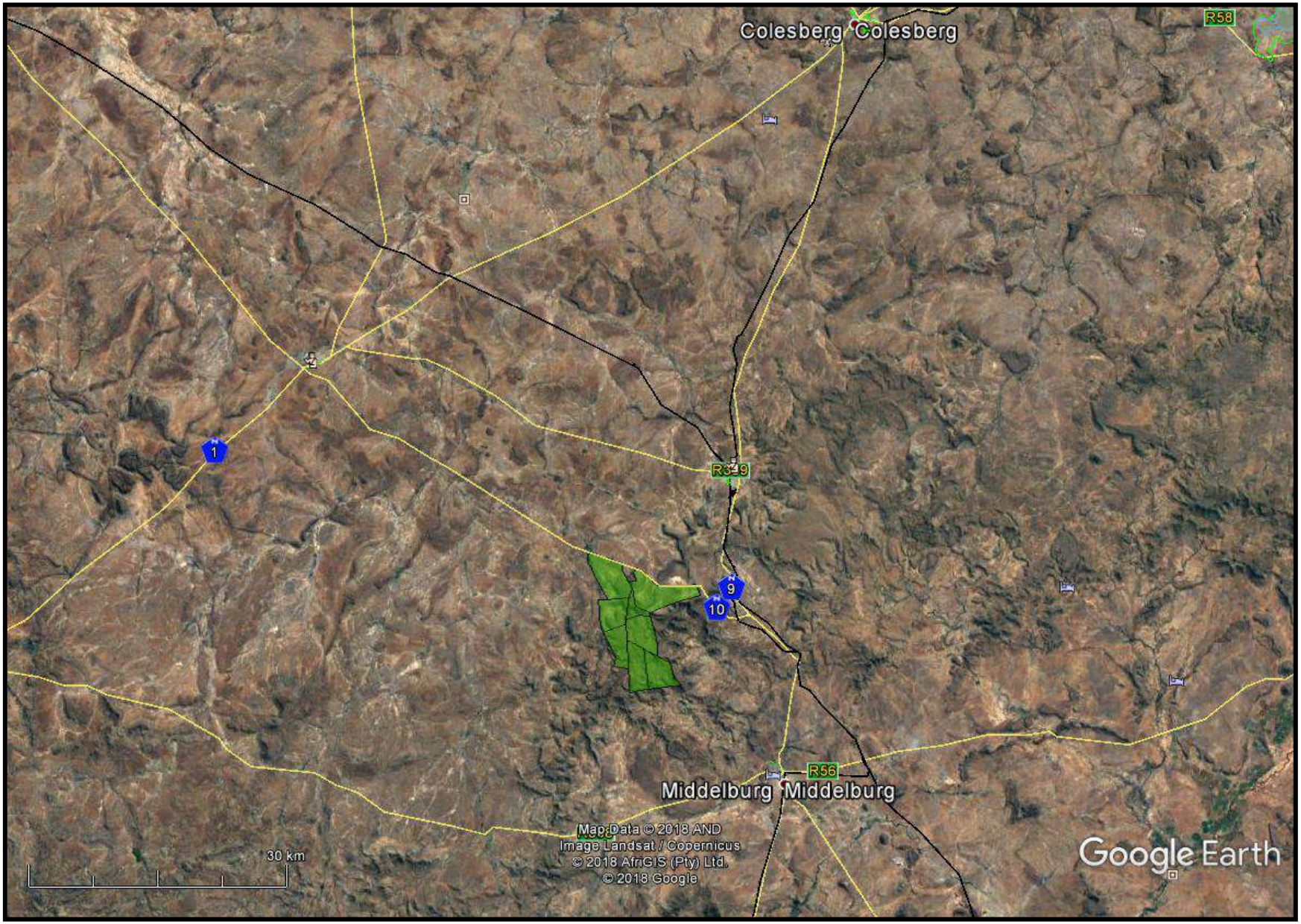


FIG. 2: AERIAL OVERVIEW OF THE UMSOBOMVU WEF PROPERTY PARCELS

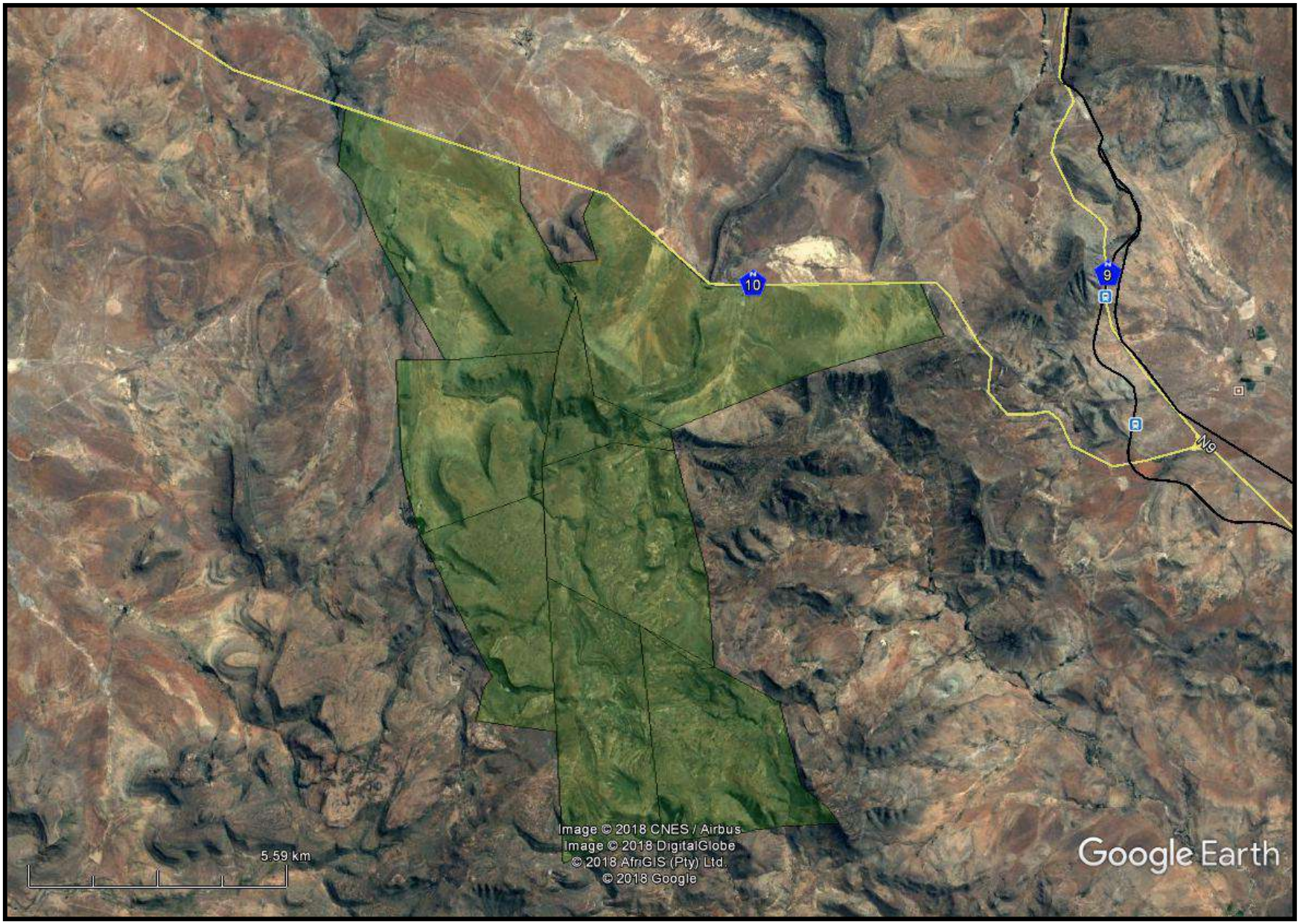


FIG. 3: TOPOGRAPHICAL MAP OF THE UMSOBOMVU WEF

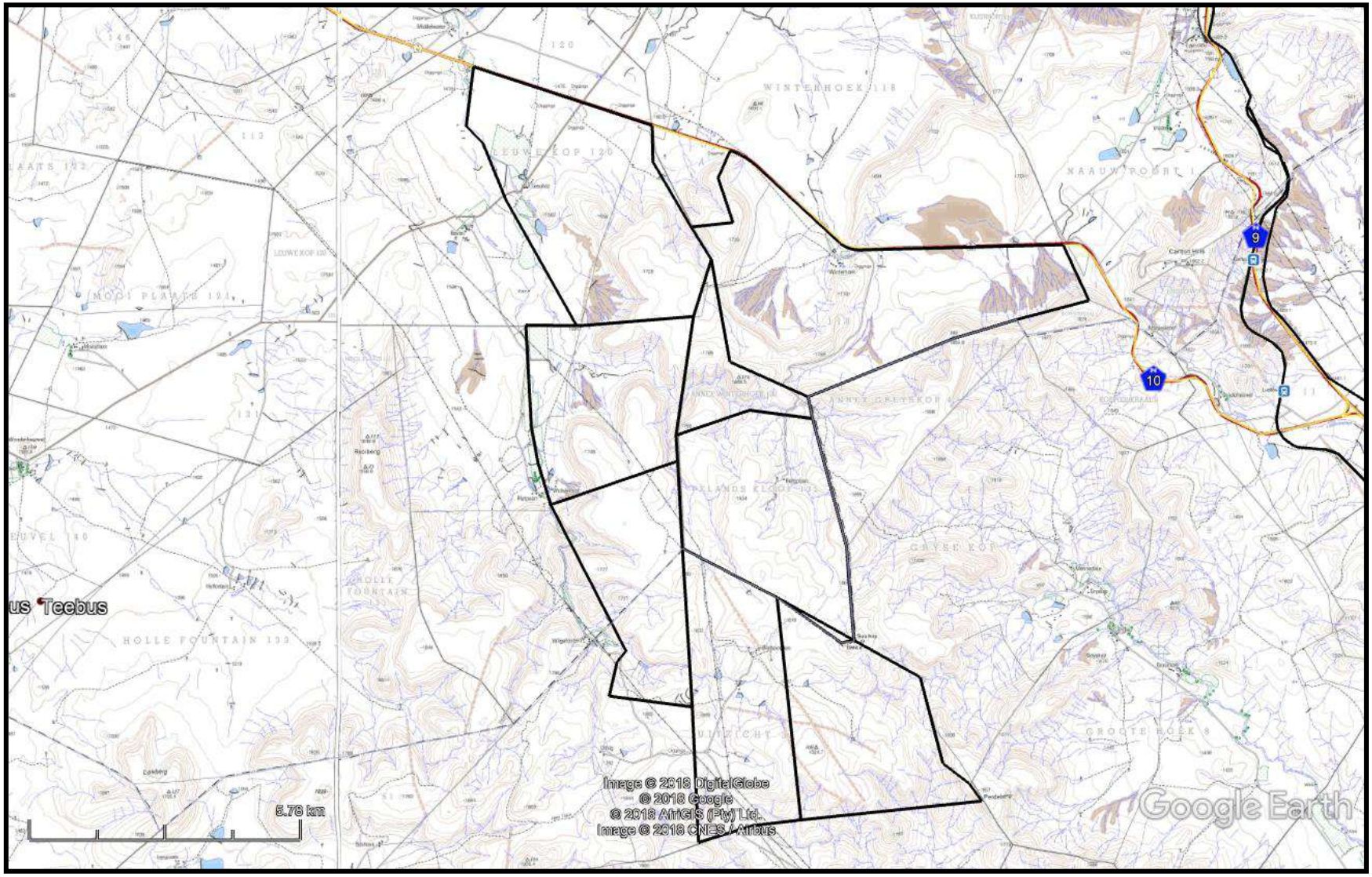
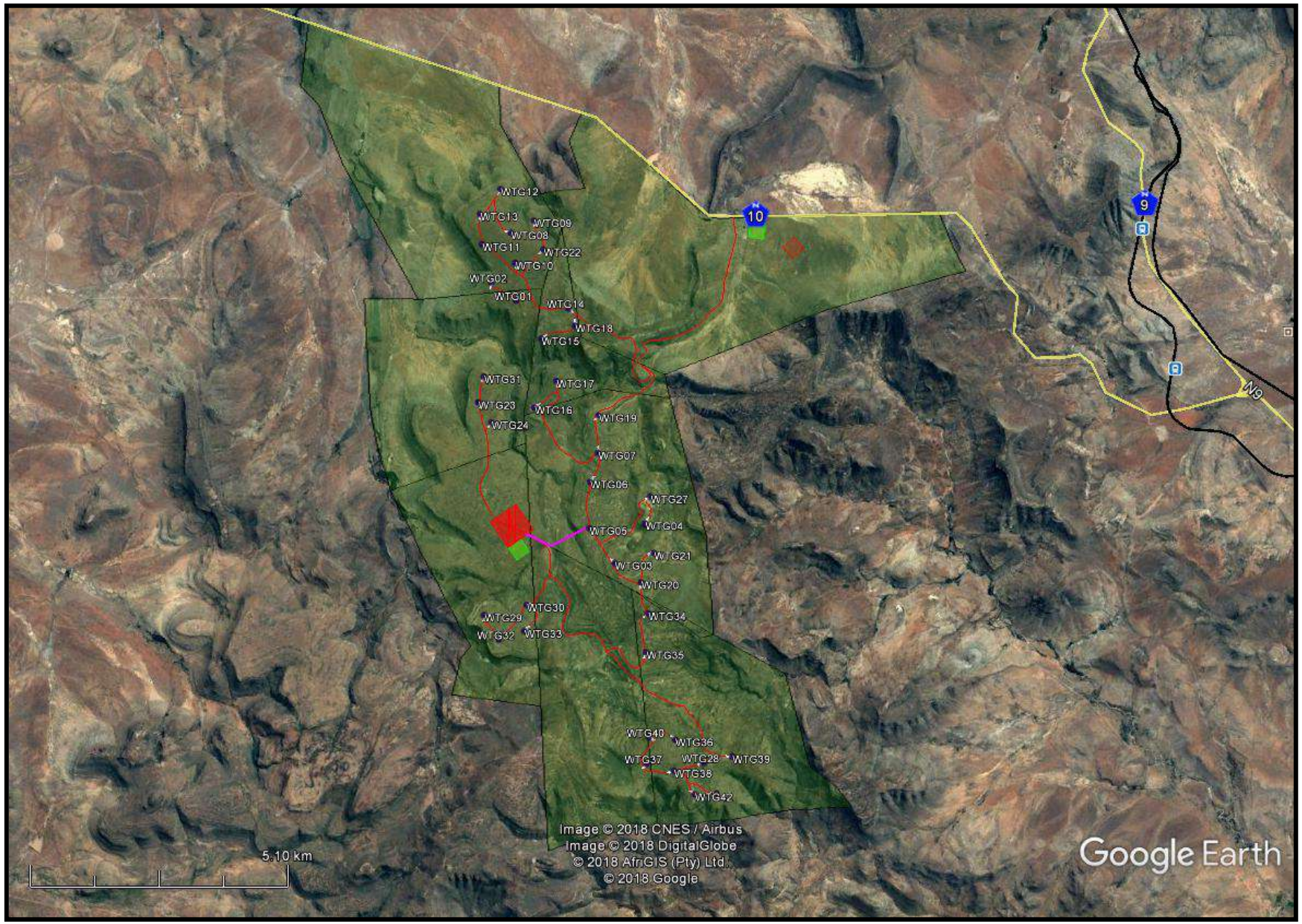


FIG. 4: PROPOSED LOCATION OF THE WIND TURBINES FOR THE UMSOBOMVU WEF



NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. This are resources are defined as follows:

1. **"**For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
   - 2.1. Places, buildings, structures and equipment of cultural significance;
   - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
   - 2.3. Historical settlements and townscapes;
   - 2.4. Landscapes and natural features of cultural significance;
   - 2.5. Geological sites of scientific or cultural importance;
   - 2.6. Archaeological and palaeontological sites;
   - 2.7. Graves and burial grounds, including—
     - 2.7.1. Ancestral graves;
     - 2.7.2. Royal graves and graves of traditional leaders;
     - 2.7.3. Graves of victims of conflict;
     - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
     - 2.7.5. Historical graves and cemeteries; and
     - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;
   - 3.1. Movable objects, including—

4. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
   4.1. Objects to which oral traditions are attached or which are associated with living heritage;
   4.2. Ethnographic art and objects;
   4.3. Military objects;
   4.4. objects of decorative or fine art;
   4.5. Objects of scientific or technological interest; and
   4.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
   5.1. Its importance in the community, or pattern of South Africa's history;
   5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
   5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
   5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
   5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
   5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
