AVIEMORE-HATTINGSPRUIT 88KV POWER LINE AND AVIEMORE 4MV SUBSTATION PROJECT, NEAR DUNDEE, KWAZULU-NATAL

Phase 1 Heritage Impact Assessment

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FOR: **GCS Water and Environmental (Pty) Ltd**
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EXECUTIVE SUMMARY

The Aviemore Colliery is an existing operational anthracite mine that is operated by Zinoju, and is located approximately 9 km north-west of the town of Dundee. The existing Aviemore Colliery is currently being mined on the extreme north-eastern flank of the Impati Mountain adjacent to the Morgenstond remaining reserves. Zinoju has proposed an extension to the underground workings which aims to ensure optimum access to the existing viable mineral reserves and to extend the Life of Mine of the mining operations at Aviemore by 13 years. This proposed expansion requires electrical power supply and a new substation hence Zinoju proposes to construct a new power line of approximately 3.3km from a point tying into an existing 88kV transmission line to the proposed new Aviemore 4MW substation. The proposed Aviemore substation is approximately 470m². The proposed power line and substation are located on the farms Remainder of Morgenstond 3347 and Seelandkop 16199GT. In addition, a separate enclosure will be provided for Eskom to house and accommodate their metering and instrumentation requirements. This enclosure is situated close to the Aviemore substation.

The length of the power line is 3.3km in length hence it triggers section 38 (1) (a) of the National Heritage Resources Act, 1999, that lists activities that require a heritage impact assessment. The relevant sub-section refers to— (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

An inspection of the project site was undertaken on 27 and 28 August 2018. Conditions were in general good. The area from where the proposed power line ties in with the existing power line was recently burnt and visibility was very good. The vegetation along the last 1.5 km and at the substation site was thicker but visibility was stilly fair to good. The Environmental Assessment Practitioner requested that a 1km corridor along the power line route be assessed in order to allow for recommendations should any sensitive environmental features be encountered which was done.

The inspection of the proposed power line took place moving from the tie-in point with the existing power line eastwards. Along this initial section of the power line route no heritage sites of importance were noted. Several mining rights beacons were observed during the inspection of this area.

The number of heritage sites increased markedly in and around the rocky outcrop that is situated about 500m west of the proposed substation site . The rocky outcrop is covered with rough stone walling, stone wall enclosures and a number of graves, all stone packed with no inscriptions.

Many of the enclosures are either square in shape or rectangular with a few that are circular in shape. They are all made from dry packed stones/rocks.

The stone walling could be the remains of a settlement of early agro-pastoralists. During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements dating from the 18th and the 19th centuries. Stone walled settlements were often concentrated in clusters of sites and could also be dispersed over large areas. The stone walling found during the site inspection appears to be an example of such a settlement. It is assessed to be of high heritage significance that should not be disturbed or damaged in any way.

The Aviemore substation site was inspected and no heritage sites were noted within and around the proposed site. The locality of the enclosure close to the substation indicates that in all likelihood, the enclosure will not impact on heritage resources. However, it is recommended that during the second phase of the EIA, an inspection of the location is undertaken

According to the South African fossil sensitivity map, the proposed power line and substation fall within an area of very high fossil sensitivity interspersed with small areas of insignificant or zero fossil sensitivity. Although the overriding sensitivity is very high, it is recommended that no further studies are undertaken because in the Dundee area (Klip River coalfield) the coal seams are about 100m and more below the surface, overlain by dolerite and shale layers. If the project only involves shallow excavations for the power line, poles then there is not going to be any impact on fossils. A chance find protocol should suffice if any shales are exposed in the route.

The stone walling signifies early human habitation of part of the project area. As the walling is considered to be older than 60 years, it is protected by section 33 (1) (a) of the KwaZulu-Natal Heritage Act (KZNHA) which states that 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 [Amafa] Council having been obtained. In addition, section 36 (1) of the same Act states that 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.

All the graves found are protected by section 35 of the KZNHA, which refers to general protection of traditional graves. In terms of section 35 (1) (b), no grave – 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 Amafa Council having been obtained.

