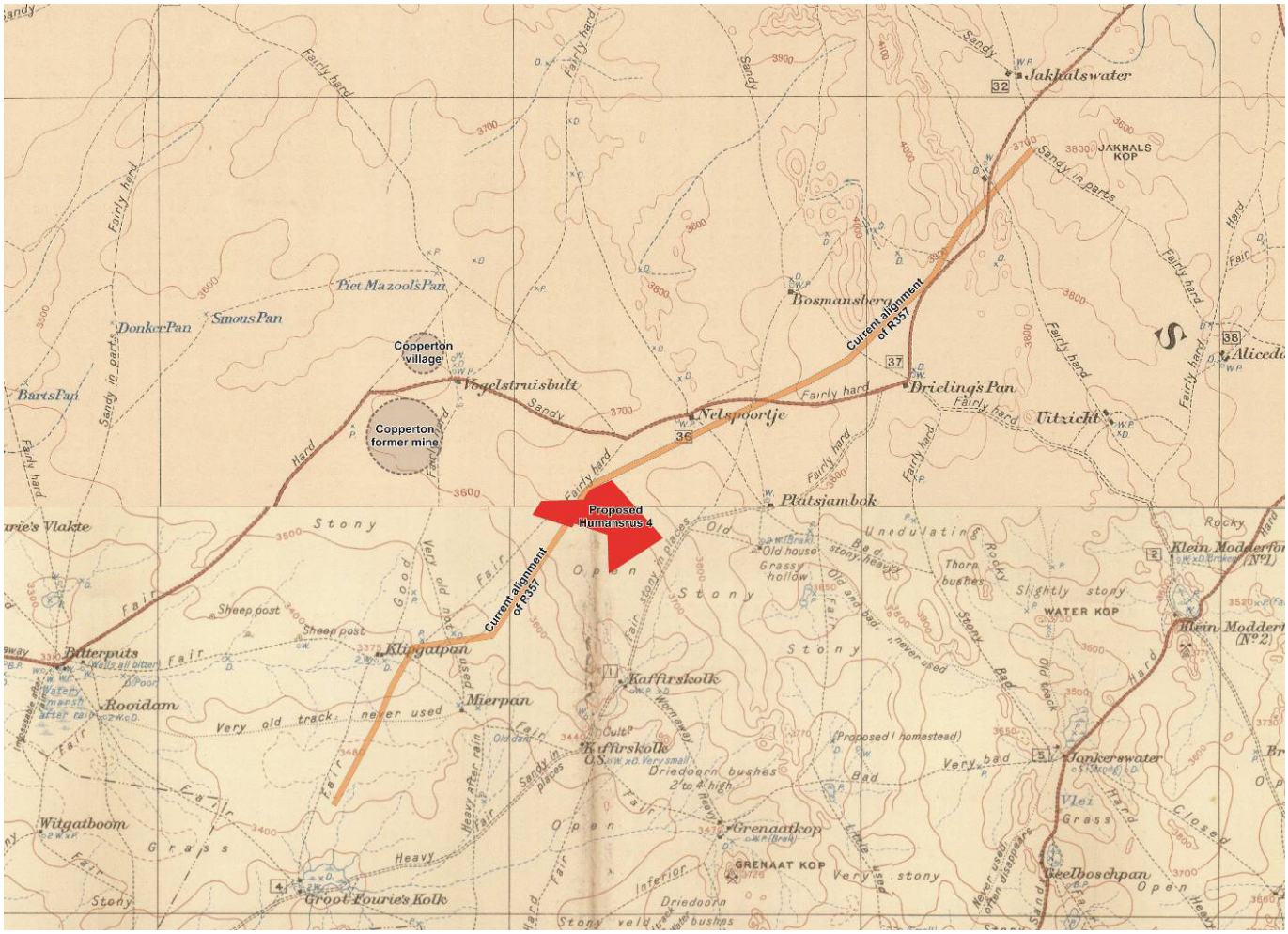
SAHRA Case Id: 9461

INTEGRATED HERITAGE IMPACT ASSESSMENT IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999)

PROPOSED DEVELOPMENT OF HUMANSRUS SOLAR PV FACILITY 4 ON THE FARM HUMANSRUS 147, PRIESKA DISTRICT AND PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE



On behalf of: Humansrus Solar 4 (Pty) Ltd

APRIL 2016

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REFERENCES and ACKNOWLEDGEMENTS:

1. Cape Town Archives
2. Surveyor General Office
3. Archaeological Impact Assessment: Proposed Construction Of Humansrus Solar 4 on the Farm Humansrus 147 Near Copperton, Northern Cape, ACO Associates, February 2016
4. Final Visual Impact Statement: Proposed Construction Of Humansrus Solar 4 on the Farm Humansrus 147 Near Copperton, Northern Cape, VRM Africa, 9th November 2015
5. Recommended exemption from further Palaeontological studies: Proposed Construction Of Humansrus Solar 4 on the Farm Humansrus 147 Near Copperton, Northern Cape, VRM Africa, Natura Viva, January 2016

ABBREVIATIONS:

1. NGSI - National Geo-Spatial Information, Department of Rural Development and Land Reform, Mowbray
2. DEA – Department of Environmental Affairs
3. HIA – Heritage Impact Assessment
4. NHRA - National Heritage Resources Act, 1999 (Act 25 of 1999)
5. SAHRA - South African Heritage Resources Agency

COVER: Compilation of early (1906-1914) mapping for study area and its environs (Source: Reconnaissance Series Nos 16 and 23, NGSI)

1. INTRODUCTION

PERCEPTION Planning was appointed by *Humansrus Solar 4 (Pty) Ltd* to undertake an Integrated Heritage Impact Assessment (HIA) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) as part of a proposal to establish a commercial solar energy facility - to be referred to as Humansrus Solar PV Facility 4 - on a portion of the following cadastral land unit:
Humansrus 147, Prieska District and Pixley ka Seme District Municipality, measuring 4,769.4155 ha, registered to Ms. Christina Susanna Human and held under title deed T28367/1978.

This report serves as an *Integrated Heritage Impact Assessment (HIA)* and includes inputs from the following specialist reports sanctioned as part of the HIA:

- Basic archival background research (Perception Planning, S. de Kock);
- Archaeological Impact Assessment (ACO Associates, Dr. L. Webley);
- Recommended Exemption from further Palaeontological Studies (Natura Viva, Dr. J. Almond);
- Visual Impact Statement (Visual Resource Management Africa CC, Stephen Stead and Lisa Schultz).

