

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

**PROPOSED 10MW SOLAR FACILITY: PORTION (45HA) OF THE FARM
SKUITDRIFT 426, KENHARDT DISTRICT, NORTHERN CAPE PROVINCE**



ON BEHALF OF: Scuitdrift Solar Project (Pty) Ltd

APRIL 2012

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PERCEPTION

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REFERENCES and ACKNOWLEDGEMENTS:

1. Cape Town Archives
3. Chief Directorate: Surveys & Mapping
4. Deeds Office, Cape Town
5. Almond, J (2012). *Recommended exemption from further palaeontological studies and mitigation (Desktop study) – Proposed 10MW Solar facility on farm Skuitdrift 426, Kenhardt District, Northern Cape*. Unpublished report, Cape Town
6. Smith, AB (2012). *Archaeological Report - Proposed 10MW Solar Facility on Farm 426 Skuitdrift, Northern Cape Province*. Unpublished report, Cape Town
7. South African National Archives Repository
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9. Lower Orange River Management Plan – Unlocking the Ecotourism Potential of the River, Draft October 2008
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ABBREVIATIONS:

CDSM – Chief Directorate: Surveys & Mapping, Mowbray
 CTDO – Cape Town Deed's Office
 DEA – Department of Environmental Affairs (National)
 ECO – Environmental Control Officer
 NHRA – National Heritage Resources Act, 1999 (Act 25 of 1999)
 NID – Notice of Intent to Develop
 HIA – Heritage Impact Assessment
 HWC – Heritage Western Cape
 KAB – Cape Town Archives Repository
 PPP – Public Participation Process
 PAWC – Provincial Administration: Western Cape
 RoD – Record of Decision
 SAB – National Archives Repository
 SDF – Spatial Development Framework
 SGO – Surveyor General's Office

COVER PAGE: Extract from 1906-1914 SG Maps (Source: CDSM)

1. INTRODUCTION

PERCEPTION was appointed during February 2012 by *Scuitdrift Solar Project (Pty) Ltd* for the provision of professional services relating to this proposal, as required in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) (NHRA). Sanction for compilation and submission of this application was provided by a representative of the developer duly authorised by way of a formal appointment (Power of Attorney) attached as Annexure 1.

This submission serves as a Heritage Impact Assessment (HIA) and includes inputs from the following specialist reports sanctioned as part of the HIA:

- Archaeological Impact Assessment (Pre-colonial, Historical) – Prof. Andrew Smith
- Historical background report – SE de Kock
- Recommendation for Mitigation from further palaeontological studies and mitigation (Desktop) – Natura Viva (Dr. John Almond)

2. INDEPENDENCE OF ASSESSOR

The Developer appointed *SE de Kock (PERCEPTION Heritage Planning)* as an independent professional heritage practitioner to facilitate the Heritage Impact Assessment (HIA) process running concurrently with the EIA process, the latter of which is facilitated by *Cape Environmental Practitioners (Pty) Ltd ("CapeEAPrac")*.

According to Regulation 18 of NEMA an EAP must be independent; amongst others have experience in conducting EIA's (as well as specialist reports forming part of such EIA's), perform the work relating to the application in an objective manner, comply with the Act, the environmental Regulations and all other applicable legislation, take into account, to the extent possible the matters relevant to the receiving environment, disclose all material information in the possession of the EAP that reasonably has or may have the potential of influencing a decision, or the objectivity of any submission to the competent authority, which with relation to the HIA refers to the *South African Heritage Resources Agency* as well as *Ngwao Boswa Kapa Bokoni*.

With relation to the author's appointment to compile and submit to the *South African Heritage Resources Agency* as well as *Ngwao Boswa Kapa Bokoni* a Heritage Impact Assessment in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999), it is hereby declared that:

- This consultancy (including the author) is not a subsidiary, legally or financially, of the proponents;
- Remuneration for professional services by the proponent in relation to this proposal is not linked to approval by any decision-making authority responsible for permitting this proposal;
- Neither this consultancy, nor the author has any interests in secondary or downstream as a result of the authorisation of this project.