It is recommended that the graves and stone walling are not damaged in any way. The dense stone walling is largely intact thereby providing a good example of a possibly early agro-pastoralist settlement. It is proposed that the power line avoids the rocky ridge as much as is possible hence it is recommended that the alignment of the power line is amended to run closer to the existing access road. This adjusted alignment should avoid most, if not all, of the stone walling and associated graves.

It this is not possible, it is requested that consideration be given to extending the length or span between pylons/towers so that no pylon is positioned on the rocky outcrop. In addition, once the position of the pylons has been determined, a heritage specialist must inspect the pylon positions, prior to construction, to establish whether the pylons will impact on heritage sites and recommend re-positioning of the pylons (if necessary).

Once the recommendations and mitigation measures provided are undertaken, then the construction of the 88kV power line and Aviemore substation may proceed from a heritage perspective.

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SPECIALIST DETAILS

Name	Qualification	Professional Registration
Jean Beater	MA (Heritage Studies) MSc (Environmental Management)	Member of Association of South African Professional Archaeologists (No. 349) Member of IAIAsa (No. 1538)

1. INTRODUCTION

The Aviemore Colliery is an existing operational anthracite mine that is operated by Zinoju, and is located approximately 9 km north-west of the town of Dundee. The existing Aviemore Colliery is currently being mined on the extreme north-eastern flank of the Impati Mountain adjacent to the Morgenstond remaining reserves. Zinoju has proposed an extension to the underground workings which aims to ensure optimum access to the existing viable mineral reserves and to extend the Life of Mine (LOM) of the mining operations at Aviemore by 13 years. This proposed expansion requires electrical power supply and a new substation to serve the proposed adit complex. Once construction of the new 88kV power line is complete, the responsibility for long term operation and maintenance of the power line will be transferred to Eskom.

Zinoju proposes to construct a new power line of approximately 3.3km from a point tying into an existing 88kV transmission line, located along the existing farm access road, D551, to the proposed new Aviemore 4MW substation. The proposed power line will follow the existing farm access road for much of the way and a wood pole line is proposed. The proposed Aviemore substation is approximately 470m². The proposed power line and substation are located on the farms Remainder of Morgenstond 3347 and Seelandkop 16199GT.

In addition, a separate 6m (w) x 6m (l) enclosure will be provided for Eskom at the 88kV power line termination point, to house and accommodate their metering and instrumentation requirements. This enclosure is situated close to the new Aviemore substation.

JLB Consulting was appointed by the Environmental Assessment Practitioner (EAP), GCS Water and Environmental, to undertake a Phase 1 HIA of the proposed project.

2. LEGISLATIVE BACKGROUND

The length of the power line is 3.3km in length hence it triggers section 38 (1) (a) of the National Heritage Resources Act (NHRA), 1999 (Act No 25 of 1999) that lists activities that require a heritage impact assessment (HIA). The relevant sub-section refers to developments categorised as—

> (a) the construction of a road, wall, **power line**, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

Although the size of the substation at 470m² falls below the criteria of section 38 of the NHRA, an inspection of the substation site, which forms an integral part of the project, was undertaken to ascertain if any heritage resources would be impacted by the construction of the substation.

In addition, the proposed project may impact on graves, structures, archaeological and palaeontological resources that are protected in terms of sections 33, 34, 35, and 36 of the KwaZulu-Natal Heritage Act (KZNHA) (No. 4 of 2008).

In terms of section 3 of the NHRA, heritage resources are:

(a) places, buildings, structures and equipment of cultural significance;

(b) places to which oral traditions are attached or which are associated with living heritage;

(c) historical settlements and townscapes;

(d) landscapes and natural features of cultural significance;

(e) geological sites of scientific or cultural importance;

(f) archaeological and paleontological sites;

(g) graves and burial grounds, including—

(i) ancestral graves;

(ii) royal graves and graves of traditional leaders;

(iii) graves of victims of conflict;

(iv) graves of individuals designated by the Minister by notice in the *Gazette*;

(v) historical graves and cemeteries; and

(vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);

(h) of significance relating to the history of slavery in South Africa;

(i) movable objects, including:

(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;

(ii) objects to which oral traditions are attached or which are associated with living heritage;

(iii) ethnographic art and objects;

(iv) military objects;

(v) objects of decorative or fine art;

(vi) objects of scientific or technological interest; and

(vii) 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).