   5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
   5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

5.9. sites of significance relating to the history of slavery in South Africa"

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 1st edition 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.

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	3A / 3B	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	3B	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	3C	On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

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.

No national monuments, battlefields, or historical cemeteries are known to occur in the study area, although several occur in the general area.

Several Archaeological and heritage impact assessments have been undertaken on nearby farms (Anderson 2011; Binneman 2012; Booth 2011; Prins 2011). These surveys recorded a range of Early, Middle and Late Stone Age stone tool scatters, as well as rock art sites and stone walled kraals. The area also contains historical farm buildings. Garth Sampson's work in the Seacow River Valley has been noted, and Abbot's Cave occurs just outside the boundaries of the study area (1985). Sampson's work has documented the arrival of Khoekhoe pastoralists in the Seacow River Valley, and the effect of European colonials on San and Khoekhoe people.

The topographical maps for the area indicate that there two historical farm cemeteries in the general study area, and several farms that date to the mid 19th century, i.e. when Middelburg was proclaimed. All of the existing farms occur on the 1972 and 1973 1st edition topographical maps (fig. 5). The maps also indicate several stone walled features, and these appear to be related to dams. The sites noted on the maps were visited during the survey.

The 1945 aerial photograph indicates that most of the kraals and buildings were already built (fig. 6). This would be confirming the SCG records. Thus most built features are more than 60 years in age and are automatically protected by the NHRA.