It is further hereby certified that the author has 15 years professional experience (3 years of which were abroad) as urban planner and 8 years professional experience as heritage practitioner (2 years of which were abroad). The author holds the following qualifications:

- Town and Regional Planning (B-Tech, CPUT, 1997)
- Environmental Impact Assessment Management – Heritage, Environmental (Dipl/ Masters, Dublin University, 2002)
- Architectural & Urban Conservation (CDP, UCT, 2007)
- Urban Design (CPD, UCT, 2009).

The author is professionally registered as follows:

- Town and Regional Planner – Irish Planning Institute (IRL)
- Accredited Heritage Practitioner – Association for Professional Heritage Practitioners

- Member – International Association of Impact Assessment (SA)
- Able to register as Town and Regional Planner with South African Council for Planners

3. BACKGROUND

This report follows notification of the South African Heritage Resources Agency by CapeEAPrac of the proposed solar installation/ Scoping and Environmental Impact reporting to be initiated in terms of the National Environmental Management Act, 1998 (Act 125 of 1998) and its subsequent response dated 11th January 2012 as summarised below (copy attached as part of Annexure 2):

- *That a Heritage Impact Assessment is required consisting of/ incorporating the following specialist studies and detailed site analysis with an integrated set of recommendations:*
 - *Archaeological Impact Assessment;*
 - *Palaeontological Impact Assessment;*
 - *Built environment issues;*
 - *Burial grounds and graves;*
 - *Analysis of Cultural landscape issues;*
 - *Analysis of Visual – Spatial issues.*

4. METHODOLOGY

As part of this HIA report the author has studied, visited, photographed and assessed the study area and its environs over a period of approximately two months, which more specifically involved the following:

- Studying ownership history and social history pertaining to the site and its environs from relevant primary sources obtained in the National Archives, Cape Town Archives and Deeds Office;
- Field work carried out on 24th February 2012;
- Negotiations, discussions with consultant team regarding nature and detailed design of proposed development;
- Focussed public participation process aimed at soliciting heritage-related comments from community members regarding proposed development and running concurrent with EIA Process;
- With relation to compilation of this HIA:
 - Research (site specific but also local context/ environs);
 - Identification of heritage-related issues and concerns;
 - Analysis of development site and its environs;
 - Identification of contextual spatial informants;
 - Transpose findings of Archaeological Impact Assessment and Palaeontological Impact Assessment into this report;
 - Establishing cultural significance, based on criteria set out in NHRA;
 - Identification of heritage-related design informants based on the above;
 - Assess conformity of final proposed site layout to design informants identified.

5. DESCRIPTION OF STUDY AREA

The farm Skuitdrif¹ 426, located in the Kenhardt district and jurisdiction area of the Khai-Garib Local Municipality, Siyanda District Municipality and includes a surface area of 7.942,3758 ha. The property is directly south of the Orange River and west of the Augrabies National Park. The subject site (comprising approximately 45ha) is located on the southern portion of this farm as illustrated with the locality plan below. Via road the subject site is approximately 106km northeast of Pofadder and 115km northwest of Kakamas respectively. Access to the

¹ Variations to this spelling noted include "Schuitdrift" or "Skuitdrift"

site is from the N14 National road (turn-off 60km east of Pofadder; 70km west of Kakamas) via a 46km long gravel track.