The Phase I HIA was undertaken to assess whether any heritage resources will be impacted by the proposed power line and substation project.

3. LOCATION

The project site is situated east of the R621 that links Dundee and the towns of Hattingspruit and Dannhauser and is situated over 6km north west of Dundee. The project falls within the Endumeni and Dannhauser Local Municipalities. The substation site and Eskom enclosure are situated close to the foothills of the Impati/Mpati Mountain (see **Figures 1, 2** and **3** below).

4. TERMS OF REFERENCE

Undertake a Phase 1 Heritage Impact Assessment in order to determine the possible existence of heritage resources, as listed above, that could be impacted by the proposed power line and substation. Provide mitigation measures to limit or avoid the impact of the proposed project on heritage resources (if any).

Submit the HIA report to the provincial heritage resources authority, Amafa aKwaZulu-Natali (Amafa), for their assessment and comment.

5. METHODOLOGY

A survey of literature, including other heritage impact assessment reports completed for the larger area, was undertaken in order to ascertain the history of the area and what type of heritage resources have or may be found in the area of development.

An inspection of the project site was undertaken on 27 and 28 August 2018. Conditions were in general good. The area from where the proposed power line ties in with the existing power line was recently burnt and visibility was very good. The vegetation along the last 1.5 km and at the substation site was thicker but visibility was fair to good.

The EAP requested that a 1km corridor along the power line route be assessed in order to allow for recommendations should any sensitive environmental features be encountered. The site inspection included the 1km corridor.

Figure 1: Aerial view of surrounding area including a section of Dundee in south-east corner