FIG. 5: LOCATION OF FARMS AND FEATURES IN 1945

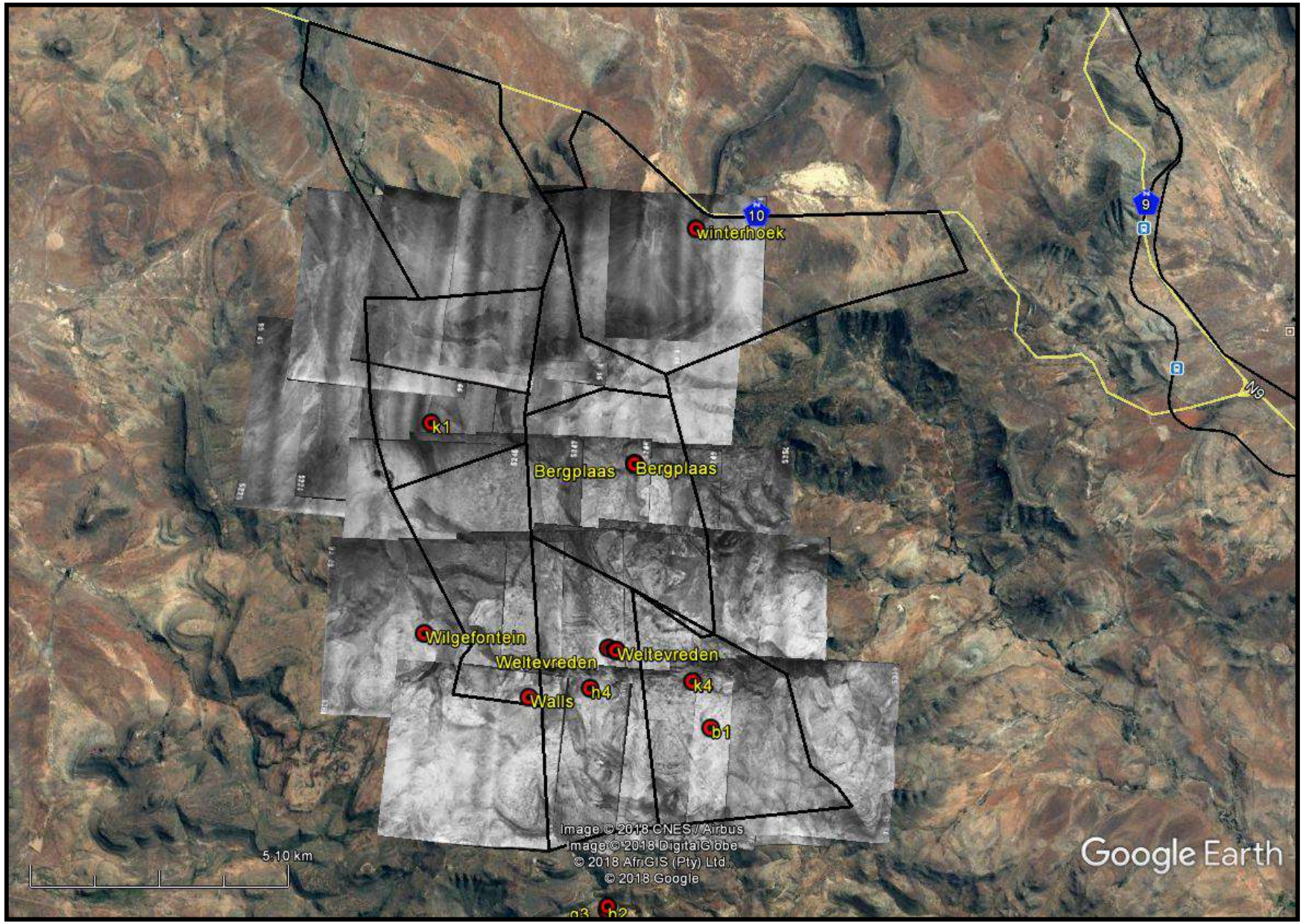
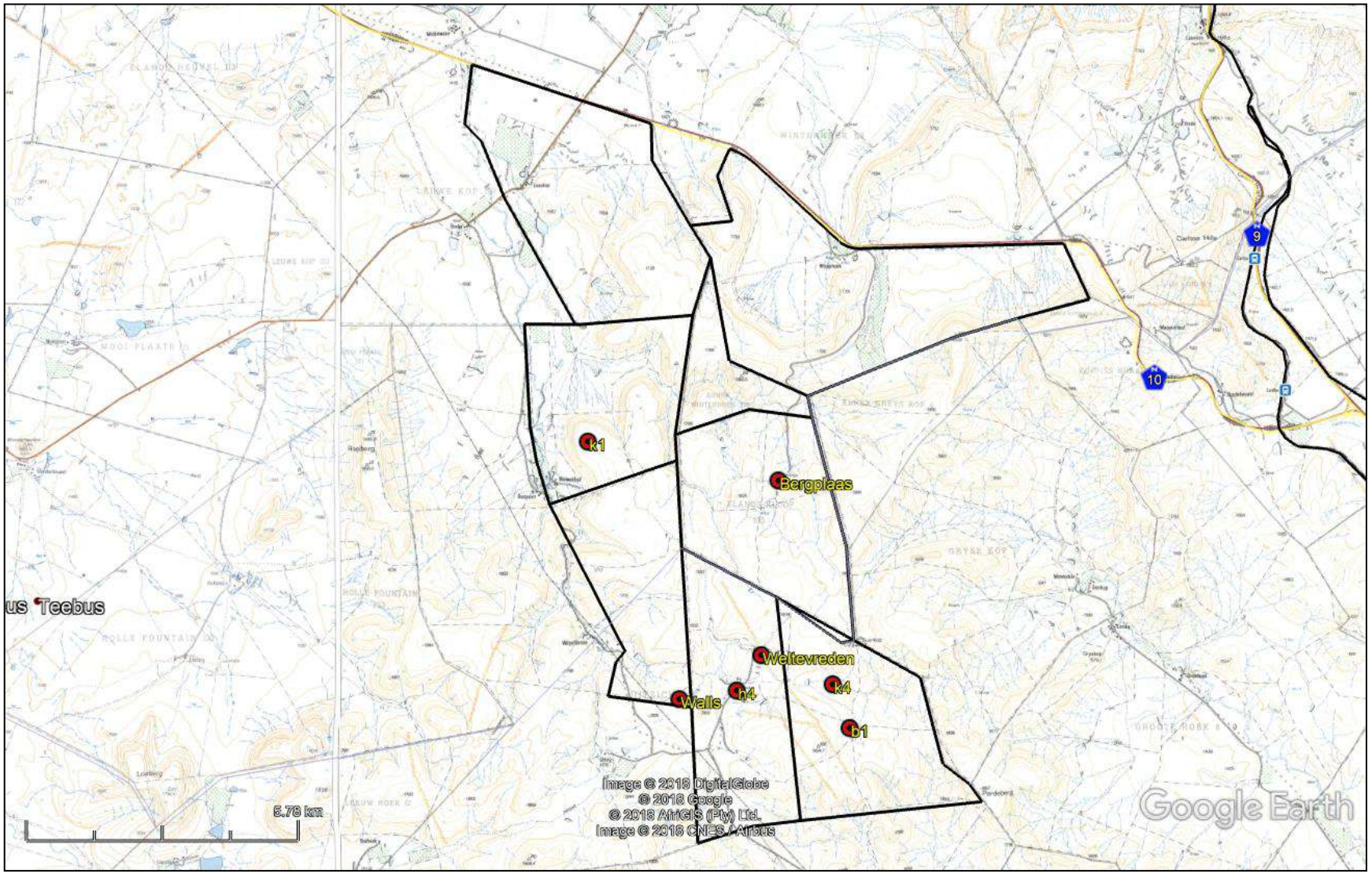


FIG. 6: LOCATION OF FARMS AND FEATURES IN 1972



FIELD SURVEY

The current locations of the wind turbines are on the top of each mountain. The altitude varies from 1700m to 1900m and the areas are directly exposed to high winds and lightning resulting in unfavourable human living areas. Several heritage sites were noted during the survey. These range from open scatters of stone tools, small shelters with(out) deposit and rock art, to built features such as stone walled kraals, retaining walls for dams, and farm buildings. In most cases, the wind turbines will not directly affect these heritage sites. However, the servitudes, especially access roads, may affect the sites. The electrical servitudes form each tower was not finalised by the time of the survey, however these can be assessed at a later stage at a desktop level.

The cultural landscape also requires consideration. The first farms in Middelburg were officially proclaimed in 1853, even though the Surveyor General Diagrams (SGD) indicates that they were mapped as early as 1829. Uitsig (formerly Uitzicht) is one of these farms. The early colonial farmers have transformed the landscape using local raw materials for their house, labourer's houses, kraals, dams and boundary markers. The buildings show early farming vernacular architecture as well as the socio-economic divide between landowners and workers. These features have become a part of the cultural landscape and should be protected.

The emphasis on the field survey and mitigation is thus to save as much of the heritage in the study area, with minimal impact regardless of its significance. The exception to this would be the stone tools scatters that occur all over the study area.

Table 2 lists the sites recorded during the field survey. Figure 7 shows some of the general views of areas most likely to be effected. Figure 8 shows the location of the recorded heritage sites.