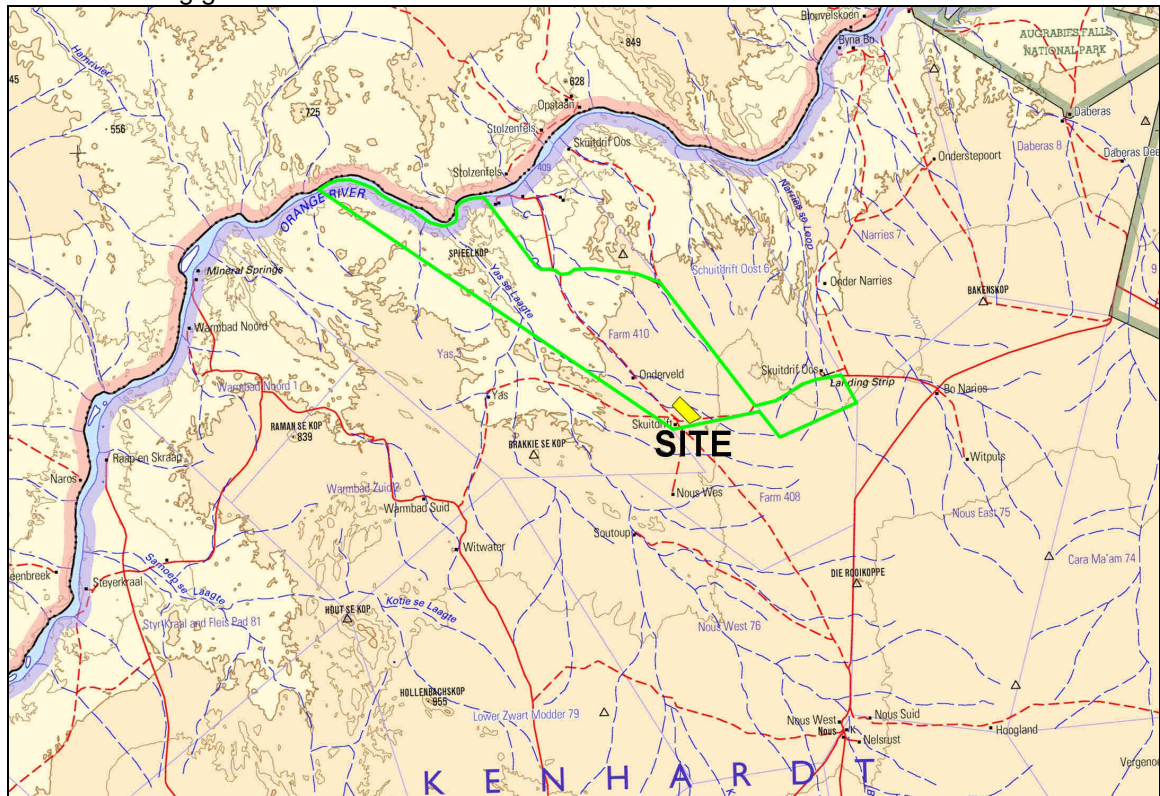


Figure 1: Locality of proposed development site (highlighted yellow) and property boundary (green) (Source: 1:250,000 Topocadastral series, CDSM)