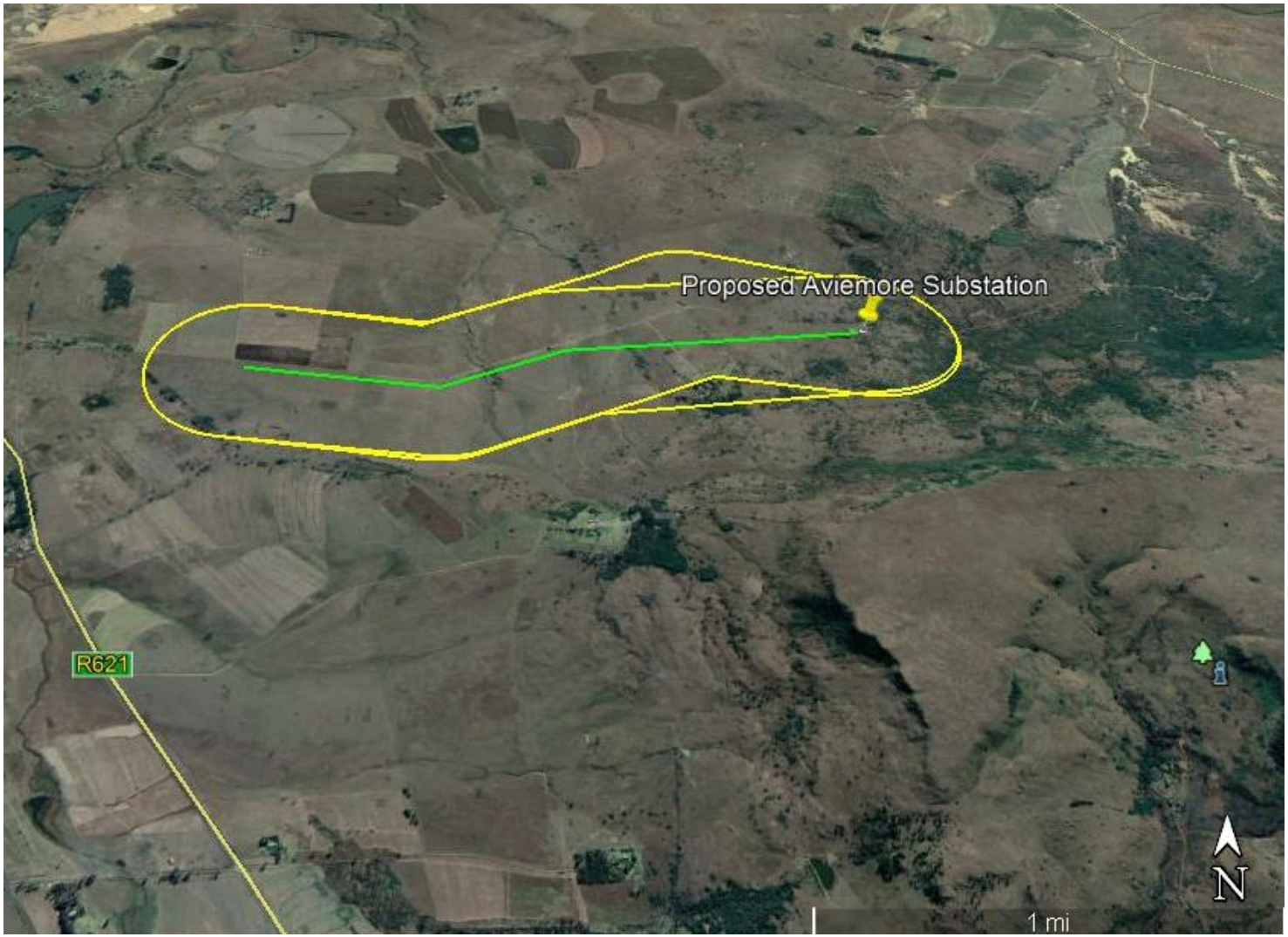


Figure 2: Closer aerial view of project

Figure 3: Eskom enclosure in relation to substation

6. HISTORICAL BACKGROUND OF PROJECT AND SURROUNDING AREA

During the third century AD, several groups of farming peoples from eastern and south central Africa began to settle along the east coast and river valleys that drain into the Indian Ocean. In eastern South Africa, these early farmers display a strong preference for settling in savannah environments along major water bodies where annual precipitation from 400 to over 1000mm provided adequate moisture for grain production. Over thirty Early Iron Age (EIA) identified settlements in the Thukela Basin are clustered on patches of rich colluvial soils within a short distance of the edge of the Thukela River or its tributaries. A considerable number of Late Iron Age (LIA) stone walled sites, dating from the 18th and the 19th centuries, can still be found along and on top of the rocky ridges. Stone walled settlements are concentrated in clusters of sites and sometimes are dispersed over large areas. Whilst the outer walls served as dwelling quarters for various family groups, cattle, sheep and goat were stock in the centrally located enclosures. Huts with clay walls and floors were built inside the dwelling units. Many of the Iron Age sites are also associated with Zulu encampments. Due to the often semi-nomadic nature of these and the use of removable beehive huts, these sites are often difficult to identify and short term occupational

sites might only manifest in some stone circles, use to anchor these structures to the ground (G&A Heritage, 2013:20).

According to Guest (1989:311-312), the numerous outcrops in northern Natal (now KwaZulu-Natal) make it highly probable that coal was exploited as domestic fuel by the Iron-Age inhabitants of the region. Between the 1850s and 1880s, the white farming community started to make use of the coal. In 1864, Peter Smith began to work a seam of coal at his farm 'Dundee' on the slope of Talana Hill and the same seam was worked by successive owners of the neighbouring property 'Coalfields'. The activity on these two farms helped to ensure that the town of Dundee, which was laid out by Smith in 1882, emerged as Natal's coal capital by the end of the century.

Dundee and surrounding areas saw the initial fighting of the Anglo-Boer War of 1899-1902 with Mpati Mountain playing a key role in the British and Boer actions in and around Dundee. As the Boer army advanced southwards, Mpati was held by Boer forces, mainly the Pretoria Commando. After the battle of Talana on 20 October 1899, shelling from guns on Mpati convinced the British to withdraw from Dundee (Jones & Jones 1999:103) and Dundee became the headquarters of Cmdt-Gen PJ Joubert for a short while (Jones & Jones 1999:64).