FIG. 7: SCENIC VIEWS AT SOME OF THE TOWER POINTS




FIG. 8: LOCATION OF RECORDED HERITAGE SITES

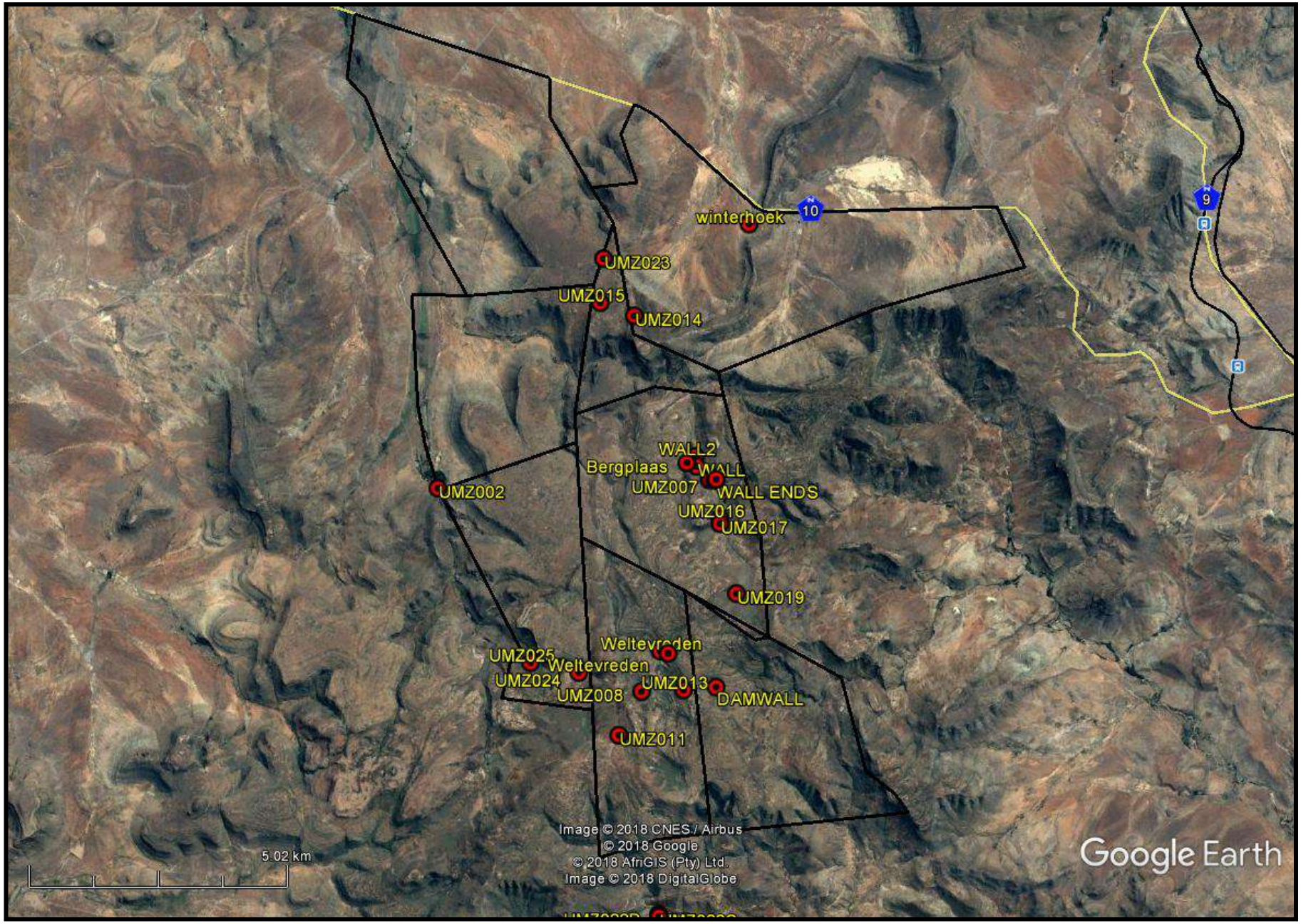


TABLE 2: LIST OF RECORDED HERITAGE SITES

NAME	LATITUDE	LONGITUDE	DESCRIPTION
Bergplaas	-31.343549984	24.846849991	Farm buildings
Dam wall	-31.381921151	24.852684717	Historical walling
h9	-31.438048594	24.814438947	Kraal at base of hill – not surveyed
k4	-31.381581020	24.858667077	Kraal at base of hill – not surveyed
UMZ002	-31.347918559	24.796485707	Retaining wall
UMZ007	-31.346358947	24.852735886	Stone walling around a river
UMZ007	-31.345072550	24.850495461	Stone walling around a river
UMZ008	-31.382728910	24.837757276	Shed
UMZ010	-31.346212998	24.851492979	Low stone walling
UMZ010A	-31.346461019	24.851331962	Overhang with rock art and deposit
UMZ011	-31.390200974	24.833171982	dam wall
UMZ013	-31.382387029	24.846152030	MSA, LSA Stone tool scatter
UMZ014	-31.318343650	24.836304815	stone tools
UMZ015	-31.316045032	24.829452560	quarry and knapping
UMZ016	-31.353066629	24.853449985	Stone walling - kraals
UMZ017	-31.353949998	24.853500025	stone walling – kraals
UMZ019	-31.365906028	24.856753964	Stone walling
UMZ023	-31.308458978	24.830115018	Small stone walled kraal
UMZ024	-31.379562998	24.825119991	Overhand with Rock Art and stone tools
UMZ025	-31.377873961	24.815410981	Retaining wall
WALL2	-31.342429994	24.848610023	Bergplaas walling
Walls	-31.384413413	24.825247177	Bergplaas walling
Weltevreden	-31.375717	24.841483	Weltevreden farm buildings
Winterhoek	-31.302260980	24.859495014	Farm buildings

All of the farm buildings and related infrastructures recorded during the survey occur on the 1945 aerial photographs. All built features are thus older than 60 years.

UMZ002

The site is located directly opposite UMZ001 on the eastern side of the river. The site is a stone walled feature that is probably an old retaining wall (fig. 9). Elm trees currently surround the site.

The wall occurs on the opposite side of a possible access road and will not be affected.

Significance: The wall is of low significance.

Mitigation: No mitigation is currently required.

SAHRA Rating: 3C

FIG. 9: WALLING AT UMZ002

UMZ007

UMZ007 is located ~400m southeast of Bergplaas. The site is a long stone wall that appears to be built around both sides of the river (fig. 10). The walling forms a rough rectangle ~250m x 75m in size. The walling appears to be that of an old kraal and is probably related to the farm Bergplaas. The walling will form part of the cultural landscape.

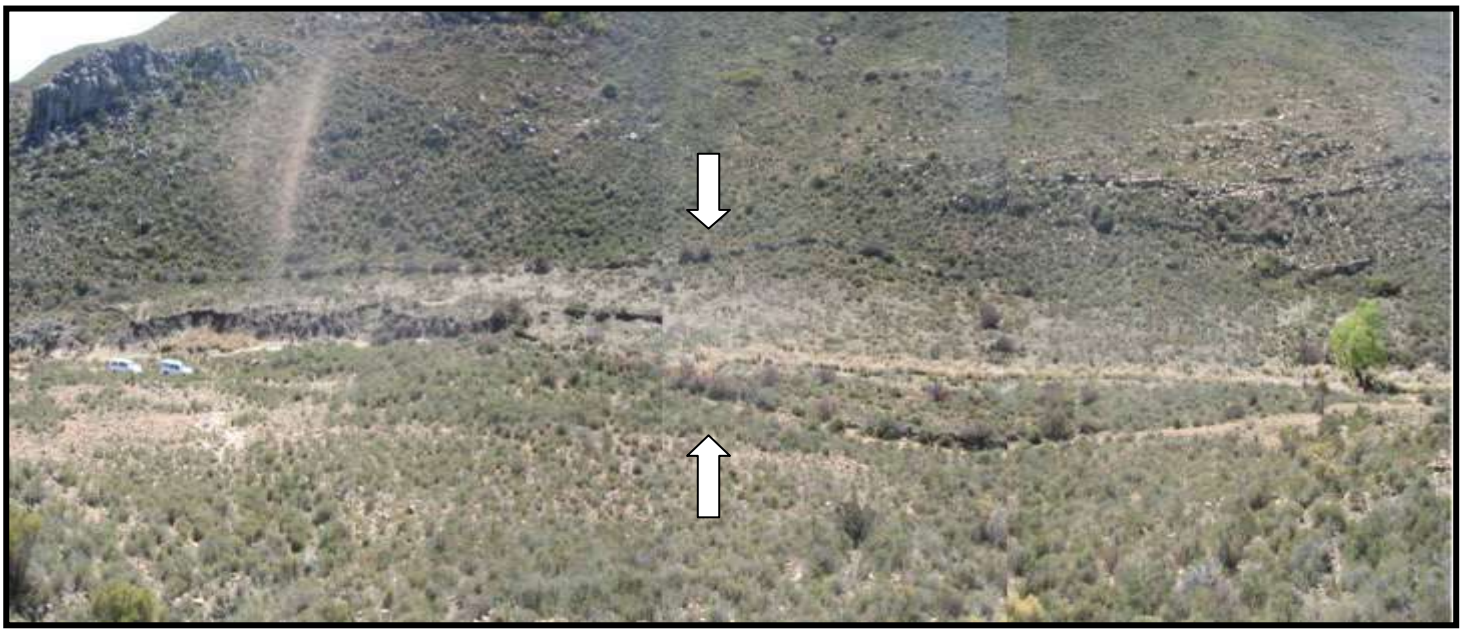
If an access road is placed along the existing track, it will negatively affect the walling.

Significance: The site is of low significance.

Mitigation: If an access road is built in this area, it should avoid damaging the walling and be moved to the west of the existing road. The walling should be clearly demarcated before construction begins with a 5m buffer zone.

SAHRA Rating: 3C

FIG. 10: WALLING AT UMZ007



UMZ008

The site is located just above a dam. UMZ008 consists of a shed that is now a ruin and is 10m x 8m in size (fig. 11). The shed was built with local raw materials and with dry stone walling. Plaster was added more recently as was the roof. The lintel is made of a cement mixture; however, this may be a more recent addition, as there are more recent bricks above it. There are stelae near the shed. The shed is probably related to the farm Weltevreden.

The shed is ~50m east of an existing track and is unlikely to be affected.

Significance: The site is of low significance.
Mitigation: No mitigation is currently required.
SAHRA Rating: 3C

FIG. 11: SHED AT UMZ008

UMZ010

The site is located 500m southeast of Bergplaas and uphill of UMZ007. The site has two related components (fig. 12). The first component is a ruined stone wall circle (fig.13) at the base of the hill. The kraal is circular and ~2.5m in diameter. Only the base stones remain in place while the others have fallen over. Several artefacts occur in the general area that includes generic LSA stone tools, glass, metal and ceramics. These tend to be 20th century artefacts.

A further 30m uphill is a small overhang with a possible wall at the entrance. The overhang is ~3m wide, 1.5m deep and 1.5m high (fig. 14). There is a sandy deposit where two stone tools were noted on the surface. The overhang is in a sandstone ridge that has been heavily eroded by the wind. There is charcoal scratching on the western wall. On the southern wall is a very faded red antelope in the fine-line tradition: it is probably an eland (fig. 15).

The kraal at the base of the hill is probably a sheep kraal. While hunter-gatherers used the shelter for painting, the more recent occupation is probably that of a shepherd, and thus linking the kraal to the shelter. That is, the shepherd lived in the cave when the sheep, or lambs, were in the kraal below.

The existing track is ~40m north of the kraal.

Significance: The art and kraal is not well preserved and the deposit appears to be ephemeral. However, the site is an example of shepherds' life and the only one recorded in the study area. The site is of medium significance.

Mitigation: The site will currently not be affected. If the access road occurs along this track then the kraal will need to be demarcated before construction. The access road will also need to take into account the walling at UMZ007.

