



Date: 18 February 2021

Mrs A von der Heyden
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Dear Mrs von der Heyden

MULILO TOTAL HYDRA STORAGE PROJECT GRID INTERCONNECTION: SPECIALIST IMPACT STATEMENT

Mulilo Total Hydra Storage (Pty) Ltd wishes to undertake a new Basic Assessment process for the authorisation of an approximately 6 km grid connection route between the Eskom Hydra substation and a new switching station to be constructed on the farm Badenhorst Dam (1/180). A new access road from the N10 to support the grid connection and switching station is also proposed (Figure 1 and Figure 2).

This addendum report can be read in conjunction with the De Aar 2 South WEF Grid Connection Heritage Impact Assessment (HIA) (Gribble and Euston-Brown 2020) and to confirm that the proposed 6 km grid connection line, switching station and access road have been previously assessed and can be authorised for the new Basic Assessment application.

PREVIOUS STUDIES:

The proposed 6 km grid connection route was previously assessed as Route 2 (Part 1) as part of the HIA by ACO Associates (Gribble and Euston-Brown 2020) for the De Aar 2 South WEF Grid Connection (Figure 3).

For that study, it was not possible to visit Badenhorst Dam (1/180) as landowner permission was not granted. Time constraints coupled with difficulty on the ground in physically accessing the farm also meant that the portion of Route 2 on Vetlaagte (Re 4) could also not be surveyed (Figure 3).

However, archaeological surveys had previously been conducted for proposed solar energy facilities on both of these farms. In 2012 Kruger (2012) surveyed much of Vetlaagte (Re 4) for the proposed Ennex PV facility, and in 2011 and 2013 ACO Associates conducted field assessments on Badenhorst Dam for a number of further proposed PV facilities (Orton, 2012; Orton and Webley 2013) (Figure 3).

The similarity of the receiving environment on Badenhorst Dam and Vetlaagte to that encountered by Gribble and Euston-Brown (2020) on the De Aar 2 South WEF Grid Connection, and the comparable archaeological sites and material reported by Kruger (2012), Orton (2012), Orton and Webley (2013) and Gribble and Euston-Brown (2020) indicate that lack of access to Badenhorst Dam and Vetlaagte in 2020 was thus not a serious limitation to the De Aar 2 South WEF Grid Connection HIA.

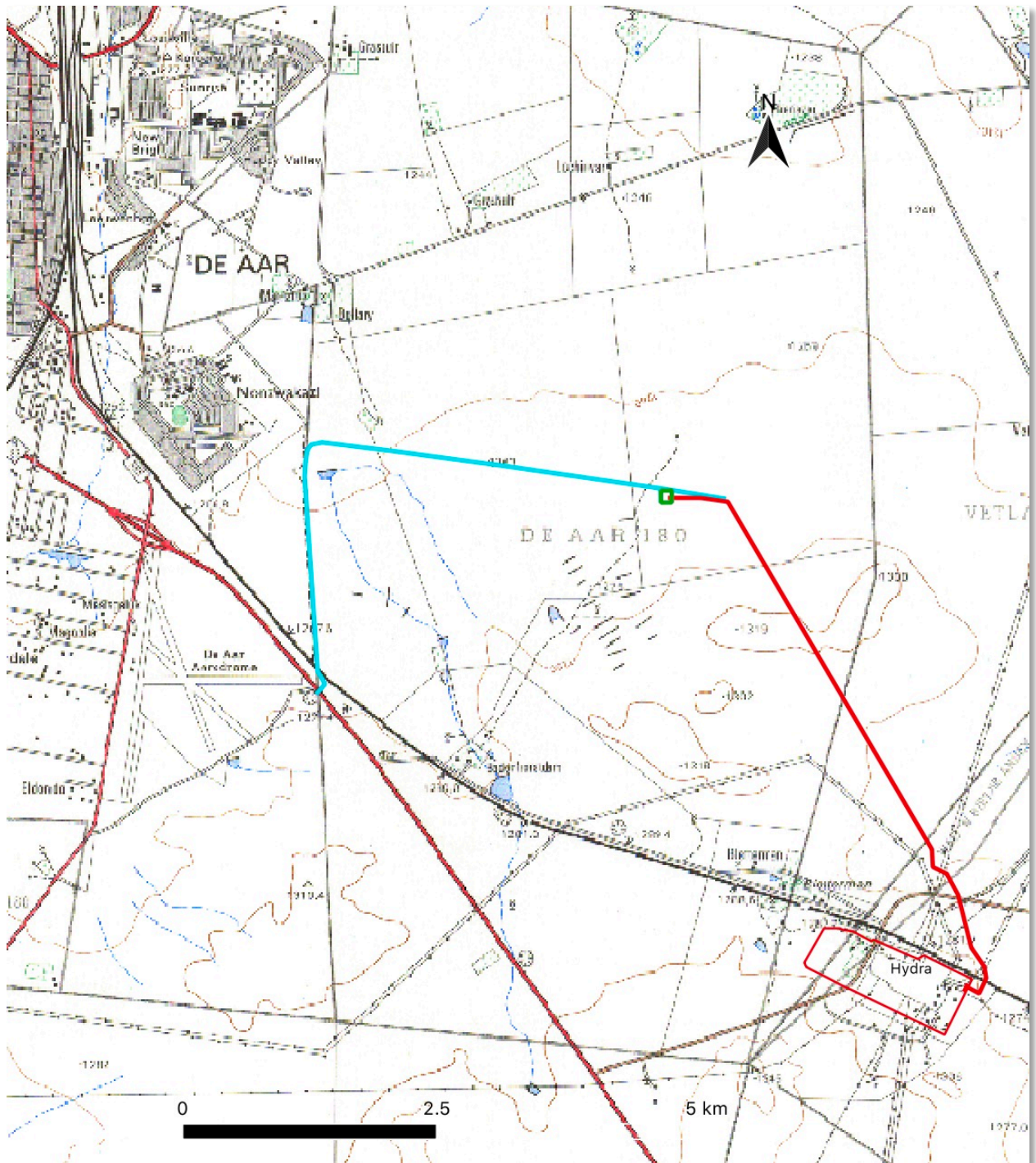


Figure 1: Location plan showing the grid connection, switching station and access road in relation of the Mulilo Total Hydra Storage Project: Grid Interconnection to De Aar, and the Hydra substation (Source: Map Sheet 3024CA, Chief Directorate: National Geo-Spatial Information. Website: www.ngi.gov.za).