7. RESULT OF SITE INSPECTION

The inspection of the proposed power line took place moving from the tie-in point with the existing power line eastwards. The area from this point until the first watercourse was recently burnt and visibility was very good. The area is currently used for grazing purposes. Only a few buck were observed on the site as well as a number of reservoirs and structures to hold water for animals. Along the initial section of the power line route no heritage sites of importance were noted. After crossing the first watercourse the ground cover became much thicker as it had not been burnt; however, on the whole visibility remained fair to good. Several mining rights beacons were observed during the inspection of this area.

The number of heritage sites increased markedly in and around the rocky outcrop that is situated about 500m west of the proposed site of the Aviemore substation. The rocky outcrop is covered with rough stone walling, stone wall enclosures and a number of graves, all stone packed with no inscriptions. Many of the enclosures are either square in shape or rectangular with a few that are circular in shape, possibly cattle kraals. They are all made from dry packed stones/rocks which have made some of the settlements visible on Google Earth. The son of the owner of the farm on which the stone walling was found made mention of an informal settlement in the area; however,

the stone walling appears to much older than a recent settlement and no traces of the remains or detritus of a recent informal settlement such as building material, litter, etc., was observed during the site inspection.

The stone walled sites could be the remains of a settlement of early agro-pastoralists who often built settlements on higher ground that provided a natural defensive position rather than supernaturally dangerous riverside locations (Mitchell:349). During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements dating from the 18th and the 19th centuries. Stone walled settlements were often concentrated in clusters of sites and could also be dispersed over large areas. The stone walling found during the site inspection appears to be an example of such a settlement. It is assessed to be of high heritage significance that should not be disturbed or damaged in any way.

The list of heritage sites found during the site inspection are captured in **Table 1** below together with mitigation measures and coordinates.

Table 1: Heritage sites

No.	COORDINATES	DESCRIPTION	MITIGATION
1	28˚05'49.1''S; 30˚10'23.1''E	Remains of a low packed stone circle with double wall situated 85m south of proposed route of power line; the site should be left as is (see **Figure 4**)	Fenced buffer of 10 m around site to prevent damage during construction & operation of power line
2	28˚05'50.4''S; 30˚10'29.6''E	Old (>60 years) water pump. May be of some heritage significance as there may not be many left in the province; situated approx. 215m south-east of power line	Leave *in situ*
3	28˚05'37.7''S; 30˚11'04.3''E	Abandoned modern structure; low heritage significance; situated ± 65m south of power line	Leave as is
4	28˚05'45.9''S; 30˚11'10.0''E	Homestead & associated buildings; most buildings fall outside buffer; main house is protected as is >60 years	Leave as is
5	28˚05'43.7''S; 30˚11'11.2''E	Structures connected to homestead (see above) that fall within buffer area; they appear to be >60 years therefore protected by heritage legislation (see **Figure 5**)	Not to be impacted on in any way; keep power line away from homestead & associated structures
6	28˚05'32.9''S; 30˚11'16.6''E	Square stone wall enclosure 3m x 3m (see **Figure 6**)	See mitigation measure provided in No. 11
7	28˚05'33.0''S; 30˚11'17.0''E	More stone walling close to above structure	See mitigation measure provided in No. 11
8	28˚05'32.9''S; 30˚11'17.2''E	Potential grave with upright stone indicating headstone; >60 years protected by heritage legislation; appears to form part of walled structures mentioned above (see **Figure 7**)	Situated 38m north of power line so could be impacted by construction and operation of power line; see mitigation measures provided in No.11
9	28˚05'33.0''S; 30˚11'17.4''E	Circular stone walling within square stone wall enclosure	See mitigation measure provided in No. 11
10	28˚05'33.1''S; 30˚11'17.5''E	Square stone walling enclosure	See mitigation measure provided in No. 11
11	28˚05'33.4''S; 30˚11'16.6''E	Sites 6, 7, 8, 9 and 10 are enclosed by much larger stone walling which is visible on Google Earth. The boundary wall closest to the power line is situated within 23m of the power line, the coordinates of which have been provided	20m fenced buffer around large enclosure; grave to be fenced as well