2. INDEPENDENCE OF ASSESSOR

With relation to the author's appointment as an independent specialist (Heritage Impact Assessment Manager) responsible for the compilation of an Integrated Heritage Impact Assessment in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) for this project, it is hereby declared that the undersigned:

- Acts as an independent specialist in this application;
- Regards the information contained in this report as it relates to my specialist input/study to be true and correct;
- Does not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- Have and will not have any vested interest in the proposed activity proceeding;
- Have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- Is fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2014 (specifically in terms of regulation 13 of GN No. R. 982) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- Is aware that a false declaration is an offence in terms of regulation 48 of GN No. R. 982.

It is further hereby certified that the author has 19 years professional experience as urban planner (3 years of which were abroad) and 10 years professional experience as professional heritage practitioner. The author is professionally registered/ affiliated as follows:

- Professional Heritage Practitioner (Association for Professional Heritage Practitioners)
- Professional Planner (South African Council for Planners, South African Planning Institute)
- ExCo: International Council for Monuments and Sites (ICOMOS) South Africa

3. METHODOLOGY

As part of the compilation of this Integrated HIA report the site and its environs was studied, visited, photographed and assessed, which more specifically involved the following (for broad overview of HIA process refer to explanatory flow diagram below):

- Field work carried out by *ACO Associates* on 22nd October 2014;
- Liaising with project manager, environmental consultant and various specialist consultants;

- Assimilating findings and recommendations emanating from specialist inputs into HIA;
- Identification of heritage-related issues and concerns;
- Analysis of development site and its environs;
- Identification of contextual spatial informants;
- Establishing cultural significance, based on criteria set out in NHRA;
- Identification of heritage-related design informants based on the above;
- Focussed public participation process to be coordinated as part of Environmental Impact Assessment facilitated by *Cape Environmental Impact Assessment Practitioners (Pty) Ltd (CapeEAPrac)*;
- Assess conformity of final proposed site layout to design informants identified;
- Submission to competent authorities (*SAHRA* and *Ngwao Boswa Kapa Bokoni)* via SAHRIS.

4. DESCRIPTION OF STUDY AREA

The subject site is located ±50km southwest of Prieska and ±7km southeast of Copperton, within the jurisdiction areas of Siyathemba Municipality and Pixley ka Seme District Municipality, Northern Cape as shown through the locality plan (Figure 1). The preliminary study area (±852ha in extent) is traversed by the R357 to the southeast, is ±6km east of the existing Cuprum Substation and ±6km north of the existing Kronos Substation. The final development site was refined through the EIA Scoping process and is approximately 220ha in extent. The main access road as well as decommissioned railway line leading to Copperton traverses the proposed development site.

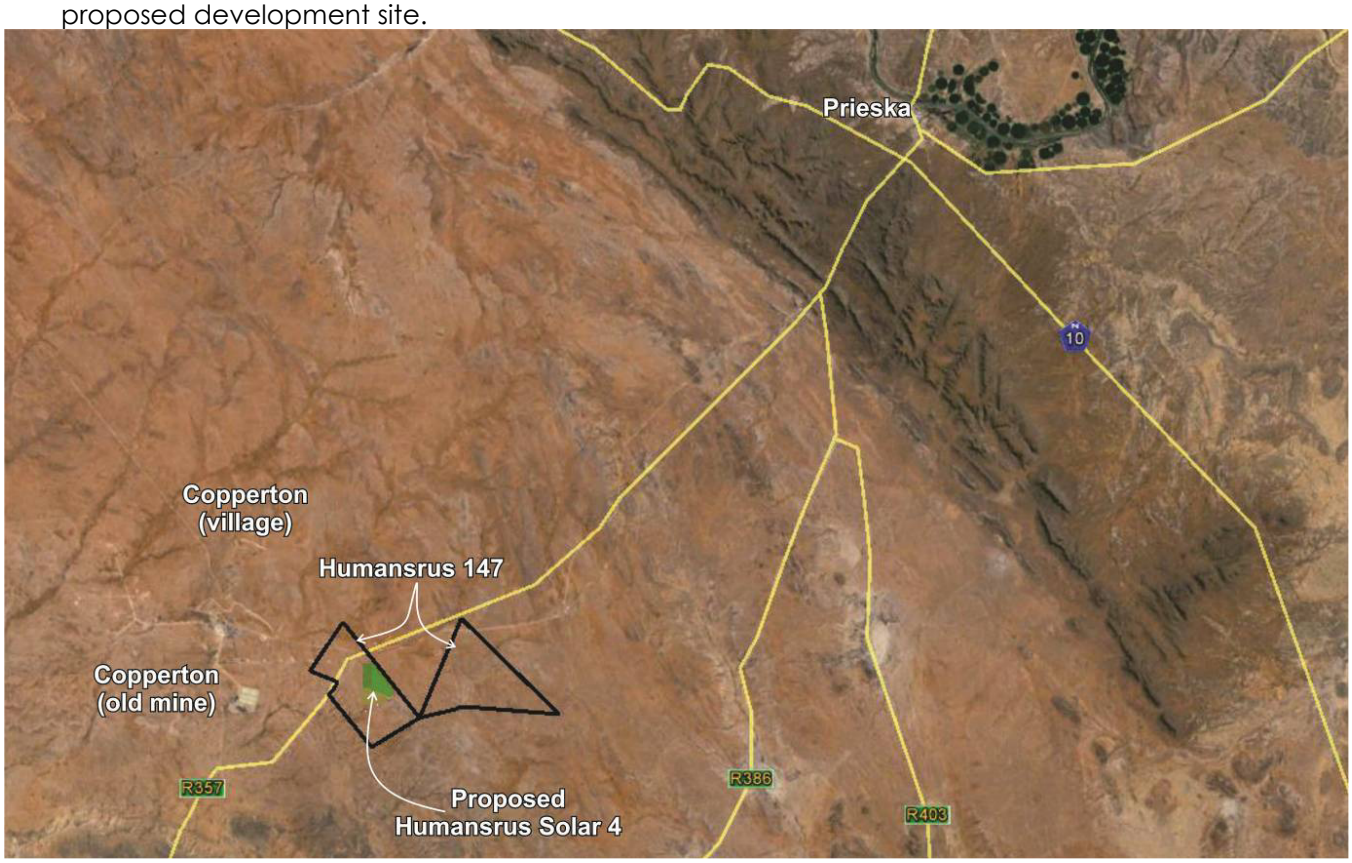

Figure 1: Location of proposed development site in relation to Prieska and Copperton (Source: GoogleEarth, 2015)

The proposed development area is a generally flat, undulating plain of low dunes of red Kalahari sands interspersed with gravel and stony plains. Soils are generally shallow silty soils which favour shrubs over grasses which usually dominate on more sandy soils. Towards the northern margin of the site, there are some deeper soils present with taller, denser vegetation present. There are also some patches of deeper or coarser soils present which are dominated by grasses. There are no significant rocky outcrops or large drainage lines within the proposed development area itself, although these features are present within the broader area.