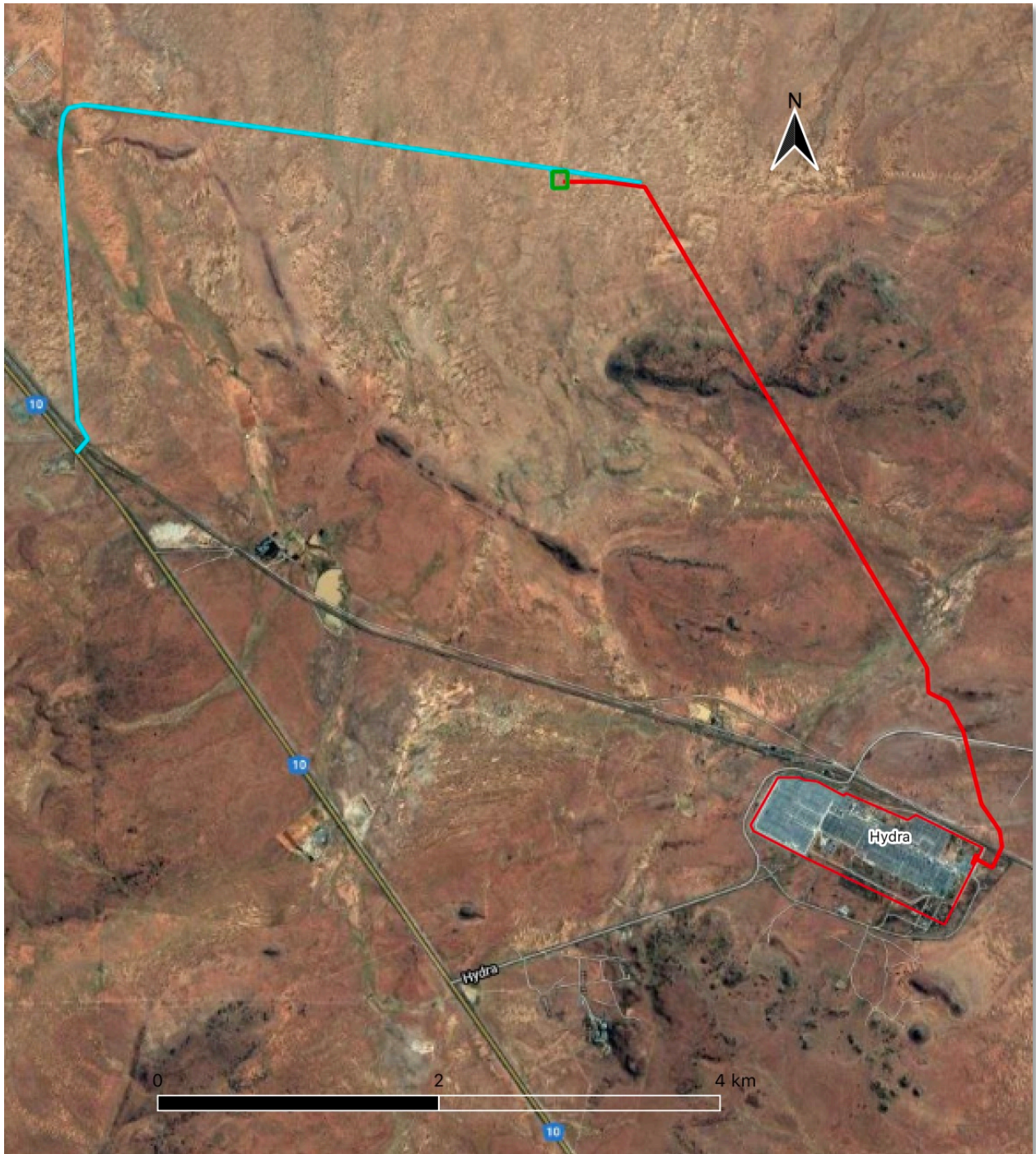


Figure 2: Receiving environment of grid connection (red line), switching station (green box) and access road (light blue line) (Source: Google Earth).

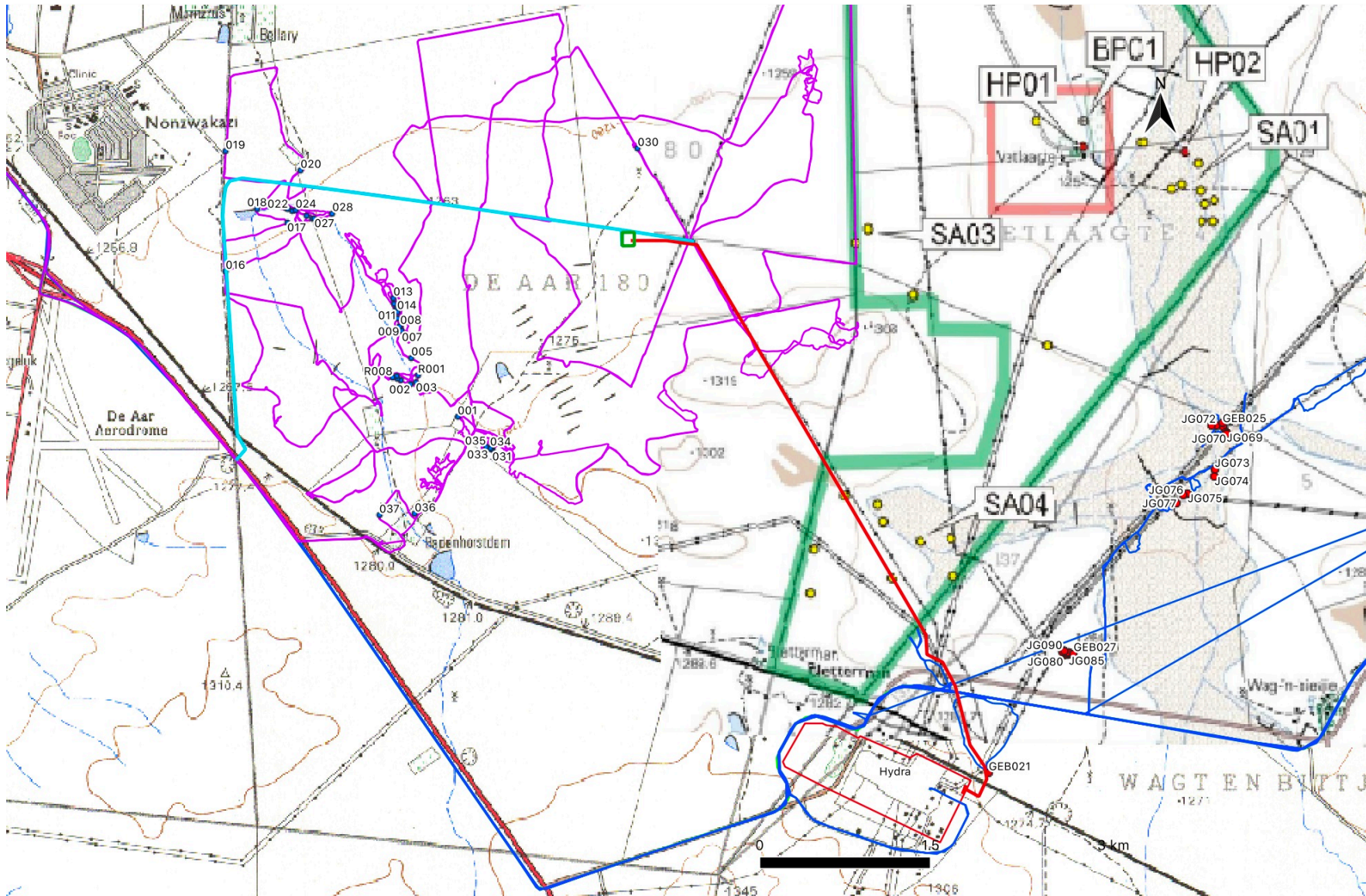


Figure 3: Previous projects that have together assessed the grid connection (red), switching station (green box) and access road (light blue): Dark blue lines = De Aar 2 South WEF Grid Connection HIA. Purple lines = multiple solar energy facilities proposed on Badenhorst Dam (1/180). Green boundary = Ennex Solar HIA. Heritage resources recorded by each survey are shown as coloured, numbered dots (Sources: Gribble & Euston-Brown 2020, Kruger 2012, Orton 2012, Orton and Webley 2013).