	28 °05'33.9''S; 30°11'18.3''E		
12	28°05'33.0''S; 30°11'19.6''E	Square stone wall enclosure	30m from power line; 10m fenced buffer
13	28°05'36.5''S; 30°11'18.7''E	Square stone wall enclosure	70m from power line; 10m fenced buffer
14	28°05'33.6''S; 30°11'18.8''E	Square stone wall structure with a rough stone wall dividing it into two sections	Within 7m of power line; **power line to be shifted**
15	28°05'32.8''S; 30°11'20.0''E	Rough stone walling	35m north of power line; 20m fenced buffer
16	28°05'31.7''S; 30°11'20.8''E	Stone outline of structure / enclosure	65m north of power line; 10m buffer
17	28°05'30.8''S; 30°11'23.5''E	Small round stone enclosure close to bushes	80m north of power line; leave *in situ*
18	28°05'31.3''S; 30°11'18.4''E	Approx. centre of grave site containing at least 9 graves made with packed rock with 2 graves having upright stone indicating headstone (see **Figures 8 & 9**); graves are situated 9m north of more rough stone walling /enclosures	80m north of power lines; 20 m fenced buffer around graves to mitigate potential impacts
19	28°05'31.8''S; 30°11'18.3''E	Rough stone walling extending 70m wide and 30m long	Approx. 50m north of power line; 10m fenced buffer
20	28°05'31.5''S; 30°11'15.2''E	Round stone wall enclosure	87m north of power line
21	28°05'30.2''S; 30°11'14.9''E	Square stone walling with corrugated iron nearby (see **Figure 10**)	127m north of power line; however if alignment is moved closer to road then site could be within 55m of power line; 10m fenced buffer if alignment is amended
22	28°05'29.7''S; 30°11'14.8''E	Square stone walling	140m north of power line; however if alignment is moved closer to road then site could be within 55m of power line; 10m fenced buffer if alignment is amended
23	28°05'28.9''S; 30°11'15.2''E	2 x square stone walling	166m north of power line; however if alignment is moved closer to road then site could be within 30m of power line; 20m fenced buffer if alignment is amended
24	28°05'33.6''S; 30°11'24.3''E	Grave	12 m north of power line; **either grave or power line must be moved**
25	28°05'37.1''S; 30°11'17.5''E	Northern most point of very long rough stone walling that extends nearly 250m in length (see **Figure 11**) that may indicate some kind of terracing for agricultural purposes	Do not impact, leave as is
26	28°05'26.6''S; 30°11'05.3''E	Remains of stone circular structure	Leave as is
27	28°05'21.5''S; 30°11'04.1''E	As above	Leave as is

The fenced buffer mentioned in **Table 1** means that there must be a distance of 10m or 20m between the structure and the fencing within which no activity may take place. In addition, the fencing must be made from a durable material that is highly visible to construction crew as well as to maintenance crews once the power line is operational.

The Aviemore substation site was inspected and no heritage sites were noted within and around the proposed site. The area is situated a few metres north-west of a cattle feeding area. See photographs of the site in **Figures 13** and **14** below.

Although the location of the proposed Eskom enclosure was unknown to the specialist during the site inspection, the locality of the enclosure close to the substation indicates that in all likelihood, the enclosure will not impact on heritage resources. However, it is recommended that during the second phase of the project, an inspection of the location is undertaken.