5. DEVELOPMENT PROPOSAL & ALTERNATIVES

According to information provided by *Cape EAPrac* and *Solek Renewable Energy Engineers*, the proposed photovoltaic (PV) solar facility will have a net generation capacity of 75 MWp AC (86.25 MWp DC installed) and the preferred development footprint will be approximately 220ha in size. The PV technology will be either fixed-tilt PV, single-tracking/axis PV or double-tracking/axis PV. The infrastructure associated with this PV development will include the following components:

- Solar field of PV modules/panel arrays with maximum structure height of ±10 metres;
- Maximum of 86 x inverter stations/mini-substations (including MV distribution transformers) at a height of 3m;
- On-site Switching Station/Substation of approx. 10,000 m² in size (including a switching station, IPP transformer, IPP HV yard, ESKOM HV yard, switch gear and feeder bays);
- Overhead 132kV transmission power line to distribute the generated electricity from the on-site substation to the existing Eskom Kronos Distribution Substation (south east of the site). Transmission line will be a single circuit line, approx. 6km in length, with a maximum height of 25m, within a servitude width of 31m – 40m;
- Auxiliary buildings with a footprint of approximately 1000-1300m², including:
- Control Centre (±250m²);
- Office (±250m²);
- Warehouses (x2) (±100m²)
- Canteen & Visitors Centre (±300m²)
- Staff Lockers & Ablution (250m²); and
- Gate house / security offices (±50m²),
- Parking area (±300m²)
- Internal electrical reticulation network (underground cabling);
- Access road and internal road / track network;
- Laydown areas, required for material & equipment (±5ha [50 000m²]);
- Rainwater tanks (± twenty 10kl tanks); and
- Parameter fencing & lighting around the solar facility.

Figure 2: Typical layout of the components of a Solar PV facility (Source: CapeEAPrac, 2016)

Various alternatives, in terms of technology of the solar arrays, as well as layout for the solar arrays and associated infrastructure on the development site were considered. These alternatives were informed by the environmental constraints identified and assessment by the various specialists as part of the EIA process. The following conceptual and preliminary layout alternatives, as well as the no-go option, are currently being considered for the Humansrus Solar PV Facility 4.

5.1 Alternative 1 (Preferred Layout)

From the initial (preliminary) study area of 448ha, scoping phase- and impact assessment layouts (respectively 270ha and 250ha in extent) were developed with the Impact Phase Preferred Layout remaining 270 ha in extent (see Figure 3). This preferred layout incorporates site specific constraints/ significant environmental sensitive areas identified by the various specialists during the scoping phase and therefore consider the sensitivity and/or significance of the identified features and the appropriate avoidance/ mitigation/ management measures recommended in relation to them.

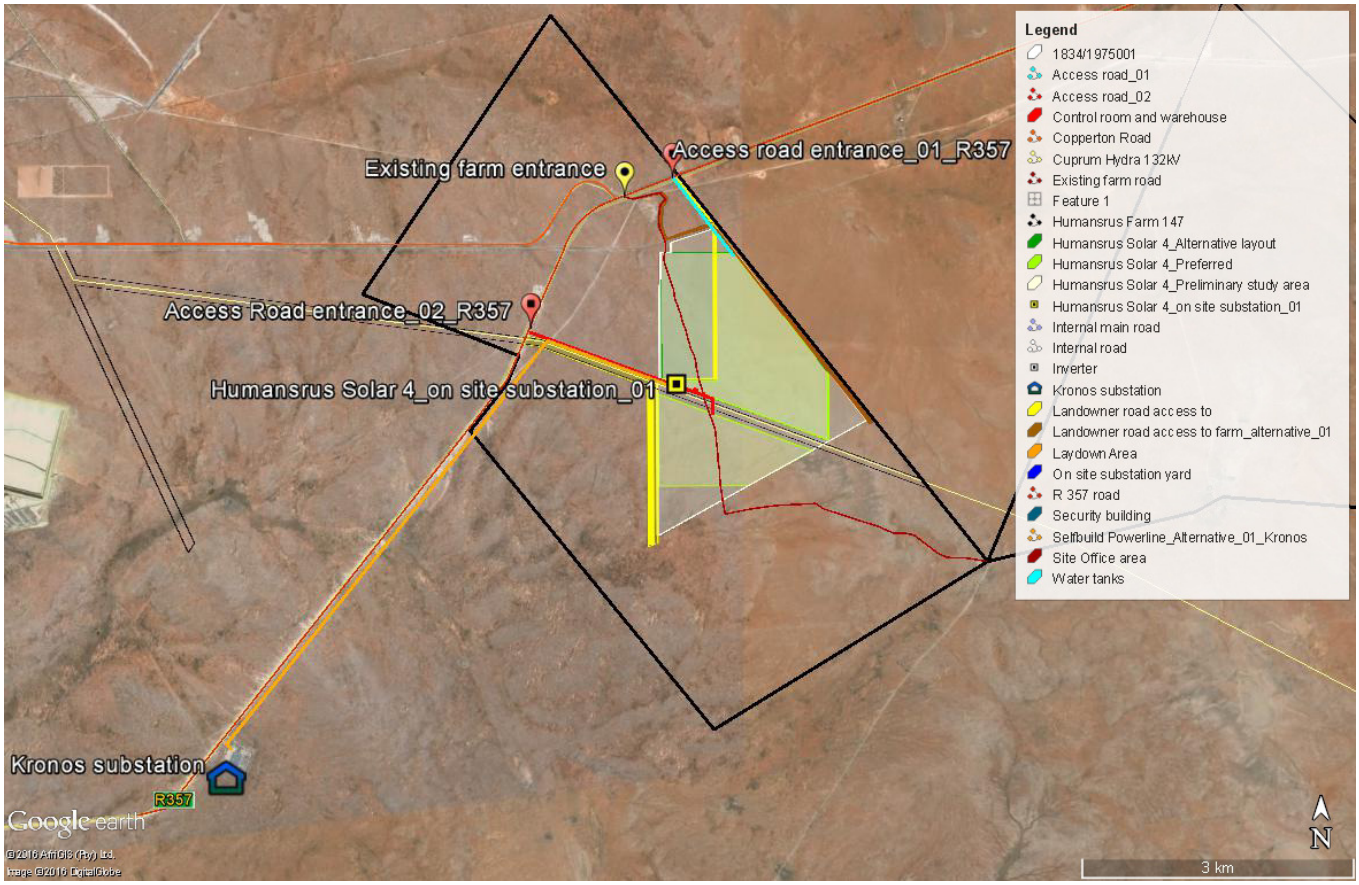

Figure 3: Proposed site boundary and layout alternatives transposed onto recent aerial imagery (Source: Cape Environmental Assessment Practitioners (Pty) Ltd)

Changes reflected in the revised Preferred Layout alternative also incorporate additional space requirements related to future road access and grid connection alignments for the proposed Humansrus Solar PV Facility 3 project, which is the subject of a separate EIA process.