The findings of that survey (Gribble and Euston-Brown 2020) coupled with those reported by Kruger (2012), Orton (2012) and Orton and Webley (2013) from Vetlaagte and Badenhorst Dam provided a good indication of the heritage resources that could be anticipated in the portions of Route 2 that were not accessible in 2020.

HERITAGE ENVIRONMENT:

This part of the Northern Cape is characterized by wide plains, interspersed with koppies and mountains formed by intrusions of igneous or volcanic rock and bisected by seasonal river and stream drainages.

The proposed grid connection line, switching station site and access road cross all of these landscapes, ranging from a series of valley bottoms divided by intrusive dolerite koppies in the south-east to a wide grassy plain in the north and west towards De Aar (Figure 2).

Although neither Orton and Webley (2013) or Kruger (2012) specifically surveyed the proposed grid connection, switching station site or access road alignment, their surveys did overlap with these routes and positions and also covered the wider area, providing valuable heritage site context. Neither of these surveys recorded sites or materials that will be impacted by the proposed project, and no heritage resources were recorded along the portion of the grid connection that was accessible to Gribble and Euston-Brown in 2020.

Together, however, the HIAs cited above recorded the following heritage resources in the vicinity of the area covered by this project:

- **Palaeontological** assessments by Almond (2012) and Bamford (2020) indicate that the grid connection, switching station and access road fall across a range of geological rock and sediment types, of which the Ecca and Beaufort shales are the most likely to preserve fossils. In both cases, however, vertebrate fossils were described as being rare in the area and none were reported by Almond (2012) from fieldwork on the farm Vetlaagte. Almond (2012) stresses, however, that cognisance should be taken of trace fossils, silicified woods and rare vertebrate remains of the Middle Permian *Pristerognathus* Assemblage Zone which are known from these shales elsewhere in the De Aar area.
- No **Early Stone Age** (ESA) sites or artefacts were identified in the 2020 ACO survey, or in the surveys by Kruger (2012), Orton (2012) and Orton and Webley (2013).
- Heavily patinated and weathered **Middle Stone Age** lithic material was widely reported by all the surveys, the artefacts including cores, flakes, blades and snapped blades. No other associated archaeological material (bone, ostrich eggshell, etc.) was found with the MSA lithics and discrete, clearly definable MSA sites were difficult to identify because material is generally visible only in areas where the overlying orange sand has been stripped away and because the landscape is liberally spread with material, a type of “ancient litter” (Webley and Orton 2011).
- **Late Stone Age** artefact assemblages were encountered mainly on ridges and along river drainages and contained artefacts made on hornfels, with occasional isolated pieces of other raw materials such as agate. As well as bone, ostrich eggshell and in a couple of instances, grass-tempered pottery (Gribble and Euston-Brown 2020, Orton and Webley 2013). Smithfield industry artefact scatters, with no evidence of associated pottery and characterised by endscrapers (or duckbill scrapers) made on long flakes were noted in places as were sites containing early Holocene, Lockshoek lithics, dating to c.10 000 years ago. Both of these LSA lithic industries are typical of what is expected in this part of the Karoo according to Sampson (1985).
- Circular packed **stone features** were noted by Gribble and Euston-Brown (2020) and Orton and Webley (2013) along the De Aar 2 South Grid Connection and on ridgelines on Badenhorst Dam respectively. Some of these features are almost certainly from the colonial era and are probably shepherds’ huts but some are examples of pre-colonial Khoi kraals.

- Orton and Webley (2013) reported a rock gong with an associated fine-line **engraving** that looks to be of an animal on Badenhorst Dam but the site is not close to the proposed grid connection, switching station and access road and will not be impacted by the proposals.
- A small number of **historical artefacts** were noted by Gribble and Euston-Brown (2020) on and below the koppie on which the Khoi kraal complex was located, to the east of the proposed grid connection. This material suggests occupation may have dated to around the South African War and the proximity of the material to shepherds' huts at this site suggests they may be associated. The 2011 and 2013 surveys of Badenhorst Dam identified similarly thin and ephemeral scatters of historical material at a number of places on the farm, none of which, however, will be affected by the grid connection, the switching station or access road (Orton 2012, Orton and Webley 2013).
- None of the field assessments referenced above encountered any **graves or stone cairns** in the vicinity of the grid connection route, switching station site or access road, although it must be borne in mind that pre-colonial graves are often completely unmarked and can be located anywhere where the soil is suitable for digging a grave.
- No **historical buildings** were recorded by the various surveys in the vicinity of the proposed grid connection, switching station or access road.
- The landscape within which the grid connection, switching station and access road will be constructed is a **cultural landscape** of clear significance to a succession of pre-colonial and, to a lesser degree, colonial people, as demonstrated by the presence of the widespread archaeological sites and materials described above. This cultural landscape is essentially a series of layers of occupation and use by our ancestors that have become superimposed on the land surface. The land surface itself, while not cultural, is nevertheless of heritage value as a vast palaeontological repository. Early, Middle and Later Stone age people left at least half a million years of human debris on the land surface – stone tool scatters, engravings, kraals, etc. More recently the landscape received the imprint of the European colonisation of the region as it was used and settled by colonial Trekboers who imposed their structure on the land in the form of farm buildings, dams and fence alignments. Most recently there has been the introduction into landscape of modern industrial elements such as railways tracks and electrical infrastructure.

TABLES OF IMPACTS AND MITIGATION MEASURES

The likely impacts of the construction of the grid connection, switching station and access road on heritage resources are assessed as follows:

Table 1: Impacts on Palaeontology

Impact Phase: Construction of Grid Connection, Switching Station and Access Road		
Possibility of encountering fossils during groundworks		
	Without Mitigation	With Mitigation
Extent	Local (Low)	Local (Low)
Duration	Permanent (High)	Permanent (High)
Intensity / Severity	Low	Low
Consequence of Impact	Medium	Medium
Probability	Low	Low
Confidence	High	High
Status	Negative	Neutral/Positive
Significance	Low	Low
Can the impact be reversed?	No – palaeontological heritage resources are non-renewable and key contextual data for fossils (sedimentology, taphonomy) is difficult to reconstruct following disturbance.	