Figure 4:Remains of circular stone structure

Figure 5: Structures older than 60 years

Figure 6: Small square stone-walled site

Figure 7: Potential grave site

Figure 8: Graves

Figure 9: Grave

Figure 10: Rough stone wall enclosure

Figure 11: Section of long rough stone walling

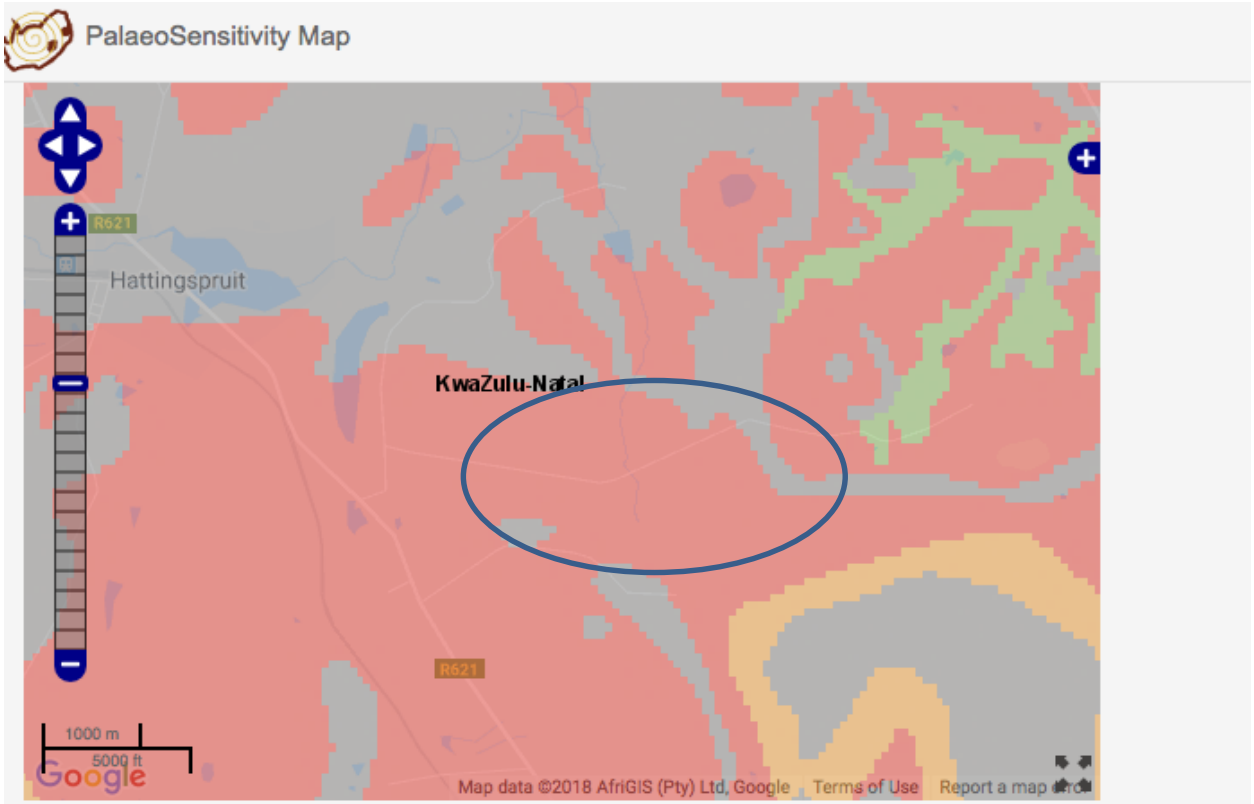
Figure 12: View of proposed power line route looking west

Figure 13: View towards substation site

Figure 14: View of section of substation site

According to the South African fossil sensitivity map, the proposed power line and substation fall within an area of very high fossil sensitivity as indicated by the red colour in **Figure 15** below, interspersed with small areas of insignificant or zero fossil sensitivity (indicated by the grey colour). The overriding sensitivity is very high. However, it is recommended that no further studies are undertaken as recommended by a palaeontologist, Prof. Bamford, who stated that in the

Dundee area (Klip River coalfield), the coal seams are about 100m and more below the surface, and are overlain by dolerite and shale layers. If the project only involves shallow excavations for the power line poles, then there will not be any impact on fossils. She recommended that a chance find protocol should be followed if any shales are exposed during the construction of the power line. The chance fossil find protocol is included in Chapter 10 of this report.