SAHRA Rating: 3B

FIG. 12: WALLING AND OVERHANG AT UMZ010

FIG. 13: LOW STONE WALLED KRAAL AT UMZ010

FIG. 14: SHELTER AT UMZ010

FIG. 15: FADED ROCK ART AT UMZ010

UMZ011

The site is located in a small valley within a riverbed. UMZ011 is a reinforced dam wall and an example of most dam walls in the area. The wall is an earthen wall that is reinforced with dry stone walling on the side (fig. 16). The age of each wall will vary but they are probably older than 60 years. The reinforced dam walls are examples of farming practices.

The feature is unlikely to be affected by the project.

Significance: The site is of low significance
Mitigation: No mitigation is currently required.
SAHRA Rating: 3C

FIG. 16: SUPPORTING DAM WALL AT UMZ011

UMZ013

The site is located on a flattened surface at the base of a small outcrop (fig. 17). There are several small overhangs at the outcrop; however, none of these has deposit. The stone tool scatter occurs at the base of the outcrop and extends for an area of ~100m x 30m: it is not a dense scatter. The stone tools are all made from hornfels and consist of single platform cores, flakes, utilised flakes, a scraper-adze, and a double-sided adze (fig. 18). All of these are LSA tools; however, some are made from MSA flakes. The tools vary in degrees of patination.

Significance: The site is of low significance.

Mitigation: No mitigation is required, however if a permit will be required if the access road affects the site.

SAHRA Rating: 3C

UMZ014

The site is located at the base of a small koppie on the mountain (fig. 19). There is an ephemeral scatter of stone tools over an area 60m x 50m in size. The tools appear to be in a secondary context, and are made from hornfels. The tools date to the MSA and consist of irregular cores, flakes (with/out a prepared platform) and unifacial points of varying sizes (fig. 20)

Significance: The site is of low significance.

Mitigation: No mitigation is required, however if a permit will be required if the access road affects the site.

SAHRA Rating: 3C

FIG. 17: GENERAL VIEW OF UMZ013

FIG. 18: STONE TOOLS AT UMZ013

FIG. 19: GENERAL VIEW OF UMZ014

FIG. 20: STONE TOOLS AT UMZ014

UMZ015

The site is located ~800m downhill from UMZ014 (fig. 21). The site is situated at the flattened base of a small hill and extends over an area of 50m x 80m. The site consists of naturally occurring outcrop of loose hornfels rocks. Many of the smaller rocks have been used for cores to produce flakes. There appears to be substantially more cores than flakes in the area. The site is thus mostly a quarry site, although some stone tool knapping did occur. The site appears to date to the MSA and LSA. Given the size of the cores, it is unlikely that many are in a secondary context.

Significance: The site is of low-medium significance as it may yield information regarding quarrying and knapping techniques

Mitigation: A quantitative analyses should occur at the site if the access road affects the site. Artefacts should be photographed and some could be sampled

SAHRA Rating: 3B

UMZ016

The site is located at the base of a koppie. The site consists of three stone walled kraals of which the largest abuts the koppie (fig. 22). The main kraal is 50m x 20m in size, while the two smaller kraals are 3m x 4m in size and 3m in diameter.

The existing track occurs ~40m to the east of the features.

Significance: The site is of low significance.

Mitigation: No mitigation is currently required. The site should be demarcated if the access road occurs within 20m of it.

SAHRA Rating: 3C

FIG. 21: GENERAL VIEW OF AND COREST AT UMZ015

FIG. 22: STONE WALLING AT UMZ016

UMZ017

The site is located at the base of a koppie and ~ 100m south of UMZ016. The site consists of two rectangular stone walled features in front of a line of boulders that form a natural wall (fig. 23). Both kraals are 2m x 4m in size. Unlike UMZ017, there are several artefacts in front of the features including early 19th century (green) transfer print ceramics. Artefacts up to the 1970s were also observed.

These two features may be small houses for shepherds with the fore area the activity area. This is the only site in the study area that has a deposit that could indicate turn of the century shepherd life - something that has not previously recorded. The existing track occurs ~25m to the east of the artefacts.

Significance: The site is of low significance.

Mitigation: The site should be demarcated if the access road occurs within 20m of it. The site requires test pit excavations if the access road will affect the activity area.

SAHRA Rating: 3B

UMZ019

UMZ019 is located near the top of the mountain beside and existing track. The site is consists of the remains of a stone wall that would have abutted the small rock outcrop (fig. 24). Only a few meters of the wall remain

The site will be affected if the access road is placed along this track.

Significance: The site is of low significance.

Mitigation: No further mitigation is required. A permit for its destruction will be required if affected.

SAHRA Rating: 3C

FIG. 23: STONE WALLING AND ARTEFACTS AT UMZ017

FIG. 24: STONE WALL REMAINS AT UMZ019

UMZ023

The site is located at the base of a small hill. UMZ023 consists of a single stone walled kraal 3m x 4m in size (fig. 25). The kraal is no longer in use.

The kraal occurs ~30m away from the existing track.

Significance: The site is of low significance.

Mitigation: No mitigation is currently required. The kraal will need to be demarcated if the access road occurs near it.

SAHRA Rating: 3C

FIG. 25: STONE WALLED KRAAL AT UMZ023

UMZ024

The site is located below the top of the mountain overlooking the valley. The shelter is on a sandstone ridge and is 7m wide, 1.5m deep and 1.5m high (fig. 26). There is a small talus slope in front of the shelter that extends for ~10m. The shelter has a deposit. There is a high density of stone tools on the talus slope. The tools are predominantly made form hornfels, although a few silcrete artefacts occur. The tools are typical of a Wilton and post-Wilton complex:

1. (small) scrapers
2. Adzes
3. utilised flakes
4. re-used MSA flakes
5. Irregular cores
6. Single platform cores
7. flakes

No pottery was observed.

Three paintings occur at the shelter. The main painting is a ‘late white’ eland that appears to be more finger-painted than in the fine line tradition (fig. 27). To the right are two faint red antelope that are in the fine line tradition.

Some of the wind turbines will be in view from the site.

Significance: The site is of medium significance.

Mitigation: No mitigation is required, as the site will not be directly affected by the development.

SAHRA Rating: 3B

FIG. 26: SHELTER AND TALUS SLOPE AT UMZ024

FIG. 27: WHITE ELAND AT UMZ024

FIG. 28: RETAINING WALL AT UMZ025

UMZ025

The site is located in a river valley on the side of the river. UMZ025 consists of a single retaining wall that appears to be attached to a dam (fig. 28). Many of these types of walls occur in the study area, none of which will be affected.

Significance: The site is of low significance.

Mitigation: No mitigation is required, as the feature will not be affected.

SAHRA Rating: 3C

BERGPLAAS

Bergplaas is located on the Erf Elands Kloof 135. It was first surveyed in 1827 (SG F265/1827; fig. 29) and by 1926 the farm is noted on the SGD (FB50/1926; fig. 30). Since then one additional building has been erected on the farm. The site consists of farmhouse, several kraals and stone walls (fig. 31). The farmhouse itself is very small and consists of 2 – 3 rooms. The stone walled kraals vary in size and age, but are ~50m x 20m in size. Artefacts occur on the surface throughout the site.

The buildings are thus older than 60 years and all features are automatically protected.

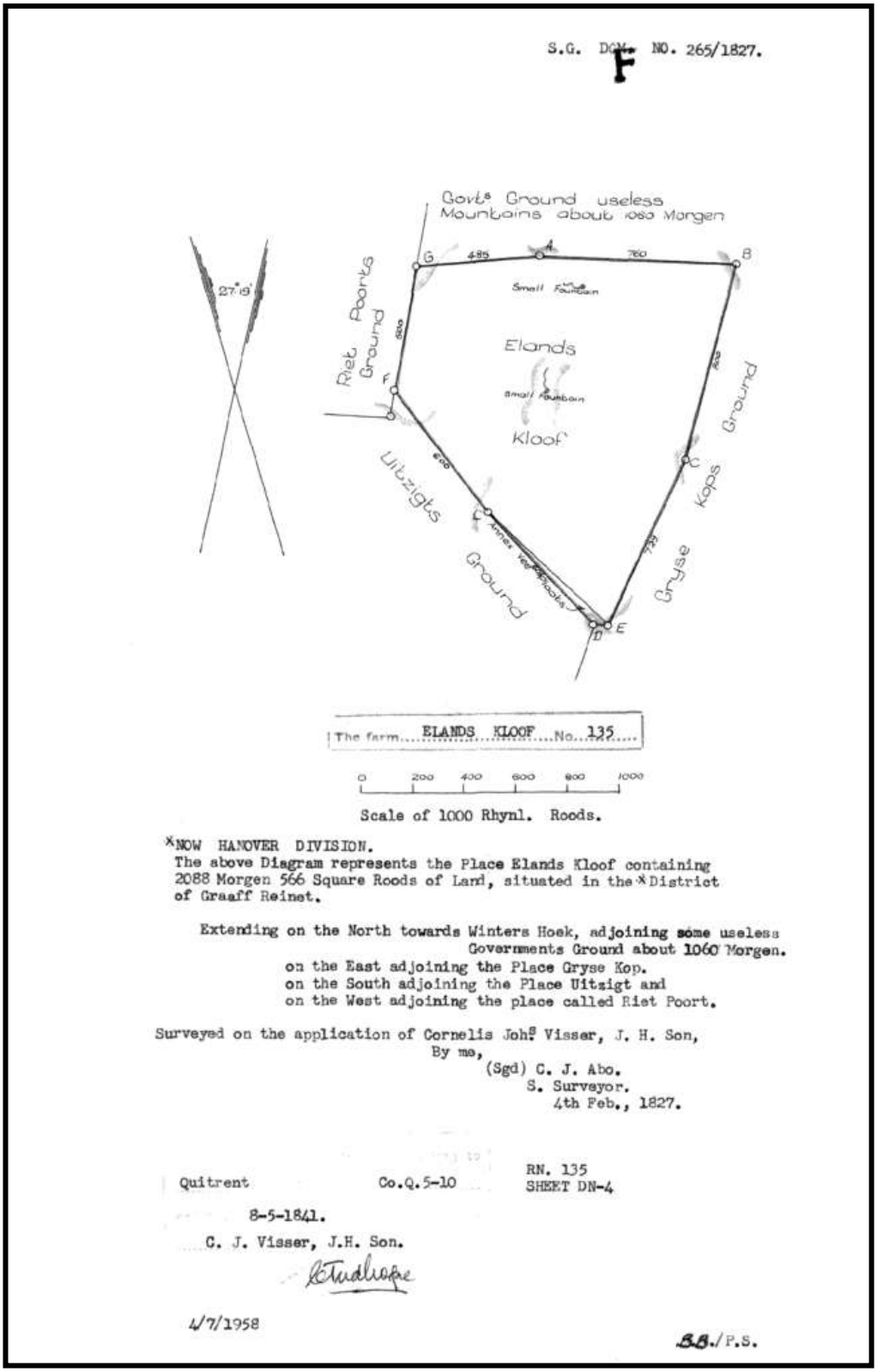
Some of the features will be affected if the access road is placed on the existing track.