Will impact cause irreplaceable loss or resources?	Possible but Unlikely – well-preserved, scientifically valuable fossils are scarce within the project area and those that do occur probably occur widely across the region.
Can impact be avoided, managed or mitigated?	Yes – it can be managed and mitigated through the effective implementation of a Chance Fossil Find Protocol by the ECO and a professional palaeontologist.
Mitigation measures:	<ul style="list-style-type: none"> • Implementation of a Chance Fossil Find Protocol. • Reporting by the ECO of any chance fossil finds to SAHRA and their conservation (preferably <i>in situ</i>). • Recording and judicious sampling of significant chance fossil finds by a qualified palaeontologist, together with pertinent contextual data (stratigraphy, sedimentology, taphonomy) within the final footprint; and • Curation of any recovered fossil material within an approved repository (museum / university fossil collection) by a qualified palaeontologist.
Can any residual risk be monitored/managed?	Yes - through ongoing application of the Chance Fossil Find Protocol by the ECO.
Will this impact contribute to any cumulative impacts?	Yes - cumulative impacts, although at an extremely low level, on local fossil heritage resources are anticipated. The cumulative impact is of very low significance.

Table 2: Impacts on Pre-colonial and Colonial Archaeological Archaeology

Impact Phase: Construction of Grid Connection, Switching Station and Access Road		
Possible impacts to archaeological sites and materials		
	Without Mitigation	With Mitigation
Extent	Local (Low)	Local (Low)
Duration	Permanent (High)	Permanent (High)
Intensity / Severity	Low	Low
Consequence of Impact	Medium	Medium
Probability	High	Low
Confidence	High	High
Status	Negative	Neutral/Positive
Significance	Medium	Low
Can the impact be reversed?	No – impacts to archaeological resources cannot be reversed but can be mitigated.	
Will impact cause irreplaceable loss or resources?	No - the archaeological occurrences recorded are well represented in other areas and provided the recommended mitigation measures are implemented, there should be no irreplaceable loss of resources.	
Can impact be avoided, managed or mitigated?	Yes – impacts can be avoided or mitigated through the implementation of the mitigation measures listed below.	
Mitigation measures:	General: <ul style="list-style-type: none"> • Do not disturb any old stone kraals or ruins and do not remove stone from walls, or artefacts from the earth. • Report any chance discoveries of human remains to an archaeologist or a heritage authority. 	
Can any residual risk be monitored/managed?	Yes – the continued avoidance of identified heritage resources during the lifetime of the grid connection will ensure that residual risk can be managed and is of low significance.	
Will this impact contribute to any cumulative impacts?	Yes – but the implementation of measures to mitigate project level impacts can to much to reduce cumulative impacts.	

No identified heritage resources will be affected by the proposed project and based on the evidence from the surrounding area significant heritage resources are not anticipated in the project area. The following generic mitigation measures are proposed:

- With regard to palaeontological resources, a Fossil Chance Find Reporting Protocol must be implemented at the commencement and for the life of the construction programme. The responsible person/environmental officer must look out for fossils and the Protocol must be implemented should fossils be encountered.

- A walk-down survey of the proposed access road and those portions of the grid connection that could not be surveyed previously must be undertaken by a suitably qualified archaeologist once the positions of the individual grid connection pylons and the final alignment of the access road once have been determined. Micro-siting of pylon positions and the road alignment may be required if material is noted. This should be done in consultation with the project archaeologist.
- In the event of anything unusual being encountered during construction activities, SAHRA must be notified immediately so that mitigatory action can be determined and implemented if necessary. Such mitigation is at the cost of the developer, while time delays and diversion of machinery/plant may be necessary until mitigation in the form of conservation or palaeontological or archaeological sampling is completed.
- Should any human remains be encountered at any stage during the construction or earthworks associated with the project, work in the vicinity must cease, the remains must be left *in situ* but made secure and the project archaeologist and SAHRA must be notified immediately so that mitigatory action can be determined and be implemented.

VIABILITY OF THE ROUTE FROM A HERITAGE PERSPECTIVE:

Archaeological resources are widespread but of generally limited significance in the general area of the proposed project. Although palaeontological material is likely to be present in parts of the project footprint, there is a very small chance of fossils being encountered during the construction activities.

It is, therefore, our reasoned opinion that the construction of the grid connection, switching station and access road will occasion no changes to the impacts on archaeological and palaeontological heritage resources identified by Gribble and Euston-Brown (2020), provided the mitigation measures recommended above are implemented. The overall impact of the project on heritage resources is assessed to tolerable and generally of low significance.

From a heritage perspective, therefore, the proposed activities are considered acceptable.

Yours sincerely



John Gribble
Senior Archaeologist and Heritage Consultant

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Webley, L. and Orton, J. 2011. *Proposed De Aar Wind Energy Facility on the North and South Plateau, Northern Cape Province*. Unpublished report prepared for Aurecon South Africa (Pty) Ltd. Archaeology Contracts Office.

**SITE VERIFICATION REPORT: PROPOSED MULILO TOTAL HYDRA
STORAGE PROJECT GRID INTERCONNECTION, DE AAR, NORTHERN
CAPE**

Prepared for
Arcus Consultancy Services South Africa (Pty) Ltd

On behalf of
Mulilo De Aar 2 South (Pty) Ltd

March 2021

Version 1.1



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Introduction

The three Screening Tool Reports generated for the proposed Mulilo Total Hydra Storage Project Grid Interconnection, the proposed switching station and the new access road, dated 25 February 2021, identifies the following heritage-related environmental sensitivities in relation to the project:

- a **very high** and **high** sensitivity in respect of **archaeology and cultural heritage**, ascribed on the basis of the Grid Interconnection, the proposed switching station and the access road route:
 - being located within 100m of an Ungraded Heritage site;
 - being located within 100m of a Grade IIIB Heritage site; and
 - being located within 50m of a Grade IIIC Heritage site.
- a **very high, high** and **medium** sensitivity in respect of **palaeontology**, ascribed on the basis of the Grid Interconnection, the proposed switching station and the new access road being associated with rock units with these paleontological sensitivities.

Based on this identification of environmental sensitivities, the list of specialist assessments identified for inclusion in the Basic Assessment report for the Grid Interconnection, switching station and new access road included archaeology and cultural heritage and palaeontology.

Initial Site Sensitivity Verification Report Requirements

As required by the *General requirements for undertaking an Initial Site Sensitivity Verification where no specific assessment protocol has been Identified*, published in the Government Gazette (No. 45421) on 10 May 2019, an Initial Site Sensitivity Verification is required to confirm or dispute the potential environmental sensitivity of the site as identified by the environmental screening tool for the specific environmental theme being considered.

The Initial Site Sensitivity Verification must be undertaken through the use of:

- a desk top analysis, using satellite imagery; and
- a preliminary on-site inspection.