With regard to the Eskom servitude (70m) for the Cuprum Hydra powerline, 50m north of the servitude has been reserved for road access and grid connection. It should be noted that initially only a 32m servitude has been reserved for a single powerline taking into account a 15m separation distance from existing Cuprum Hydra powerline. The option still exists to make use of Eskom servitude due to planned decommissioning of Cuprum Hydra power line and additional powerline servitude available within existing 70m servitude.

5.2 Alternative 2

This alternative layout option (Figure 4) comprises an area of approximately 250ha in size and is concentrated along the western portion of the abovementioned 448ha study site. This layout has the same aspects as Alternative 1:

- Area of approximately 250 ha, to ensure the project would be economically viable, allowing for exclusions of environmental sensitive areas;
- This layout would cause minimal disturbance to water washes and highly sensitive areas;
- Similar parameters for road access to the site (distance and minimal disturbance to sensitive areas);
- As with the preferred alternative, the proposed grid connection to Kronos also considers minimal distance and minimal disturbance to sensitive areas.

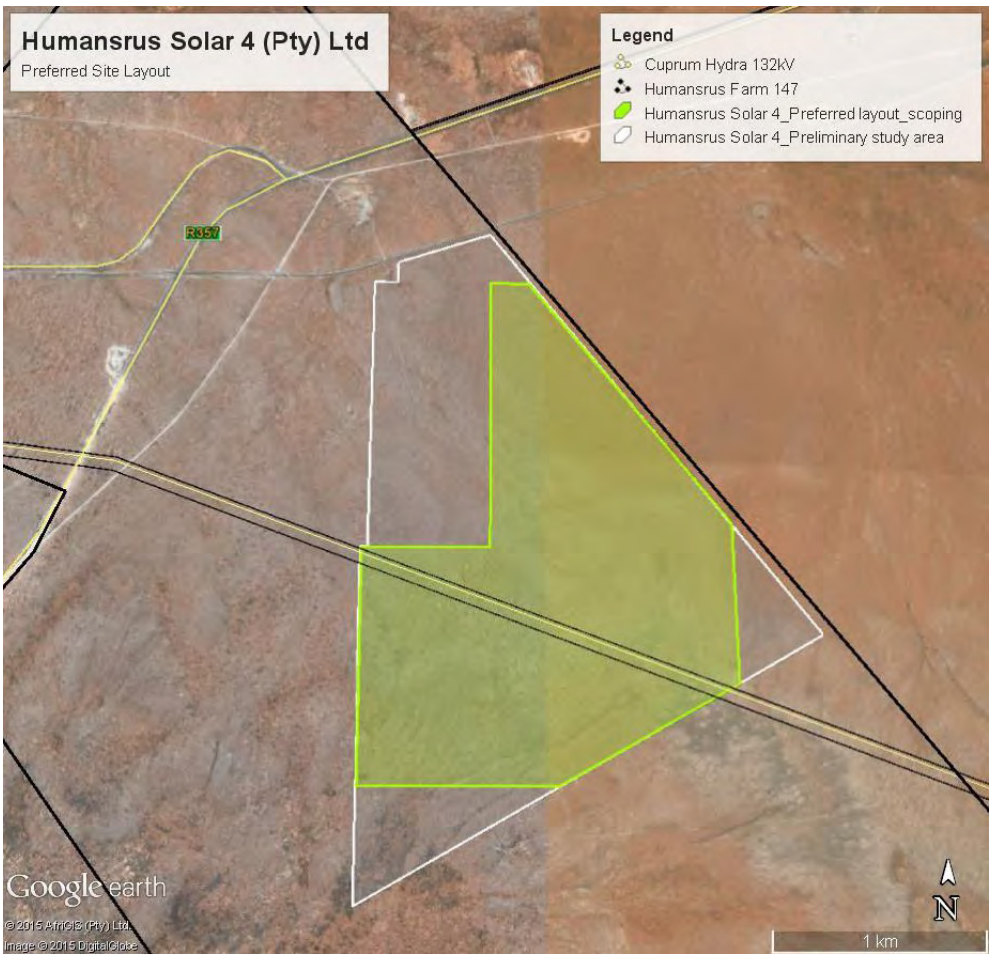

Figure 4: Proposed Alternative 2 (Solek, 2015)

Although Alternative 2 has considered preliminary site constraints, similar to those of Alternative 1, the exclusionary constraints / significant environmental sensitive areas identified by the various specialists during the scoping phase the increased the overall size of the development to 250ha. This considers the sensitivity and/or significance of the identified features and the appropriate avoidance/ mitigation/ management measures recommended in relation to them, thus making this a slightly less desirable option.

5.3 NO-GO / Status-Quo Alternative

This alternative proposes that the no-go alternative has been considered not to be a favourable option in light of the benefits associated with the proposed solar facility development; however it has been used as a baseline from which to determine the level and significance of potential impacts associated with the proposed solar development during the Impact Assessment phase of the on-going environmental process. The remaining land on which the proposed project was to be located is currently vacant. It is used for limited grazing activities, however due to a combination of poor soil quality, water scarcity and extreme climatic conditions; it has no potential for irrigated crop cultivation or higher impact agriculture. The area in question is also considered too small to generate noteworthy financial benefit from agricultural activities due to its low carrying capacity.

6 PLANNING CONTEXT

A Town and Regional Planner will be appointed to facilitate the necessary Planning Application process for the proposed Humansrus Solar PV Facility 4, which will include a land use change application for the rezoning of 270ha, from Agricultural Zone I to Special Zone, will be lodged at the Siyathemba Local Municipality, in accordance with the Northern Cape Planning and Development Act (Act 7 of 1998), to allow for the development of the proposed Humansrus Solar PV Facility 4. Parallel to the rezoning application, a long term lease

application will be lodged at the National Department of Agriculture, in accordance with the Subdivision of Agricultural Land Act (Act 70 of 1970).

7 HISTORICAL BACKGROUND[1]

Smith (1995b) notes that c. 1880/1890 white farmers were making extensive use of Bushmanland for summer grazing and that this led to the extermination of the massive springbok herds on which the indigenous population subsisted. This in turn led to the descendants of indigenous groups turning to the farmers for food (and employment), effectively ending the span of prehistory in the region.