Significance: Main building to be assessed by an architect historian if affected. The perimeter walling is of low significance.

Mitigation: If the perimeter walls are affected by the access road then mitigation is required. The walling should be surveyed and replaced/rebuilt after the project is completed. No structures should be damaged. ECPHRA should be contacted if any middens are exposed

SAHRA Rating: 3B

FIG. 29: SGD OF BERGPLAAS DATED 1827



S.G. DGM. NO. 265/1827.

F

The farm ELANDS KLOOF No. 135

0 200 400 600 800 1000

Scale of 1000 Rhynl. Roods.

XNOW HANOVER DIVISION.
The above Diagram represents the Place Elands Kloof containing 2088 Morgen 566 Square Roods of Land, situated in the XDistrict of Graaff Reinet.

Extending on the North towards Winters Hoek, adjoining some useless Governments Ground about 1060 Morgen.
on the East adjoining the Place Gryse Kop.
on the South adjoining the Place Uitzigt and
on the West adjoining the place called Riet Poort.

Surveyed on the application of Cornelis Johs Visser, J. H. Son,
By me,
(Sgd) C. J. Abo.
S. Surveyor.
4th Feb., 1827.

Quitrent Co.Q.5-10

RN. 135
SHEET DN-4

8-5-1841.

C. J. Visser, J.H. Son.

4/7/1958

S.S./P.S.

FIG. 30: SGD DATED 1926 INDICATING BERGPLAAS

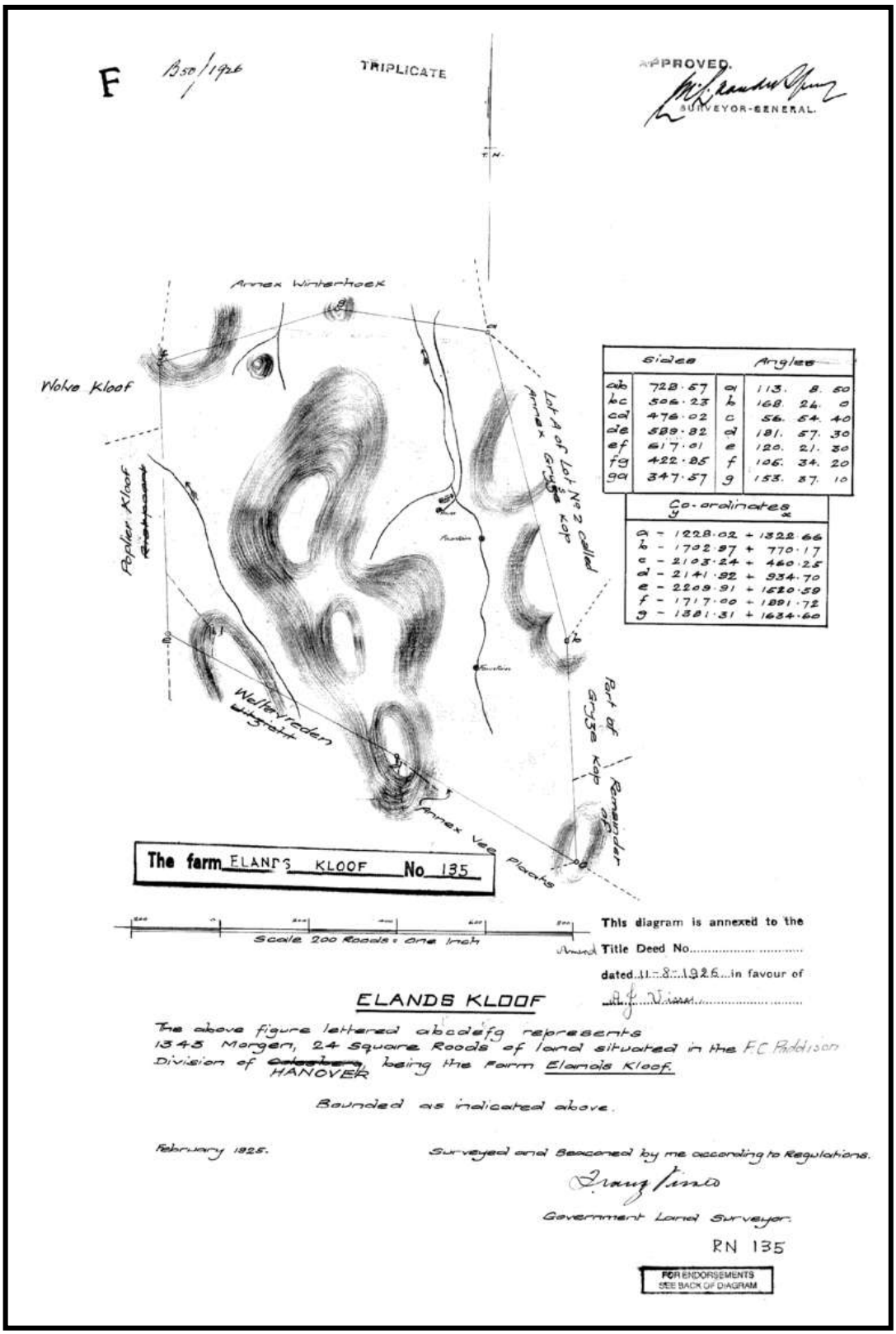


FIG. 31: ORIGINAL BERGPLAAS FARM AND KRAALS

WELTEVREDEN

The farm is located on the Erf Uitzicht 3. The SGD maps are not available online for this farm, although it appears on the 1829 SGD diagrams on the adjacent farm. The farm consists of two main farmhouses, a shed, kraals and labourers' houses (fig. 32). The original farmhouse is no longer in use, and a 20th century house has been built nearby. The main buildings appear to date to the 19th century. The labourers' houses are ~150m to the east of the main house. It appears that these have been in use up to the recent past.

The existing track passes in front of the main shed.

Significance: The buildings will need to be assessed by an architect historian for its full significance. The farmyard has potential historical archaeological significance for 19th century farm life.

Mitigation: The buildings are currently not effected. The access road cannot affect the buildings if it is placed here. Areas around the some of the buildings have potential historical archaeological deposit and may need to be monitored if affected by servitudes.

SAHRA Rating 3B.

FIG. 32: BUILDINGS AT WELTEVREDEN

WINTERHOEK

The Farm Winterhoek is located on the Erf Winterhoek 118. The SGD indicates that the farm was first surveyed in 1827, where one morgen of garden ground is noted but no buildings (F258/1827; fig. 33). The farm was surveyed again in 1893 for an Annex. On the northern part of the farm (F393/1893; fig. 34). In 1922, the SGD survey notes (F217/1922; fig. 35) buildings on the farm in the same location where the existing buildings occur, and the garden ground from 1827. The built structures on the farm thus predate 1929, and are automatically protected by the NHRA.

The existing farm consists of a farmhouse, a shed, and some stone walling for kraals and farm labourers' houses (fig. 36). The farm buildings are located near an existing track into the valley that goes towards Bergplaas.

Significance: The buildings will need to be assessed by an architect historian for its full significance. The farmyard has potential historical archaeological significance for 19th century farm life.

Mitigation: The buildings are currently not effected. The access road cannot affect the buildings if it is placed here. Areas around the some of the buildings have potential historical archaeological deposit and may need to be monitored if affected by servitudes.

SAHRA Rating 3B.