The results must be recorded in a report that:

- confirms or disputes the identified environmental sensitivity;
- contains a motivation and evidence of either the verified or different environmental sensitivity; and
- is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

Site Sensitivity Verification: Archaeology and Cultural Heritage

The proposed Mulilo Total Hydra Storage Project Grid Interconnection, switching station and new access road (Figure 1) cross a variety of environments: grassy flatlands, a number of seasonal river drainages and dolerite ridges.

Desk Top Analysis

Desk-based research for a large number of other proposed developments in the area of the proposed Grid Interconnection, switching station and new access road (see for example, Van Schalkwyk 2011; Webley and Orton 2011; Kruger 2012; Orton and Webley 2013; Fourie 2014;

Van der Walt 2014; Webley and Halkett 2014, 2015), detailed information about the archaeology of the Upper Karoo derived from the exhaustive archaeological survey of the Zeekoe River Valley by Sampson (1985, 1992, 2015) and the HIA for the De Aar 2 South WEF Grid Connection (Gribble and Euston-Brown 2020) (Figure 2) can inform our understanding of the archaeology and cultural heritage of the area to be affected by the Grid Interconnection, switching station and new access road.

The Zeekoe Valley Archaeological Survey (ZVAS) and the other surveys in the area around De Aar have identified a long sequence of archaeological material in the Upper Karoo which indicates the occupation of the region by our forebears since the Early Stone Age (ESA) Acheulian (after 1 million years ago), through multiple Middle Stone Age (MSA) phases (c. 300 000 – 30 000 years ago), four Later Stone Age (LSA) phases to herder sites, many with low stone-walled kraals and Khoenkhoen-like, thin-walled ceramics, dating to within the last 2000 years (Sampson 1985, 2015:3).

Archaeological sites in the Upper Karoo are generally open sites due to the scarcity of rock shelters in the region and comprise scatters of stone tools, with bone and other non-lithic material sometimes preserved on the more recent, LSA sites.

Evidence suggests that ESA sites cluster close to sources of tool-making stone raw material, rather than close to sources of water, and tend to be found on the flats rather than on ridges, or mountaintops (Sampson 1985).

MSA sites and material are widely distributed across the landscape of the Upper Karoo in the form of “ancient litter” and are frequently found on the edges of pans, streams and at the base of small hills or koppies. The various surveys for development projects in the vicinity of the Grid Interconnection, switching station and new access road referred to above have recorded widespread occurrences of MSA lithics across the landscape in this area. This material tends to be exposed as a lag deposit on harder, gravelly substrate in areas where the orange sand that mantles the landscape has been eroded by water or deflated by wind.

Sampson (1985) recorded thousands of LSA sites in the Zeekoe River Valley and many more are reported in the previous heritage impact assessments in vicinity of the Grid Interconnection, switching station and new access road. These sites are attributed to the ancestors of the San peoples and, after 2000 years ago, to Khoekhoen pastoralists. Other traces of the San presence in the Karoo can be found as rock engravings on dolerite boulders (Webley and Orton 2011). LSA sites are found in a variety of loci but tend to be concentrated near water points or water sources, or on hills and ridges with commanding views of rivers and valleys (Webley and Orton 2011).

The most recent archaeological and heritage layer in the Karoo landscape relates to the historical occupation of the area by stock farmers of European descent from the late 18th century. These European pastoralists were highly mobile – hence the name trekboers – moving between winter and summer grazing on and off the Great Escarpment. Land ownership in the region was informal and only became regulated after the implementation

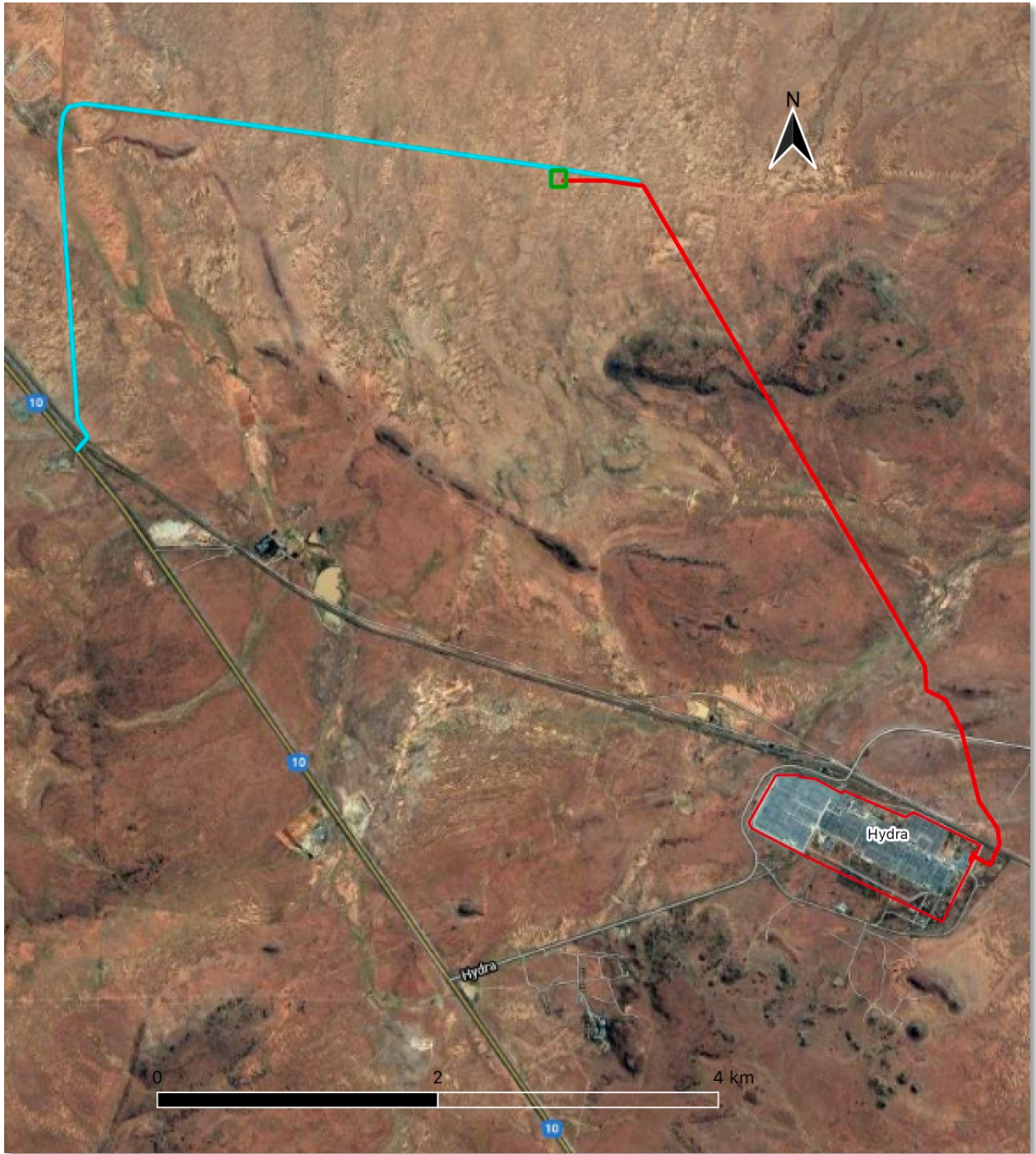


Figure 1: View of proposed grid connection (red line), switching station (green box) and access road (light blue line)
(Source: Google Earth).