The farm houses of Humansrus and Platsambok lie outside the study area. The farm Humansrus comprises portions of the early farms Vogelstruis Bult 104 and Platsjambok 102 as depicted through early mapping shown in Figure 5. The farm Vogelstruis Bult 104 was surveyed during 1880[2] and transferred on 24th October 1882 (transferee not legible) while the farm Platsjambok 102 was also surveyed during the same year[3] and transferred to GF Rens on 26th October 1892.

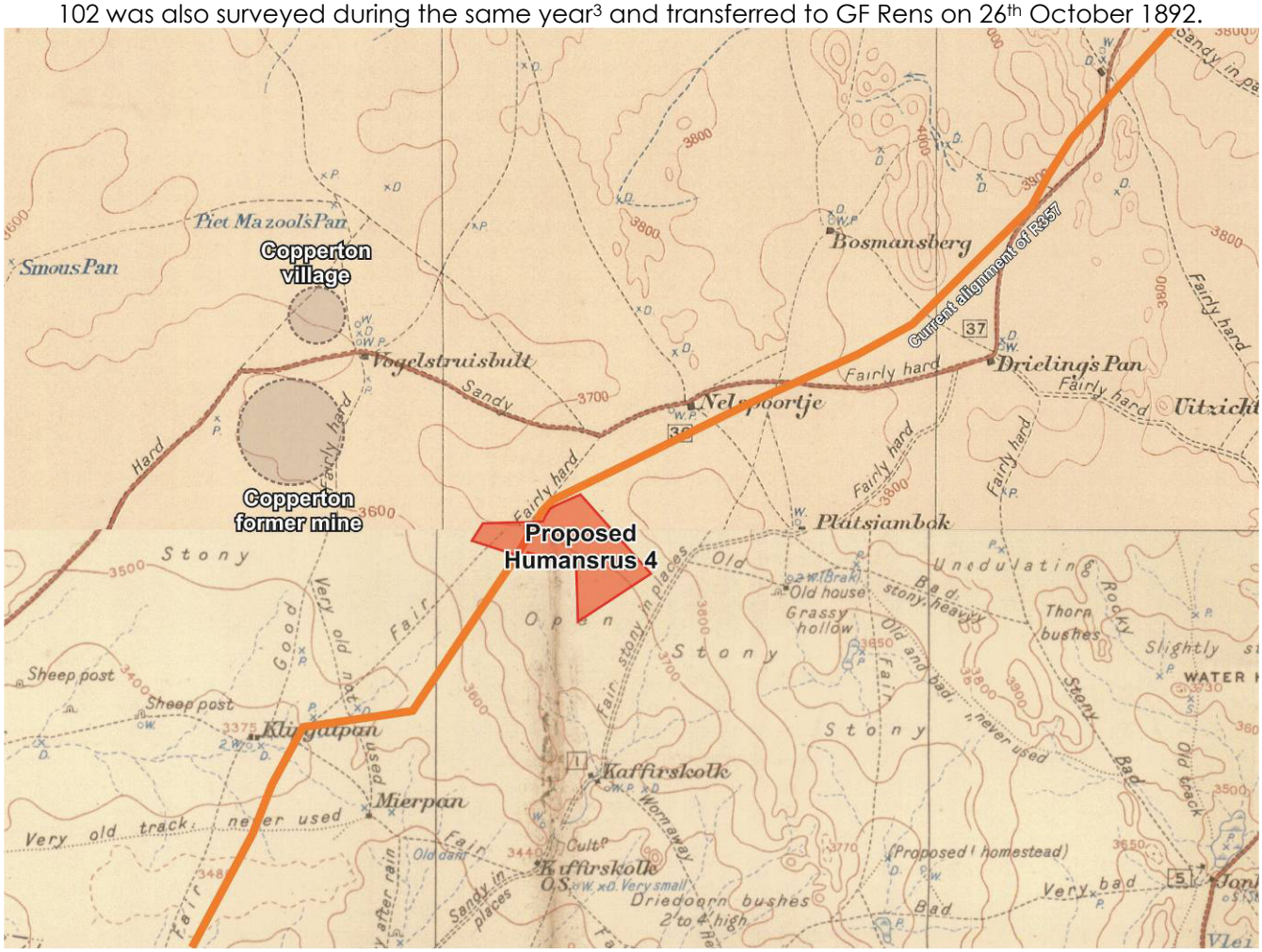

Figure 2: *Extract from early (1906-1914) mapping for the area showing the location of the site, Copperton and current alignment of R357 (Source: NGSI)*

Early mapping (1906-1914) shows the location of former farmsteads on early farms Vogels Bult, Nelspoortje, Platsjambok and others in relation to the proposed site boundary. This also shows the historic road alignment passing just north of the proposed site boundary and describes soil conditions on and within the proximity of the site as, "fairly hard". At the time, grazing conditions at Nelspoortje were described as poor with only a limited water source during wet periods.

[1] *Partly transposed from AIA, ACO Associates, November 2014*
[2] *SG Diagram 1733/1880*
[3] *SG Diagram 1750/1880*

The nearby town of Copperton was established in 1972 to provide housing for the copper mine, but after the mine closed down in 1992 the town was sold and some of the housing has been demolished. Basic historic background research did not identify or highlight any significant historic or other heritage-related themes, which may be negatively impacted through the proposed development.

8 HERITAGE RESOURCES AND ISSUES

8.1 Landscape Character

8.1.1 Cultural landscape context

The term "*cultural landscape*" refers to the imprint created on a natural landscape through human habitation and cultivation over an extended period of time. While the Cape has been inhabited for many hundreds of thousands of years (pre-colonial history) prior to Western settlement (colonial history), the nomadic lifestyles of early inhabitants are not always as evident within the landscape as the significant imprints made by humans during the last two – three hundred years and more. Unlike ancient landscapes in parts of the world where environmental conditions allowed more intensive cultivation over periods much longer than locally and allowed natural and cultural components of the landscape to become interwoven, landscape components, the Northern Cape has not yet developed in such a manner. The fact that natural and cultural landscape components in the region are therefore more distinguished means that the cultural landscape is likely to be very vulnerable to the cumulative impact of inappropriate large-scale development.

Ultimately, definition of a cultural landscape can be informed by the following elements, weighed through professional opinion, public values and statutory (legal) framework:

- Natural Landscape
- Public Memory
- Social History
- Historical Architecture
- Palaeontology
- Archaeology

The site may be described as forming part of a typical Karoo landscape and defined by flat and wide open spaces overgrown by sparse, low-growing vegetation. From a Pre-Modern perspective, the site formed part of an area mostly used for small stock farming and so, modern man-made features noted on the site included e.g. shallow pans, fences, wind pumps and cement water reservoirs related to said land use. A decommissioned abandoned railway line and numerous powerlines also traverse the property - all of which have already altered the surrounding landscape from what may be perceived to have been a purely "rural" cultural landscape prior to these having been constructed many years ago.