FIG. 33: SGD DRAWING OF WINTERHOEK AT 1827

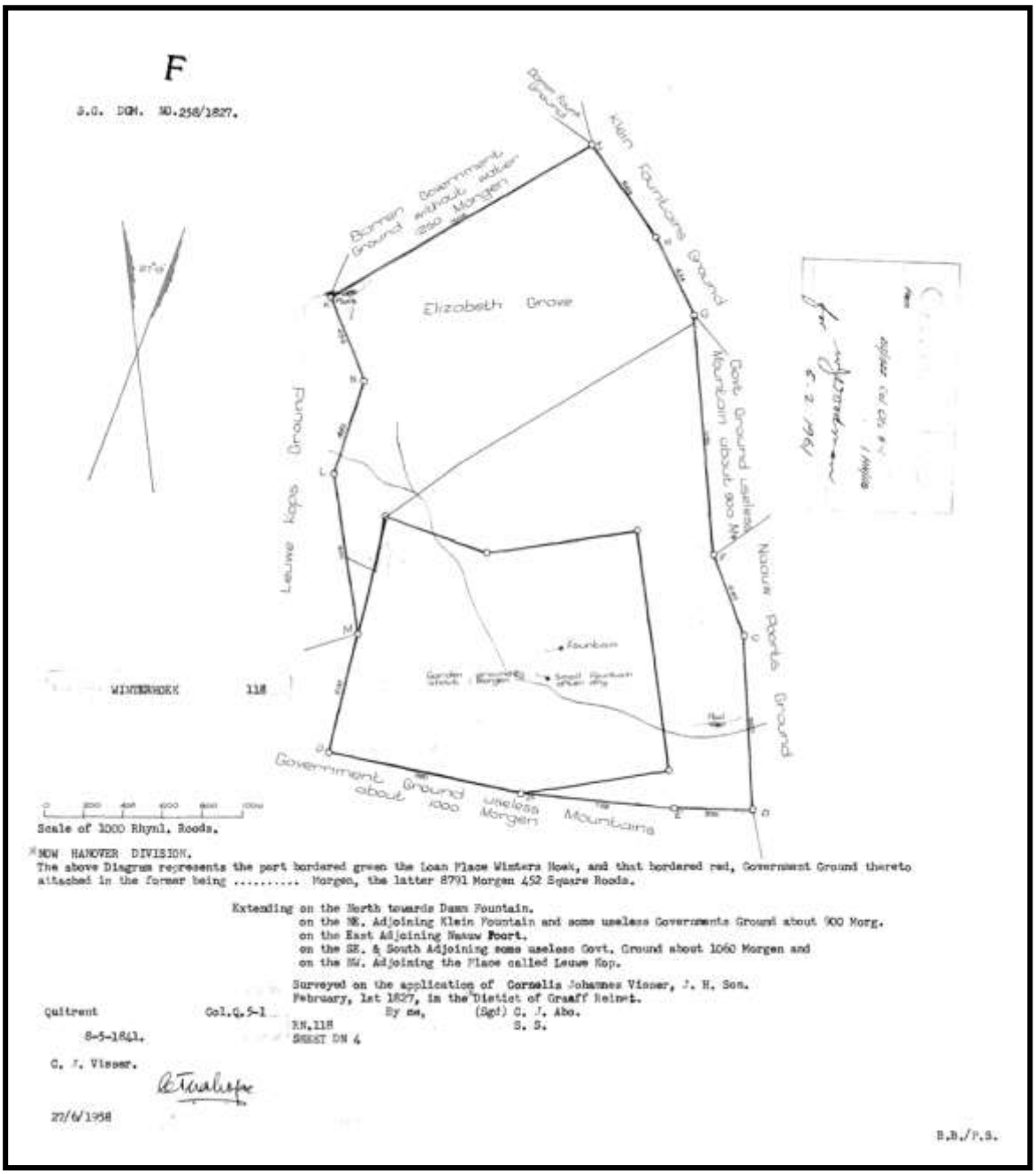
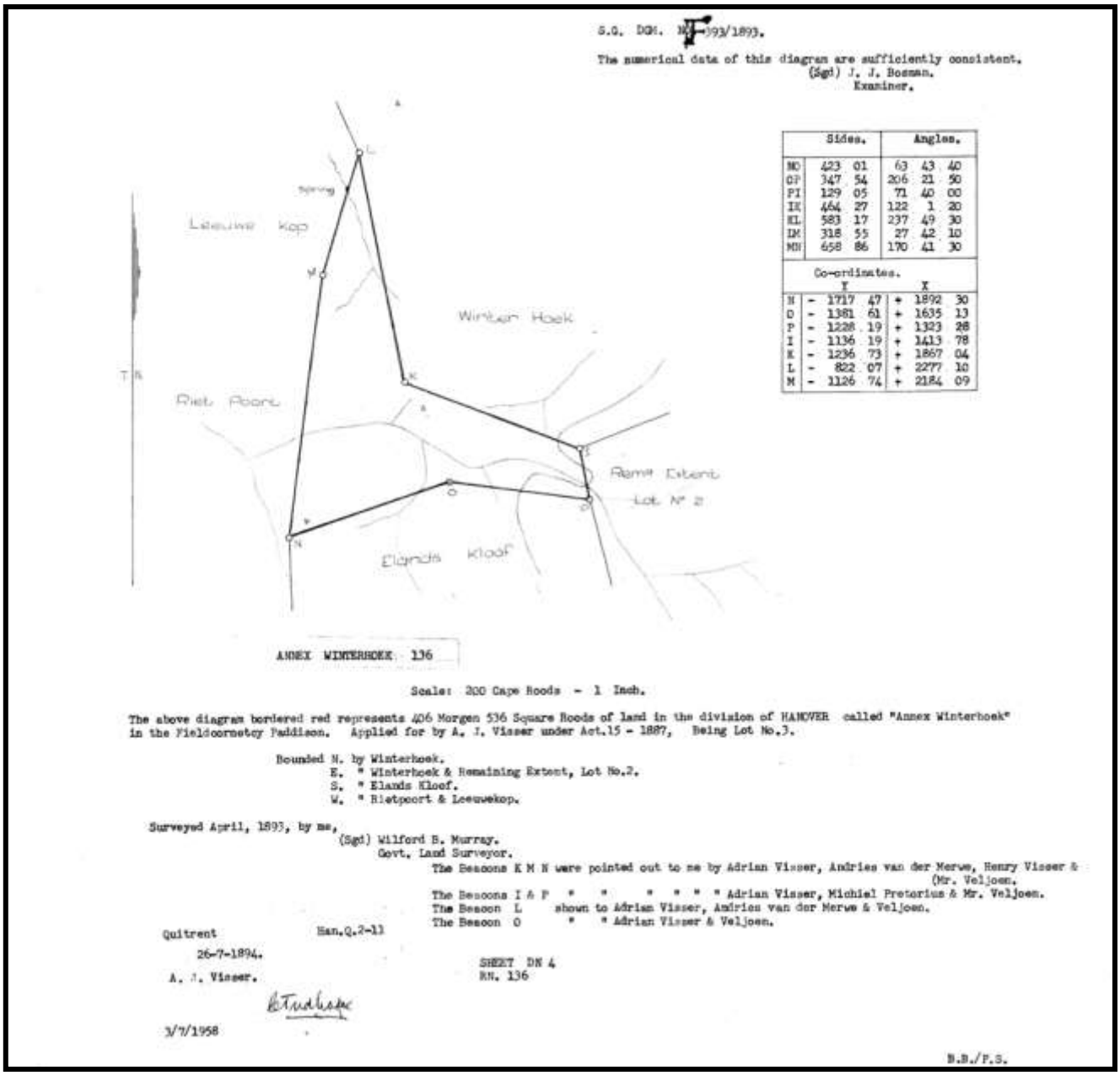


FIG. 34: SCG DRAWING OF WINTERHOEK AT 1894



S.G. DGH. [illegible]993/1893.

The numerical data of this diagram are sufficiently consistent.
(Sgd) J. J. Bosman.
Examiner.

	Sides.		Angles.		
MO	423	01	63	43	40
OP	347	54	206	21	50
PI	129	05	71	40	00
IK	464	27	122	1	20
KL	583	17	237	49	30
LM	318	55	27	42	10
MN	658	86	170	41	30

Co-ordinates.	Y			X		
N	-	1717	47	+	1892	30
O	-	1381	61	+	1635	13
P	-	1228	19	+	1323	28
I	-	1136	19	+	1413	78
K	-	1236	73	+	1867	04
L	-	822	07	+	2277	10
M	-	1126	74	+	2184	09

Leeuwe Kop
Winter Hoek
Riet Poort
Rema Extent
Lot N° 2
Elands Kloof

ANNEX WINTERHOEK 136

Scale: 200 Cape Roods - 1 Inch.

The above diagram bordered red represents 406 Morgen 536 Square Roods of land in the division of HANOVER called "Annex Winterhoek" in the Fieldcornetcy Paddison. Applied for by A. J. Visser under Act.15 - 1887, Being Lot No.3.

Bounded N. by Winterhoek.
E. " Winterhoek & Remaining Extent, Lot No.2.
S. " Elands Kloof.
W. " Rietpoort & Leeuwekop.

Surveyed April, 1893, by me,
(Sgd) Wilford B. Murray.
Govt. Land Surveyor.

The Beacons K M N were pointed out to me by Adrian Visser, Andries van der Merwe, Henry Visser & (Mr. Veljoen.
The Beacons I & P " " " " " " Adrian Visser, Michiel Pretorius & Mr. Veljoen.
The Beacon L shown to Adrian Visser, Andries van der Merwe & Veljoen.
The Beacon O " " Adrian Visser & Veljoen.

Quitrent Han.Q.2-13
26-7-1894.
A. J. Visser.

SHEET DN 4
RN. 136

3/7/1958

B.B./P.S.