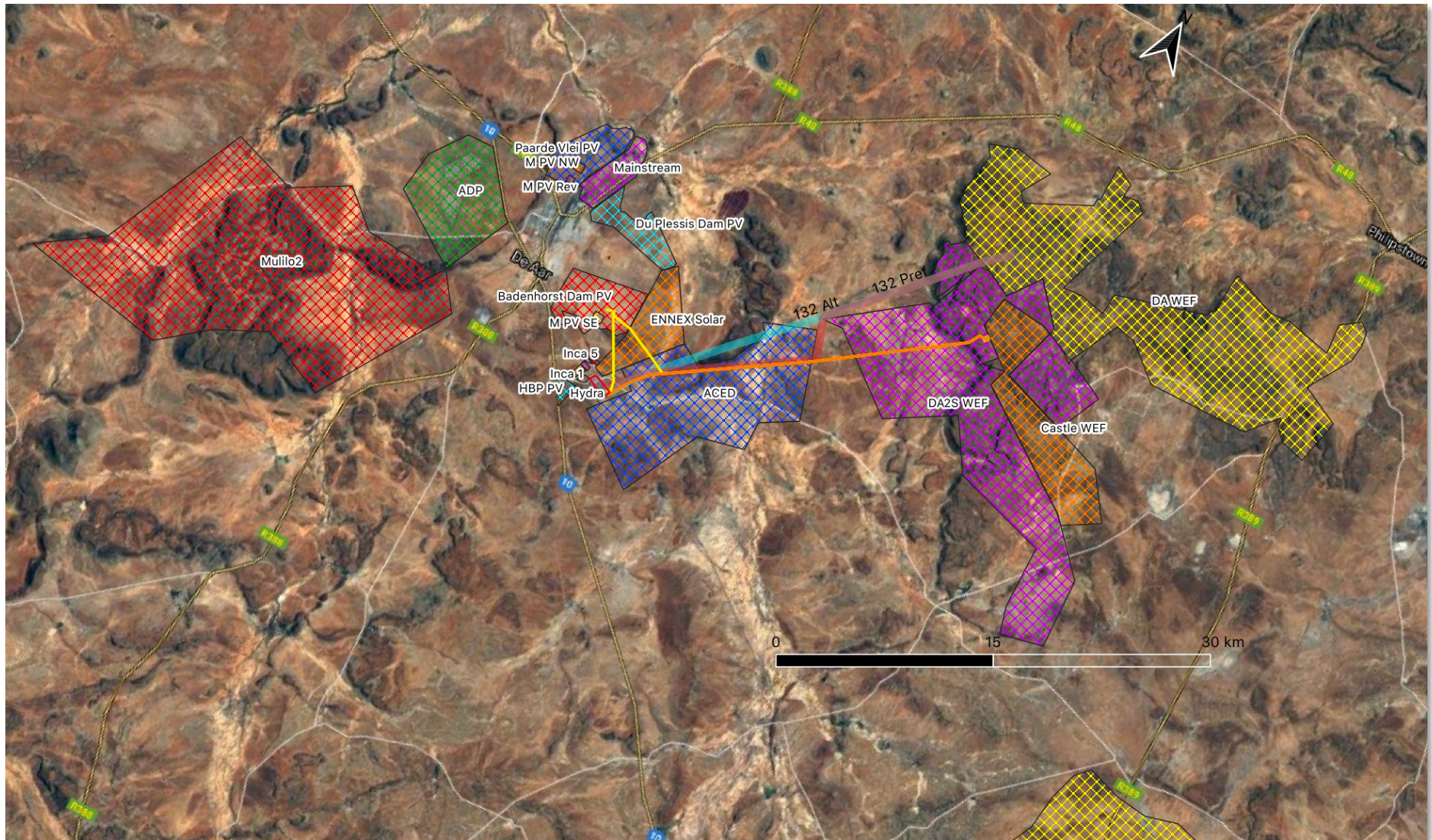


Figure 2: Previous heritage assessments carried out in the De Aar area with relevance to the assessment for the Grid Interconnection, switching station and new access road. The northern portion of the ZVAS is the yellow polygon at the bottom right of the image (Source: Google Earth).

of the quitrent system of the 19th century, used by the Government to control the lives and activities of the farmers. Judging by the kinds of artefacts and structures associated with the historical occupation of the Upper Karoo and the area around the Grid Interconnection, switching station and new access road (stone-walled kraals, farm buildings, graveyards, etc.), many of the farms in the Upper Karoo are likely to have been used before land was formally granted or loaned in the early 19th century (Sampson and Sampson, 1994).

The available desk-based evidence suggests that with the possible exception of ESA material, archaeological sites and material dating to all other periods can be expected in the areas proposed for the Grid Interconnection, switching station and new access road.

On-Site Inspection

The proposed Grid Interconnection route was previously assessed as Route 2 (Part 1) for the heritage impact assessment by ACO Associates (Gribble and Euston-Brown 2020) for the De Aar 2 South WEF Grid Connection in February 2020 (Figure 3). For that study, it was not possible to visit Badenhorst Dam (1/180) as landowner permission was not granted. Time constraints coupled with difficulty on the ground in physically accessing the farm also meant that the portion of Route 2 on Vetlaagte (Re 4) could also not be surveyed. However, archaeological surveys had previously been conducted for proposed solar energy facilities on both of these farms. In 2012 Kruger (2012) surveyed much of Vetlaagte (Re 4) for the proposed Ennex PV facility, and in 2011 and 2013 ACO Associates conducted field assessments on Badenhorst Dam for a number of further proposed PV facilities (Orton, 2012; Orton and Webley 2013).

These assessments reported MSA material across much of the area surveyed, although discrete, clearly definable MSA sites were difficult to identify because material is generally visible only in areas where the overlying orange sand has been stripped away wind or water and because the landscape is liberally spread with material, a type of “ancient litter”.

LSA artefact assemblages were encountered mainly on ridges and along river drainages and contained artefacts made mainly on hornfels. Smithfield industry artefact scatters, dating to within the last 2 000 years, but with no evidence of associated pottery were noted in places, for as were a number of sites containing early Holocene, Lockshoek lithics, dating to c.10 000 years ago. Both lithic industries are typical of what is expected in this part of the Karoo (Sampson 1985). Grass-tempered pottery was found associated with a couple of the LSA stone tool scatters.