West-facing views across the landscape are however dominated by spoil heaps from the former Copperton mine and further impacts of mining activities have materially and permanently altered the adjoining landscape. From a cultural landscape perspective, the site is therefore considered to be of no local cultural significance. No ruins or significant structures were noted on or within the direct proximity of the site.

8.2 Visual Statement

The Visual Statement considers the anticipated visual impacts related to the proposal and assesses the implications of the possible site alternatives as transposed from said report below (with permission from author). Note that findings and recommendations made with relation to transmission lines associated with the proposal are not reflected below. This report is attached as Annexure 2.

A broad-brush regional landscape survey was undertaken to identify key features that define the landscape context within the project approximate viewshed area. The following landmarks were identified as significant in defining the surrounding areas characteristic landscape:

- Copperton mine and tailing storage facility
- Eskom substation and powerlines

- Solar energy context
- R357 road
- Old railway line
- Isolated farmsteads

It is the findings of this report that all of the alternatives are suitable for development with mitigation. It was found that the proposed alternatives would not constitute a significant visual impact to the characteristic landscape for the following reasons:

- The proposed project's close proximity to the Copperton mine and TSF.
- The old railway line and borrow pits degrade the landscape in the immediate vicinity.
- The area is an unofficial node for Solar Energy development with adjacent sites already having authorization.
- The alignment of the proposed project with municipal planning.

Due to the flat terrain and the location of the southern extent of the proposed site on a shallow watershed, the visibility would extend cover most of the Foreground distance areas (up to 6km from site). However, the only receptor identified within the viewshed with high exposure was the R357, which is located adjacent to the proposed site.
To assist in reducing the massing and crowding effects of the proposed PV structures the following is recommended:

- That a 75m No-go buffer from the R357 and the Copperton roads be maintained.
- To reduce visual intrusion from the possible multiple power lines linking up to different proposed PV projects in the vicinity, it is recommended that the power lines as much as possible follow existing transmission line corridors.
- Dust control measures should be implemented when required.
- Lights at night have the potential to significantly increase the visual exposure of the proposed project. It is recommended that mitigations be implemented to reduce light spillage (refer to Addendum for general guidelines).

Due to the potential cluttering of the landscape from all the different power lines converging on the two local substations, the cumulative visual impact significance was rated high without mitigation. With mitigation and integrating planning by DEA and Eskom, the cumulative impacts can be reduced to low.

8.3 Archaeology

A copy of the Archaeological Impact Assessment (AIA), compiled by *ACO Associates*, is attached as Annexure 3, the findings of which are summarised below with permission from the authors. Kindly refer to specialist's full report and findings. The study area for Humansrus Solar PV Facility 3 and Humansrus Solar PV Facility 4 was surveyed by Lita Webley and David Halkett on 23 October 2014. The property was accessed by the local farm roads and transects were walked across the study area.

The field assessment identified:
"In general the 2014 survey of the property recorded that the artefact distributions on Humansrus Solar 4 resemble those on Humansrus Solar 3 but the densities appear to be slightly higher, especially along the southern boundaries of the site (Figure 6).

Low density scatters of stone artefacts were found widely distributed across the study area. They tended to be concentrated on slightly deflated areas covered in fine gravel. Often these stone scatters occurred on surfaces underlain by calcretes exposures – i.e. north-eastern corner of the property.

Those parts of the study area under dense knee-high bush and thick sands, had much lower concentrations of artefacts. We did not record individual stone artefacts during the survey (with the exception of type artefacts such as handaxes), but denser concentrations exceeding three stone artefacts or more in a limited area were recorded as "sites"."

Conclusions:
The AIA concluded that there are no farm buildings or structures on the land identified for the solar facility. No historical archaeological material was identified during the survey and it is not anticipated that there will be any impacts to the Built Environment. The archaeological survey identified an amorphous distribution of Early and Middle Stone Age artefacts randomly scattered across the landscape. No Later Stone Age sites, such as those mitigated by Orton (2014) on the adjoining farm of Klipgats Pan 117, were observed. It is concluded that the artefacts distributions are of low significance and that no further mitigation is required.

The following recommendations should be enforced:

- If during ground clearance or construction, any dense accumulations of stone tools, particularly if they are associated with ostrich eggshell fragments, are uncovered then the ECO should report this to SAHRA (Tel: 021 462 4502);
- The appropriate recommendations will need to be implemented during the EMP should unmarked graves be encountered during construction. If any human remains are uncovered during construction, the ECO should have the area fenced off and contact SAHRA (Tel: 021 462 4502) immediately.