1 in 250 000 geological formation layers are courtesy of the Council for GeoScience

For more information, go to How to Use the Palaeontological (fossil) Sensitivity 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

Figure 15: Fossil sensitivity of project area depicted with blue outline

8. DISCUSSION AND RECOMMENDATIONS

The stone walling signifies early human habitation (possibly dating from the 18th or 19th centuries) of part of the project area. As the walling is considered to be older than 60 years, it is protected by section 33 (1) (a) of the KwaZulu-Natal Heritage Act (KZNHA) which states that 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 [Amafa] Council having been obtained on written application to the Council

In addition, section 36 (1) of the same Act that states that 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. The definition of an archaeological site in terms of the KZN Heritage Regulations of 2012, is as follows: a site containing -(a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, ecofacts, human and hominid remains and artificial features and structures.

All the graves found are protected by section 35 of the (KZNHA), which refers to general protection of traditional graves accordingly:
(1) No grave –

(a) not otherwise protected by this Act; and

(b) 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 Amafa Council having been obtained on written application to the Council.

It is recommended that the graves and stone walling are not damaged in any way. The dense stone walling is largely intact thereby providing a good example of a possibly early agro-pastoralist settlement. It is therefore proposed that the power line avoids the rocky ridge in total or as much as is possible hence it is recommended that the alignment of the power line is amended to run closer to the existing access road (D551) as depicted below (**Figure 16**) with the amended alignment indicated in magenta. This would avoid most, if not all of the stone walling and associated graves.

It the adjusted alignment is not possible, it is requested that consideration be given to extending the length or span between pylons/towers so that no pylon is positioned on the rocky outcrop. In addition, once the position of the pylons has been determined, a heritage specialist must inspect the pylon positions (prior to construction), to establish whether the pylons will impact on the stone walling or graves and recommend re-positioning of the pylons (if necessary).

Figure 16: Proposed re-alignment of power line route

However, because of the density of stone walling, it is anticipated that damage may still occur to these sites during the construction of the power line. This must be avoided at all costs and mitigation measures provided must be implemented.

It is also recommended that an inspection of the Eskom enclosure be undertaken during the second phase of the EIA.

9. CONCLUSION

It has been recommended that a section of the proposed power line is deviated in order to avoid the rocky outcrop that is densely covered with stone walling with some graves interspersed amongst the walling.

Once the recommendations and mitigation measures provided are undertaken, then the construction of the 88kV power line and Aviemore substation may proceed from a heritage perspective.

10. ADDITIONAL MITIGATION MEASURES

- Workers should be made aware of the types of heritage resources, especially graves and stone walling, that could be found during the construction and operation of the power line and substation. The process in terms of chance finds as mentioned in the second bullet point below must then be followed.
- For any chance heritage finds (graves, stone walling sites etc.), all work must cease in the area affected and the Contractor must immediately inform the Project Manager. A registered heritage specialist must be called to site to inspect the finding/s. The relevant heritage resource agency (Amafa) must be informed about the finding/s.
- The heritage specialist will assess the significance of the resource and provide guidance on the way forward.
- Permits must be obtained from Amafa if heritage resources are to be removed, destroyed or altered.
- Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- Should any recent remains be found on site that could potentially be human remains, the South African Police Service as well as Amafa must be contacted. No SAPS official may remove remains (recent or not) until the correct permit/s have been obtained.
- The following should be adhered to in terms of chance fossil finds:
    - When excavation takes place for the placing of the pylons, any rocks disturbed during this process must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (trace fossils, plants, insects, bone, and coal) should be put aside in a suitably protected place.
    - Photographs of possible fossils should be sent to a palaeontologist for preliminary assessment.
    - A qualified palaeontologist should visit the site to inspect the selected material and check dumps where feasible. The frequency of inspections should be dependent on the finding of any potentially important fossil material.
    - Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site an Amafa permit must be obtained. Annual reports must be submitted to Amafa as required by the relevant permits.

11. REFERENCES

G & A Heritage. 2013. *Phase 1 Heritage Impact Assessment Report Forbes Coal (Pty) Ltd Haulage Road Project, near Dundee, KwaZulu-Natal Province*. Unpublished report.

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