Circular packed stone features were noted at a number of places. Some of these features almost certainly date from the colonial era and are probably shepherds’ huts, but others may be Khoekhoen kraals.

A rock gong with an associated fine-line rock engraving, possibly of an animal, was recorded on Badenhorst Dam.

A small number of historical artefacts were noted to the east of the proposed De Aar 2 South WEF grid connection. This material suggests occupation may have dated to around the South African War and the proximity of the material to shepherds’ huts at this site suggests they

may be associated. The 2011 and 2013 surveys of Badenhorst Dam identified similarly thin and ephemeral scatters of historical material at a number of places on the farm. No historical buildings were noted in the vicinity of the Grid Interconnection, switching station or new access road.

No graves or cairns were encountered during the survey, but It should be noted that pre-colonial graves are often completely unmarked and can be located anywhere where the soil is suitable for digging a grave.

Finding

The gradings used by the Screening Tool differ from the Baumann and Winter (2005) grading system generally used in heritage assessments and, as a result, Grade IIIB heritage resources which are ascribed a high significance by the Screening Tool are graded by Baumann and Winter (2005) having a moderate to high significance at a local level. Similarly, the Screening Tool ascribes Grade IIIC heritage resources a high significance, whereas to Baumann and Winter (2005) grade such sites as medium to low significance at a local level.

Furthermore, because the archaeological and cultural heritage dataset/s used by Screening Tool cannot be interrogated and there is no indication of what the sites are that have been identified by the Screening Tool, it is difficult to support the significance ratings given in the Screening Report.

As a consequence, therefore, while the information presented above **confirms** that the area around the Grid Interconnection, switching station and new access road is of archaeological and cultural heritage significance, this Site Verification Report **does not** support the significance ratings ascribed and suggests instead a general rating of **moderate**, with individual sites potentially being higher or lower significance.

Site Sensitivity Verification: Palaeontology

Desk Top Analysis

Reference to the South African Heritage Resources Information System (SAHRIS) palaeo-sensitivity map (see <https://sahris.sahra.org.za/map/palaeo>) indicates that the Grid Interconnection, switching station and new access road are proposed in a landscape with a range of palaeontological potential and sensitivity (Figure 4).

The Quaternary sands in the water courses crossed along the routes are young enough to preserve fossils but, having been washed down slopes and streams into rivers, any fossils would have been transported from their sites of origin and their context and associations with other fossil material in the assemblage will have been lost. These sediments are indicated as moderately sensitive on SAHRIS.

The Ecca and Beaufort shales are the most likely rock strata in the area to preserve fossils and many years of research by geologists and palaeontologists in the Karoo (for example, Rubidge, 1995, 2005; Johnson et al., 2006; Rubidge et al., 2016) have produced a detailed lithology and described the terrestrial flora and vertebrate fauna of these rocks. From this and other parts of the Karoo the Tierberg Formation has produced trace fossils of worm burrows, root casts and invertebrate trackways (van Dijk et al., 2002; Almond, 2013) and although fossil plants

are rare in this part of the Karoo basin, there are records of fragments of silicified wood reported from east of De Aar (Almond 2012a, 2013). According to Almond's site surveys for a number of other projects in the area of the Grid Interconnection, switching station and new access road (Almond 2012a, 2012b, 2012c), the chances of encountering vertebrate and other fossils associated with these shales is unlikely in the area as there is little exposure at or near the surface of the rock strata that contain them.

Finding

The information presented above **confirms** that the Grid Interconnection, switching station and new access road traverses areas of **very high, high** and **medium** palaeontological significance.

However, previous palaeontological assessments in the area, including the PIA for the De Aar 2 South WEF Grid Connection (Bamford 2020) which covers the Grid Interconnection, have indicated that there is little exposure at or near the surface of fossiliferous rock strata and the chances of the Grid Interconnection, switching station and new access road encountering fossils is unlikely.