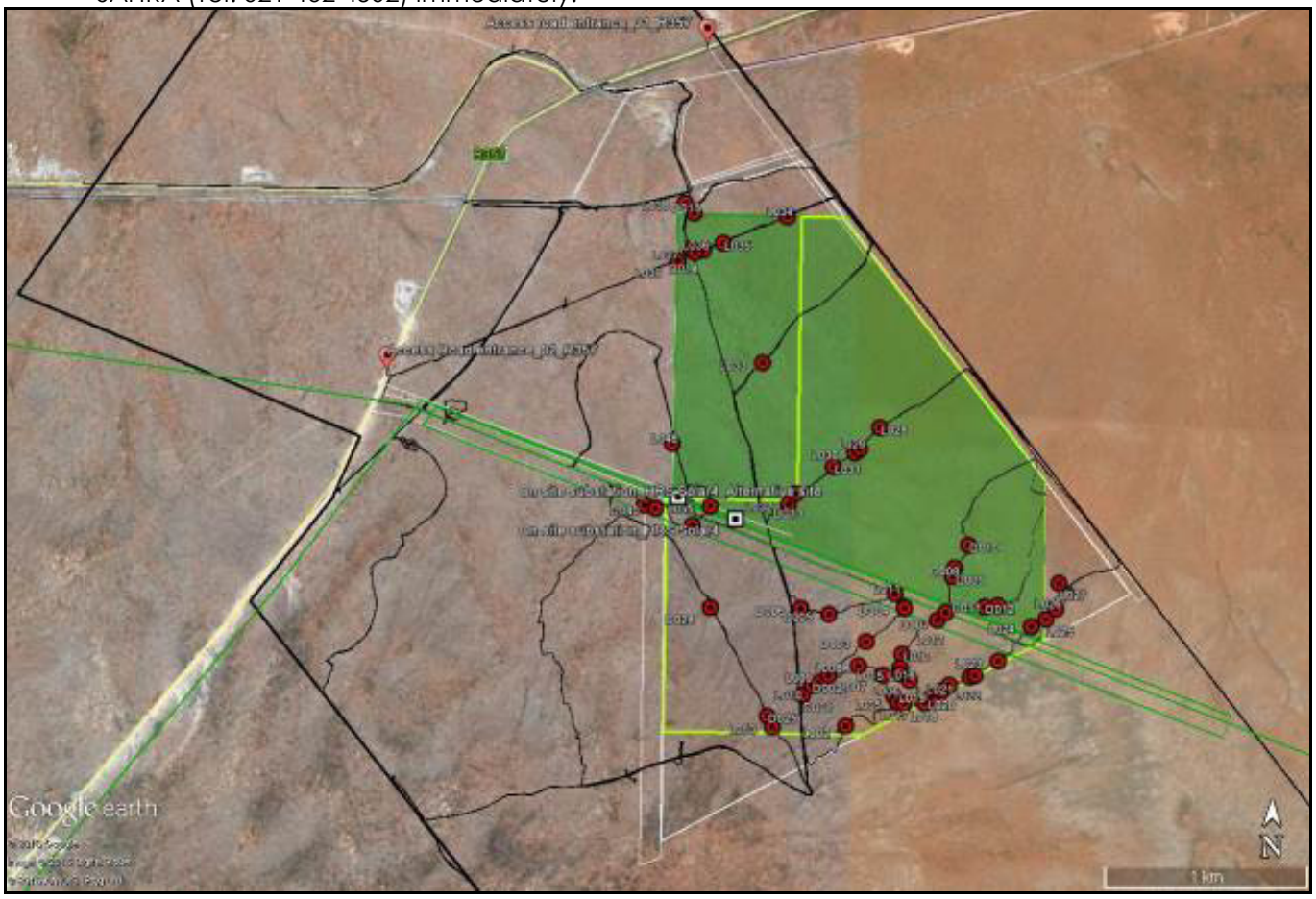

Figure 3: *Tracks (indicated with black lines) and "sites" shown as red circles during the 2014 survey of the property. Many of the spot locations are merely a mid-point in a large scatter of stone tools (Source: ACO Associates, 2016)*

8.4 Cumulative impacts

Of concern, however, is the increasing number of solar facilities increase in this area (Figure 7). The cumulative impacts of the developments will result in widespread destruction of pre-colonial sites. Although many of these sites have, individually, been rated as having low significance, the cumulative impact of the removal of all archaeological material will result in the destruction of large areas of archaeology and could be considered significant.

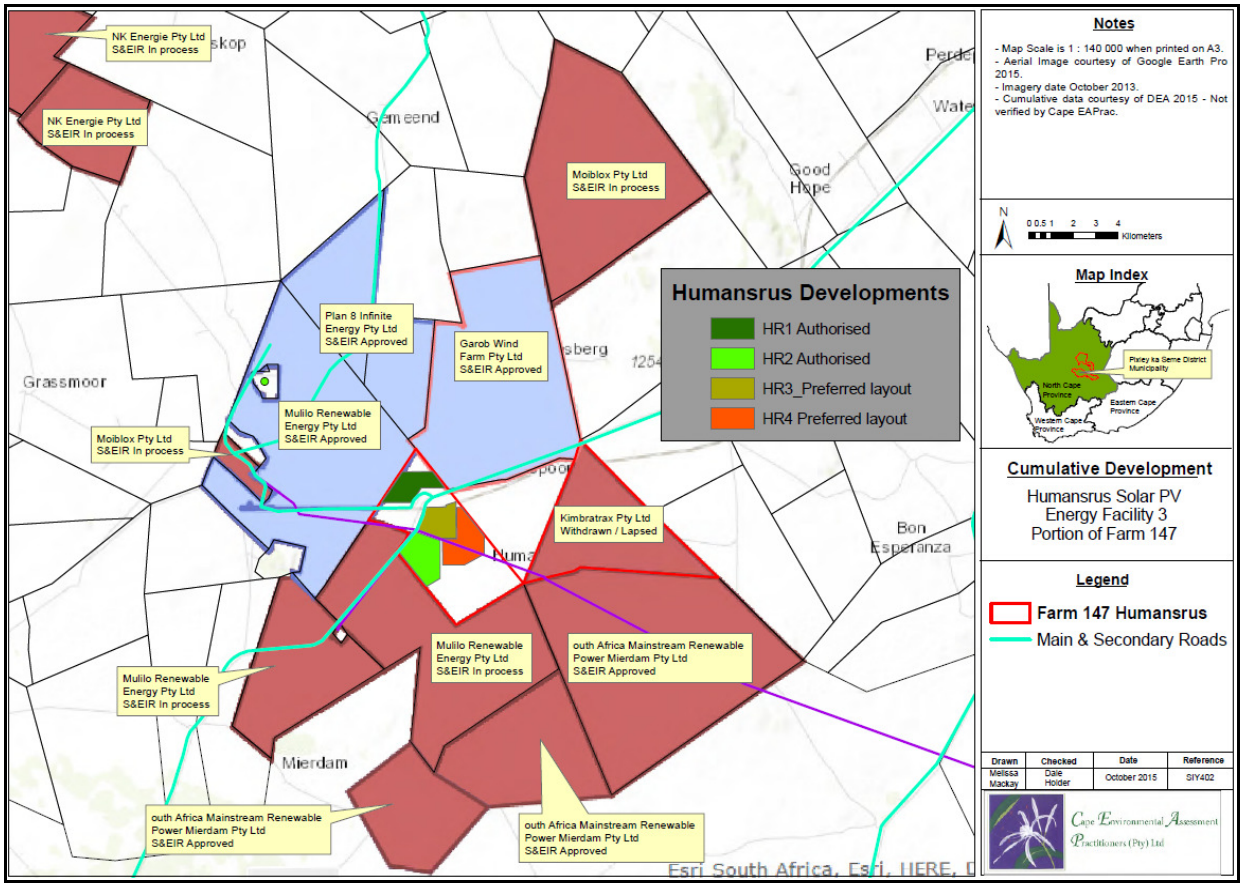

Figure 4: *The location of both solar facilities (both approved and proposed) in proximity to Humansrus Solar PV Facility 4 (Source: CapeEAPrac, 2016).*

Limited mitigation, particularly of Later Stone Age sites, has been undertaken by Orton (2014) on the farm Klipgats Pan 117 and this addresses some of the concerns about the destruction of archaeological heritage. The mitigation of additional archaeological sites will need to be considered based on the merits of each site. Mitigation of archaeological sites on a portion of Humansrus 147 is not warranted based on the low significance of the archaeological resources on the property.