FIG. 35: SGD OF WINTERHOEK AT 1922

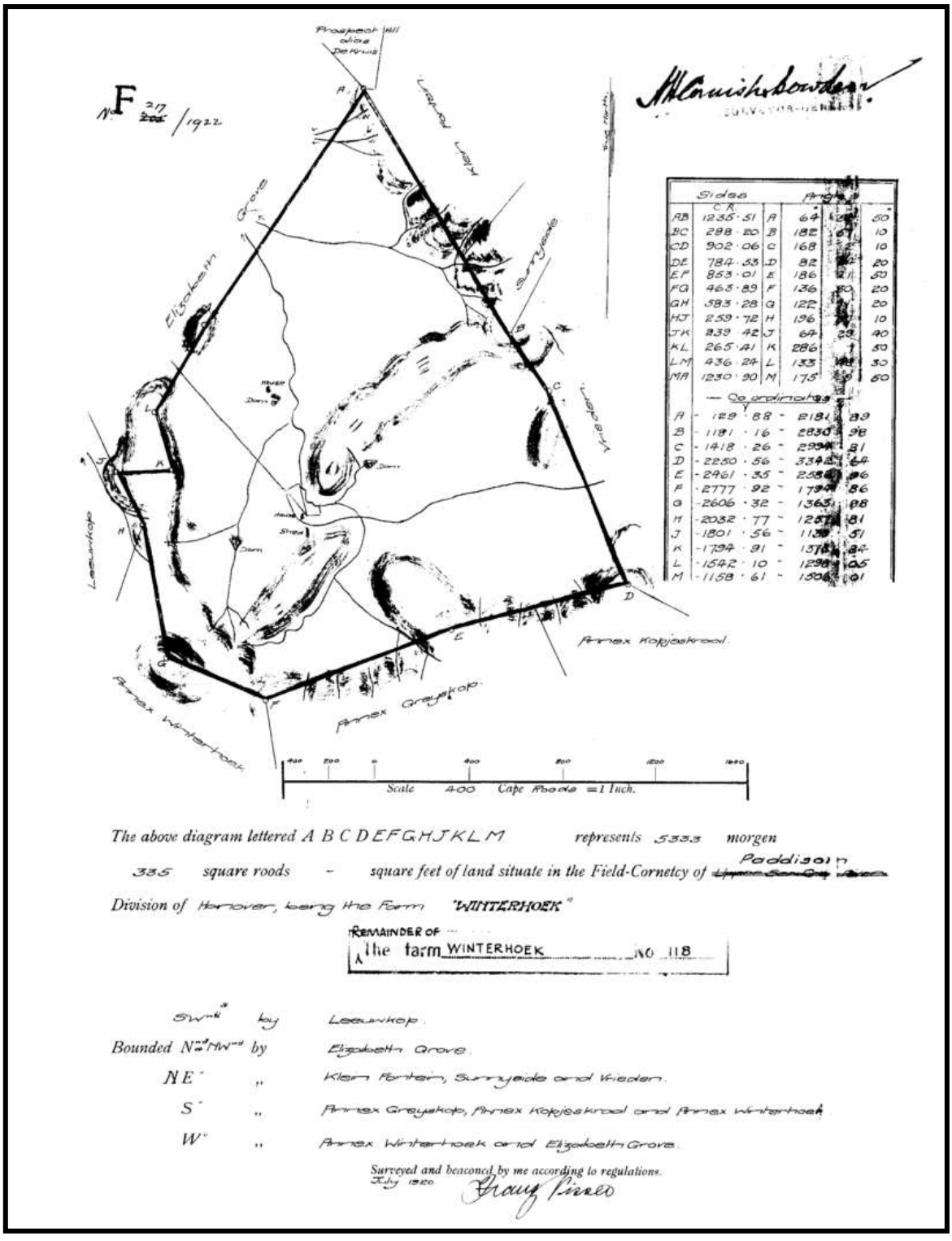


FIG. 36: SHED AND KRAAL WALLING AT WINTERHOEK

MANAGEMENT PLAN

The management plan is aimed at causing minimum damage to heritage sites. Built structures such as buildings, kraals, and walls form part of the cultural landscape. They can, as in the case of Uitsig, yield information regarding early farming life. The separation of, and architectural difference in, farm owner's and farm labourer's houses, is typical of the colonial period. These should not be destroyed, but preserved. Similarly, the artefacts associated with the various buildings can be equally informative. It is for this reason that all built structures should be avoided when creating access roads.

Construction activity may expose 19th and early 20th century rubbish middens. Some of the potential areas have been highlighted in the report, and these may require test pit excavations if effected by access roads and/or electrical cables.

There may be a few exceptions and these will be site specific. The outer walling at Bergplaas is not as important as the main buildings. These could be 'moved' for access road construction, and then replaced after the construction phase. The original boundary markers for the various farms are stone stelae.

These occur all over the study area and were not individually noted. These could be moved for an access road, if they are replaced in the same position after the construction phase. The stelae at Uitsig would be a prime example.

Only one rock art site was noted in the survey. This site may not be damaged in any way. This would include ensuring that the overhangs are not weakened by drilling and blasting activity.

Stone tool scatters occur all over the study area. A few were noted for having a higher concentration of stone tools. These open scatters would not increase the existing knowledge of stone tool technology since they are in a secondary context and conflated. All of the scatters tend to have the same recurring types of artefacts that have been reported elsewhere. Garth Sampson's work in shelters the Seacow area has provided a good sequence of the last few millennia. UMZ024 has some archaeological deposit but this will not be affected.

The visual impact of a wind turbine on a specific area, or site, is always difficult to determine. The turbines would probably be visible from various historical buildings; however, they will be in the distance, and most of the times more than 1km away. A direct negative visual impact is thus low. Only UMZ024 will have three turbines in its view, and these will be on the mountains opposite the site. I do not believe this will have a negative impact on the rock art sites, nor on any of the historical buildings nor cultural landscape. No management plan will be required for the visual impact aspect.

'

All sites and features within the site need to be demarcated if they fall within a 5om of and construction footprint. Demarcation can be in the form of temporary fencing with appropriate warning signs. There should be a 20m buffer between the feature/site and the development. A competent heritage practitioner should undertake demarcation. No construction activity should be allowed unless proof of demarcation is given to ECHPRA.

All sites that are to be affected will require a destruction permit from ECPHRA. Permits may take some time to be issued and thus the application needs to be done well in advance of the construction phase.

The site-specific management plan is summarised in Table 3.

The access roads and electric cable alignments were not finalised by the time of the survey and report. These alignments can be viewed at a desktop level once finalised to determine their impact.

TABLE 3: SITE SPECIFIC MANAGEMENT PLAN`[1]

Name	Description	Significance	Requires Mitigation If Affected	Type of mitigation
Bergplaas	Farm buildings	To be assessed by architect-historian. Low-medium archaeological significance	Yes	No damage to buildings. Walling may be moved for access road, but needs to be rebuilt after construction
Dam wall	Historical walling	All are Low	yes	Photograph and map
k1	Kraal at base of hill – not surveyed	low	yes	Map and photograph
k4	Kraal at base of hill – not surveyed	low	yes	Map and photograph
UMZ002	Retaining wall	Low	Yes	Photograph and map
UMZ007	Stone walling around a river	Low	Yes	Photograph and map, move access road
UMZ007	Stone walling around a river	Low	Yes	Photograph and map, move access road
UMZ008	Shed	Low	Yes	Photograph and map, move access road
UMZ010	Low stone walling	Low	Yes	Photograph and map,
UMZ010A	Overhang with rock art and deposit	Medium	No	Cannot effect
UMZ011	dam wall	Low	Yes	Photograph and map,
UMZ013	MSA, LSA Stone tool scatter	Low	No	Permit
UMZ014	stone tools	Low	No	Permit
UMZ015	quarry and knapping	Low-medium	Yes	Sample and quantitative analyses
UMZ016	Stone walling - kraals	Low	Yes	Photograph and map, move access road
UMZ017	stone walling – kraals	Low	Yes	Photograph and map, move access road. Possible excavations in front of kraal

[1] Red outline = will be affected by current layout to some degree.

UMZ019	Stone walling	Low	Yes	Photograph and map,
UMZ023	Stone walling	Low	Yes	Photograph and map,
UMZ024	Overhang, rock arft	High	N/A	Not to be affected
UMZ025	Dam walling	Low	Yes	Photograph and map,
WALL	UMZ07 walling	Low	Yes	Photograph and map, move access road
WALL2	Bergplaas walling	Low	Yes	Photograph and map,
Walls	Bergplaas walling	To be assessed by architect-historian. Low-medium archaeological significance	Yes	No damage to buildings. Walling may be moved for access road, but needs to be rebuilt after construction. Monitoring during construction and possible excavations
Weltevreden	Weltevreden farm complex	To be assessed by architect-historian. Low-medium archaeological significance	Yes	No damage to buildings. Walling may be moved for access road, but needs to be rebuilt after construction. Monitoring during construction and possible excavations
Weltevreden 2	Weltevreden labourers' houses	To be assessed by architect-historian. Low-medium archaeological significance	Yes	No damage to buildings. Walling may be moved for access road, but needs to be rebuilt after construction. Monitoring during construction and possible excavations
Winterhoek	Farm buildings	To be assessed by architect-historian. Low-medium archaeological significance	Yes	No damage to buildings. Walling may be moved for access road, but needs to be rebuilt after construction. Monitoring during construction and possible excavations

CONCLUSION

A heritage survey was undertaken for the UMSOBOMVU Wind Energy Facility, located between Noupoort (Northern Cape) and Middelberg (Eastern Cape). A total of 89 wind turbines have been proposed for this project. In addition to the turbines, access roads, electricity routes, and various buildings will be proposed.

A total of 41 heritage sites were noted in the study area from in the desktop and field survey. These sites varied from open stone tool scatters, rock art sites in small overhangs, and built structures such as farm buildings and kraals. The historical buildings were the most frequently occurring heritage sites. Three of these early farmsteads have associated cemeteries.

The wind turbines themselves will not impact on any of heritage sites. The turbines are located in areas above 1700m asl, and are in the open and thus exposed to high winds and lighting. Only one small scatter of stone tools was observed at the top of all of the affected mountains. The main area for negative impacts will be the access roads to the turbines and electrical servitudes from the turbines to the substation. These servitudes have not been finalised by the time of the report and will need to be assessed at a later stage. The initial assessment can occur at a desktop level as all of the main roads and tracks within the study area were covered during the survey.

REFERENCES

Binneman, J. 2012. Basic Archaeological Assessments For The Proposed: 1. Golden Valley-Poseidon 132 Power Lines (3 Power Lines), 2. Golden Valley-Kopleegte Power Lines (2 Power Lines) And, 3. The132kv Golden Valley Substation (250m X 250m) (2 Options), Bedford District, Blue Crane Route Local Municipality, Eastern Cape Province.

Booth, C. 2012. A Phase 1 Archaeological Impact Assessment For The Proposed Establishment Of The Naaupoort Solar Energy Facility On The Reaminder Of The Farm Naauwpoort 1, Near Noupoort, UMSOBOMVU Municipality, Northern Cape Province (sic). For Savannah Environmental

Prins, F. 2011. Draft Technical Report In Support Of The Emp For The South Western Karoo Basin Gas Exploration Application Project Cultural Heritage: Eastern Precinct

Sampson, C G., 1985. Atlas of Stone Age settlement in the central and upper Seacow River. Valley. *Memoirs van die Nasionale Museum Bloemfontein*. No. 20