

**HERITAGE IMPACT ASSESSEMENT OF THE EXTENSION OF THE
FERRUM SUBSTATION (UPGRADE AND RE-ALIGNMENT OF
LINES) IN KATHU, NORTHERN CAPE**



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Management summary

Dolphin Mabale was employed by Mokgope Consulting CC to undertake a Heritage Impact Assessment of the extension and upgrade of the Ferrum Substation in Kathu, Northern Cape Province. The investigation was conducted on the 18th November 2009.

The findings are summarized as follows;

- The area has already been disturbed by erection of the substation intended for upgrade and extension.
- Isolated stone tools of low significance were observed. No other archaeological remains were identified on the site.
- Remains of recent structures were also identified but these have no significance.
- No structures older than 60 years, graves or any palaeontological remains were identified.
- Development can go ahead without any further mitigation.

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1. Terms of reference

To assess archaeological resources and possible impacts on the site of the proposed Ferrum Substation extension in Kathu.

2. Nature of proposed activities

Due to huge mining potential in the area of Kimberly load demand is continuously growing. The existing 275kV network supplying the area is inadequate to support the load growth. An EIA for the 400kV transmission line proposed from Mercury to Ferrum substation in order to support the growing load in the Kimberley area has been initiated and approved by the DEAT in 2007. To support the pro-posed Transmission line, the Ferrum substation located in Kathu, Northern Cape has to be upgraded and existing power-lines be re-alignment to ensure maximum supply of electricity in the network in the Northern Cape Province. Due to this requirement, Eskom has lodged an Environmental Impact Assessment (EIA) application for authorization to the National Department of Environmental Affairs.

3. Project location

The substation is located on Portion 2 of farm Sekgame no. 46 in Kathu within the Gamagara local municipality which is part of the John Taolo Gaetsewe District Municipality.



Fig. 1 Ferrum Substation (Map provided by client). The area that was assessed is approximately 1 km around the existing substation.

4. Methodology

- Literature study

- Foot survey

5. Limitations

There were no limitations encountered.

6. National estate

Section 3 of the National Heritage Resource Act (25 of 1999) lists a wide range of national resources that qualify as part of South Africa national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources had to be identified:

- (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 by in terms of the Human Tissue Act, 1983, Act No. 65 of 1983.
- (h) Sites of significance relating to the history of slavery in South Africa
 - (i) moveable objects
 - (ii) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens
 - (iii) objects to which oral traditions are attached or which are associated with living heritage
 - (iv) ethnographic art and objects
 - (v) military objects
 - (vi) objects of decorative or fine art
 - (vii) objects of scientific or technological interest; and 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.

Section 3 of the National Heritage Resources Act (No. 25 of 1999) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...' These criteria are the following:

- (a) Its importance in the community, or pattern of South Africa's history
- (b) Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage

- (c) Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.
- (d) Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects
- (e) Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group
- (f) Its importance in demonstrating a high degree of creative or technical achievement at a particular period
- (g) Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (h) 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
- (i) Sites of significance relating to the history of slavery in South Africa.

7. Significance of rating

The *significance* of the sites and artifacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Generally speaking the following are guidelines for the nature of the mitigation that must take place, High, Medium and Low.

High

1. This is a do not touch, leave entirely alone situation. Alternative areas or routes must be sought for the project, be it a pipeline, mine, power line, road, township development or any other form in which the proposed development may be. Examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which Nelson Mandela grew up in.
2. Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory.
3. In above case (2), it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and

test pits should be excavated to retrieve basic information before destruction.

Low

These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/or detailed site mapping and documentation. No excavations would be considered to be necessary. Where no mitigation is required, then the site could be destroyed.

In all the above scenarios permits will be required from the National Heritage Resources Agency (SAHRA) as per the relevant law, namely the National Heritage Resources Act (Act 25 of 1999) destruction of any heritage site may only take place when a permit has been issued by SAHRA or its provincial equivalent should this exist.

8. Literature study

Previous heritage/archaeological impact assessment reports (Beaumont 2008; Morris 2006; Morris 2007; Dreyer 2007) as well as other literature (McGregor Museum 2007) reveal that the Northern Cape Province is generally rich in heritage resources, and that the Kathu Pan in particular is a sensitive area, thus any development of any magnitude has the potential to impact on the resources. Beaumont & Vogel (2006) discuss the Stone Age sequence of the Wonderwerk Cave and then further illustrate related sites, including the Kathu Pan. The Pan as well as Kathu Townlands (McGregor Museum 2007) has yielded assemblages dating back to the Early Stone Age (Acheulean).

9. Impact assessment of the development area

9.1 Observations

The study area is already immensely disturbed from the previous development of the substation. The area is generally characterised by smooth pebbles, and in at some sections, dense magnetite. A close inspection indicated isolated Late Stone Age tools.



Figure 2 & 3 isolated stone tools

These tools were exposed by the activities of the current substation. The significance is low.

The surface area outside of the substation is further disturbed by recent cement floors and isolated chunks of slab, possibly resultant from the erection of the substation. The floor, isolated cement bricks and iron artefacts can be attributed to temporal shelter, possibly a compound. These remains have no significance. It is obvious that the previous compound covered an extensive area as such disturbance extends further outside the area earmarked for the intended extension. No archaeological remains were observed in the area outside the existing substation.

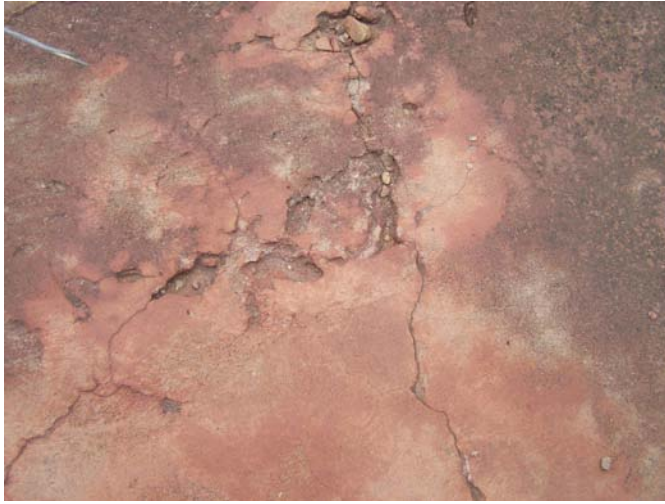


Figure 4 & 5 cement floors from recent structures, possibly a compound.



Figure 6 iron artefacts on a slab floor.



Figure 7 a brick next to the slab floors.

9.2 Recommendations

As indicated, the study area is already disturbed by the previous development of the substation. The area that covers the intended upgrade and extension is within the parameters of the existing substation as well as the area that was previously used for camping purposes. The lithic remains observed were inside the parameters of the substation and are of low significance. The development can go ahead without any further mitigation.

Conclusion

The upgrade and extension of the Ferrum substation will not impact on any heritage resources as stipulated in Section 3 of the National Heritage Resources Act (Act 25) of 1999.

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