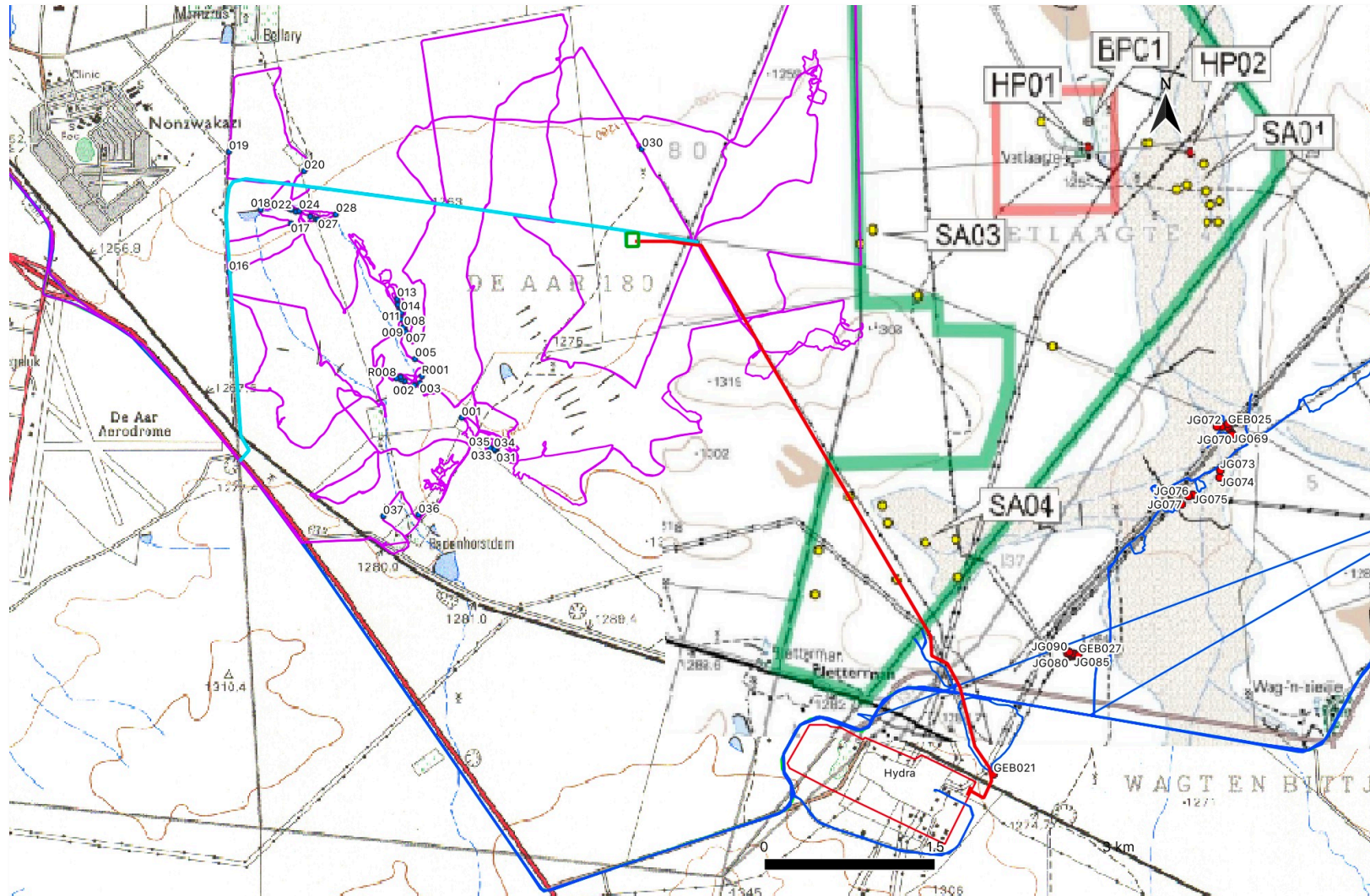


Figure 3: Previous projects that have together assessed the grid connection (red), switching station (green box) and access road (light blue): Dark blue lines = De Aar 2 South WEF Grid Connection HIA. Purple lines = multiple solar energy facilities proposed on Badenhorst Dam (1/180). Green boundary = Ennex Solar HIA. Heritage resources recorded by each survey are shown as coloured, numbered dots (Sources: Gribble & Euston-Brown 2020, Kruger 2012, Orton 2012, Orton and Webley 2013).

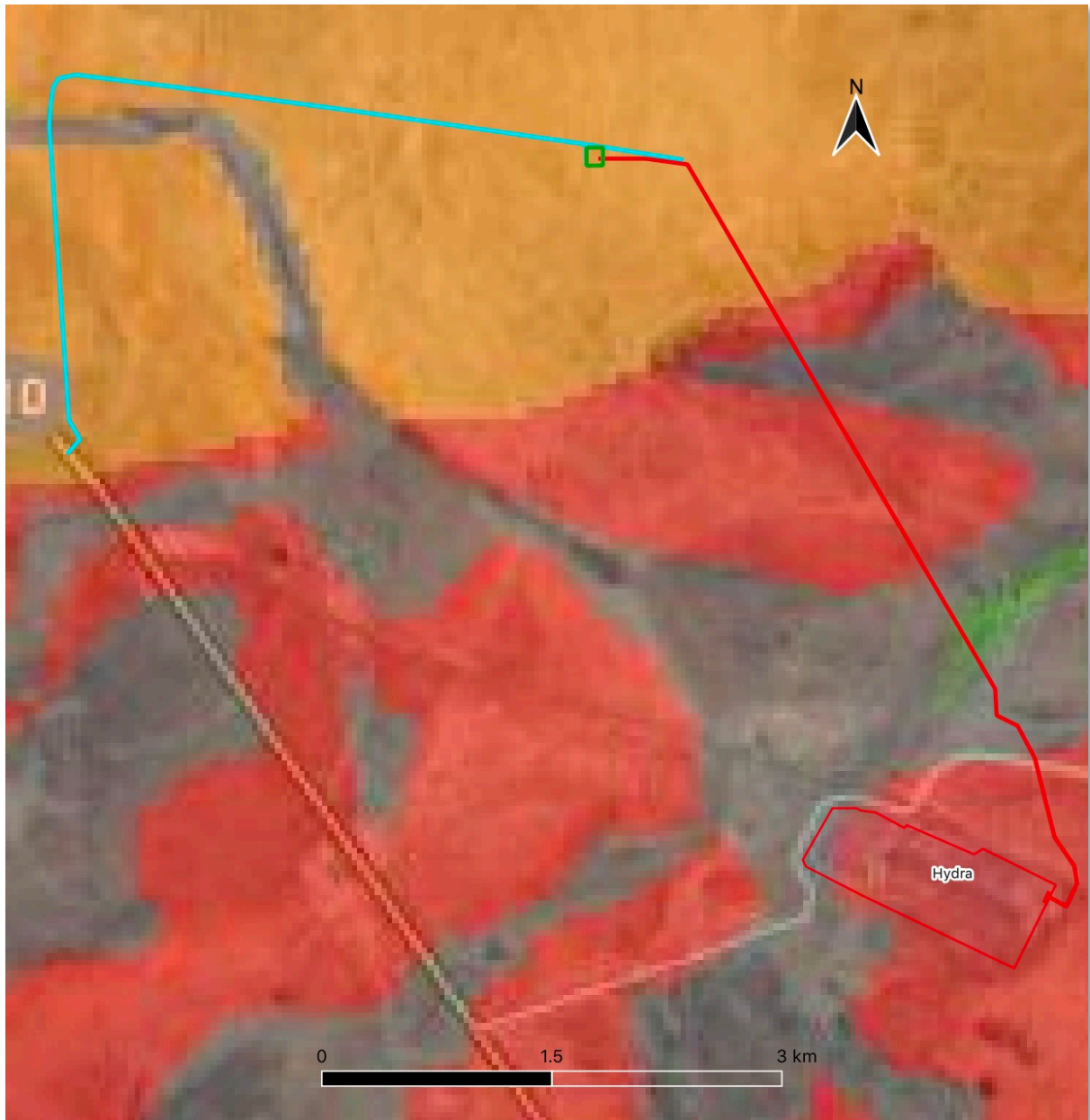


Figure 4: The Grid Interconnection, switching station and new access road superimposed on detail from SAHRA's palaeo-sensitivity map. The varied palaeontological sensitivity of the area is clearly visible. Red = very high paleontological sensitivity, orange = high, green = moderate, and grey = zero/insignificant (Source: <https://sahris.sahra.org.za/map/palaeo>).

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Mulilo Total Hydra Storage Project Grid Interconnection, outside De Aar, Northern Cape

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	ACO Associates cc			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition	100%
Specialist name:	John Gribble			
Specialist Qualifications:	MA Archaeology			
Professional affiliation/registration:	Association of Southern African Professional Archaeologist (ASAPA) (Membership number 43)			
Physical address:	Unit D17, Prime Park, Mocke Road, Diep River			
Postal address:	Unit D17, Prime Park, Mocke Road, Diep River			
Postal code:	7800	Cell:	078 6162961	
Telephone:		Fax:		
E-mail:	john.gribble@aco-associates.com			

2. DECLARATION BY THE SPECIALIST

I, John Gribble, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

ACO Associates cc

Name of Company:

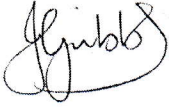
25 February 2021

Date

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, John Gribble, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



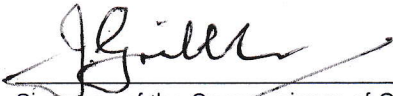
Signature of the Specialist

ACO Associates cc

Name of Company

25 February 2021

Date



Signature of the Commissioner of Oaths

Rev. James Gribble
COMMISSIONER OF OATHS
MARRIAGE OFFICER (V3146) - REPUBLIC OF SOUTH AFRICA
"Windfall", 123 Woodgate Road, Plumstead 7800

25 Feb. 2021

Date