8.5 Palaeontology

Below is an extract from recommended exception report (Almond, 2016), presented here as Annexure 4, which concluded that the proposed Humansrus Solar 3 solar energy facility near Copperton, including the associated short 132 kV transmission line to the Kronos Substation and other infrastructure, is unlikely to have significant impacts on local palaeontological heritage resources. There is no preference on palaeontological heritage grounds for the preferred or alternative layout of the solar facility. Given the generally low palaeontological sensitivity of the Copperton region (based on several recent field studies in the area), the cumulative impact of the proposed solar facility as well as several other local alternative energy developments is assessed as low.

It is therefore recommended that, pending the discovery of significant new fossils remains before or during construction, exemption from further specialist palaeontological studies and mitigation be granted for the proposed Humansrus Solar 4 alternative energy development on Farm Humansrus 147 near Copperton.

Should any substantial fossil remains (*e.g.* well-preserved stromatolites, mammalian bones and teeth) be encountered during excavation, however, these should be safeguarded, preferably *in situ*, and reported by the ECO to SAHRA, *i.e.* The South African Heritage Resources Authority, as soon as possible (Contact SAHRA at P.O. Box 4637, Cape Town 8000 or Tel: 021 462 4502 so that appropriate action can be taken by a professional palaeontologist, at the developer's expense. Mitigation would normally involve the scientific recording and judicious sampling or

collection of fossil material as well as associated geological data (*e.g.* stratigraphy, sedimentology, taphonomy) by a professional palaeontologist.

8.6 Eco-tourism[4]

One of the goals of ecotourism is to offer tourists insight into the impact of human beings on the environment, and to foster a greater appreciation of our natural habitats and from an economic perspective, heritage resources may prove to be valuable resources when used in sustainable manner through eco-tourism. This may for example include investment in adaptive reuse of historic buildings so as to conserve and enhance the unique character and historic themes pertinent to this area. Heritage tourism can therefore serve as a driver for economic development, including infrastructure development and poverty alleviation through job creation. The broader region's rich archaeological, palaeontological, historical and natural heritage has the potential to provide unique tourism opportunities when developed and used in responsible and sustainable ways.

Given the location as well as pattern of existing land use within the proximity of the site and furthermore, the relative low density of heritage resources considered of cultural significance noted as part of this assessment, we do not consider that the proposed development would offer significant heritage-related eco-tourism opportunities associated with the development site.

9 HERITAGE INFORMANTS AND INDICATORS

According to the requirements of Section 38(3) of the NHRA, land use planning and EIA processes must be informed by and incorporate heritage informants and indicators. It is the purpose of this Section to define heritage informants and indicators pertaining to the way in which heritage resources must be incorporated into the overall layout and design of the proposed development as read in conjunction with preceding Sections.

<u>Cultural landscape issues</u>
From a regional and natural landscape perspective, the proposed development site forms part of a highly-transformed landscape altered through mining activities as well as high concentration of, and proposals for development of several renewable energy (solar) facilities. While the proposal would relate to a landscape modification, we do not consider that it would alter any natural or cultural landscape of cultural significance.

<u>Visual-spatial issues</u>
Recommendations reflected in the Visual Statement, as summarised in Section 8.2 of this HIA report shall be adhered to.

<u>Archaeology</u>
All recommendations contained in AIA, as summarised in Section 8.3 of this HIA report shall be adhered to.

<u>Palaeontology</u>
It is recommended that no further palaeontological studies or mitigation be undertaken in respect of the proposed development site. Should substantial fossil remains be exposed during construction, however, the ECO should safeguard these, preferably *in situ*, and alert SAHRA as soon as possible so that appropriate action (*e.g.* recording, sampling or collection) can be taken by a professional palaeontologist.

10 PUBLIC PARTICIPATION

Due to the fact that there are no known local heritage conservation bodies in the Humansrus area (registered as such with the relevant provincial heritage resources authority in terms of

[4] *Section included in accordance with requirements set by National Department of Environmental Affairs*

Section 25 of the National Heritage Resources Act, 1999 (Act 25 of 1999)), the Public Participation Process (PPP) for this HIA will be coordinated with that of the EIA Process facilitated by Cape EAPrac in terms of the National Environmental Management Act, 1998 (Act 107 of 1998), so as to solicit possible heritage-related comments with relation to the proposed development.

11 LIMITATIONS AND ASSUMPTIONS

This report is limited to the assessment of the potential impact of the proposed facility on heritage resources found on/ within the proximity of the development site as defined in this report. There is a limitation in terms of understanding the cumulative impacts of the project when taken in conjunction with other similar future development projects in the surrounding area.

12 RECOMMENDATION

Having regard to the above assessment, it is recommended that:

12.1 This report fulfils the requirements of an Integrated Heritage Impact Assessment (HIA);

12.2 That the recommendations below be incorporated into the proposed development and that the Department of Environmental Affairs be informed accordingly:

	Recommended Conditions of Approval
VS-1	*That a 75m No-go buffer from the R357 and Copperton roads be maintained.*
VS-2	*To reduce visual intrusion from the possible multiple power lines linking up to different proposed PV projects in the vicinity, it is recommended that the power lines as much as possible follow existing transmission line corridors.*
VS-3	*The lay down should be located away from the main roads (as much as possible).*
VS-4	*Dust control measures should be implemented when required.*
VS-5	*Lights at night have the potential to significantly increase the visual exposure of the proposed project. It is recommended that mitigations be implemented to reduce light spillage (refer to Addendum for general guidelines).*
AIA-1	*Indications are that in terms of archaeological heritage the proposed activity is viable; impacts are expected to be limited and controllable.*
AIA-2	*Due to potential cumulative impacts in the area, some limited sampling of artefactual material should occur prior to construction*
AIA-3	*If during ground clearance or construction, any dense accumulations of stone tools, particularly if they are associated with ostrich eggshell fragments, are uncovered then the ECO should report this to SAHRA (Tel: 021 462 4502).*
AIA-4	*If any human remains are uncovered during construction, the ECO should have the area fenced off and contact SAHRA (Tel: 021 462 4502) immediately.*
PIA-1	*It is therefore recommended that, pending the discovery of significant new fossils remains before or during construction, exemption from further specialist palaeontological studies and mitigation be granted for the proposed Humansrus Solar PV Facility 4 alternative energy development on Farm Humansrus 147 near Copperton.*
PIA-2	*Should any substantial fossil remains (e.g. well-preserved stromatolites, mammalian bones and teeth) be encountered during excavation, however, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA, i.e. The South African Heritage Resources Authority, as soon as possible (Contact details: SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 462 4502 so that appropriate action can be taken by a professional palaeontologist, at the developer's expense. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data (e.g. stratigraphy, sedimentology, taphonomy) by a professional palaeontologist.*

PERCEPTION Planning
22nd April 2016

SE DE KOCK
Hons(TRP) EIA Mgmt (IRL) Pr Pln PHP

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