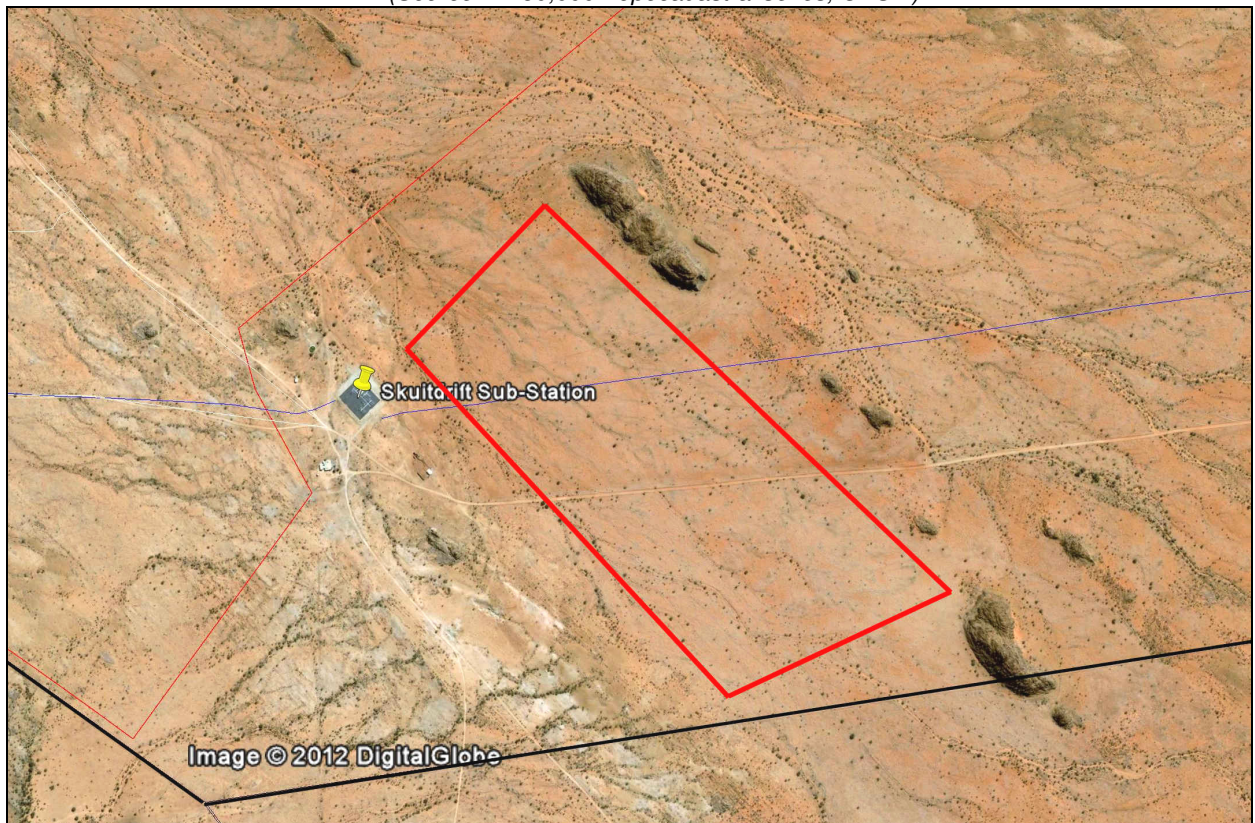


Figure 2: Recent aerial view of proposed development site (red) shown in relation to Skuitdrift Sub-station, access road and existing buildings. Part of Skuitdrift 426 boundary shown (black) (Source: Google Earth Pro)

The proposed development site is located within a flat, arid landscape bound by a series of low granite hills to the northeast. Soils were found to be sandy and overgrown with sparse vegetation including grass and low-growing shrubs interspersed. As illustrated with the recent aerial photograph (Figure 2), a narrow gravel road traverses the site - following a cadastral boundary and continuing further eastward. The existing Skuitdrift substation and a cellular mast are directly southwest of the site. From the substation a 33kV overhead line leads to the west while a 132kV overhead line leads to the east (Blouputs).

A small building complex, including a much-altered farmstead and outbuildings older than 60 years, a modern labourer's cottage and agricultural building (most likely older than 60 years) were noted directly east of the site (i.e. outside proposed development site boundary). As illustrated with photographs attached as Annexure 3, the farmstead consists of a pitch-roofed core with modest mono-pitch extensions to side and rear and interesting gabled extension to other side. Outbuildings to the rear of the farmstead as well as an agricultural outbuilding (with stonewalled kraal to side) just east of the farmstead are both considered older than 60 years. A small mono-pitched labourer's just northeast of the farmstead is not older than 60 years.

6. DEVELOPMENT PROPOSAL AND ALTERNATIVES

The proposed development is for construction of a 10MW solar energy installation within the potential development area (45ha in extent), chosen by reason of its level surface, general characteristics of the substrate, low density of vegetation and close proximity to the Skuitdrift 132kV to 33kV substation. Infrastructure associated with the proposal would however have a development footprint of less than 20ha. Internal electrical reticulation associated with the proposal would most likely be installed (400mm – 1000mm) underground. Inverter stations would typically be built into a transportable container measuring 10 x 2.5m, having a footprint of 25m². Additional infrastructure to be accommodated on site would include a substation and auxiliary buildings (maintenance and storage), the exact location of which have not been finalised. The site would include an area for maintenance, storage and two water tanks, each with 10 kilolitre capacity and should not exceed a surface area of more than 700m².

Possible water sources identified at this stage include a nearby water reservoir (fed by on-site boreholes), rainwater capture/storage and/or alternatively via a new pipeline following an existing track from Southern Farms situated along the Orange River (northwest of the site) as illustrated through the conceptual site layout provided to us by the developer is attached as Annexure 4. This water pipeline would be installed within or directly adjacent to the existing track between the current Skuitdrift farmstead and Orange River.

A number of development layout and technology alternatives were considered during the project planning phase, as described in the Facility Layout report attached as part of Annexure 4. A summary of these alternatives are set out below.

6.1 Preferred Alternative

This alternative would entail installation of solar arrays groupings within a development footprint of less than 20ha within the southern portion of the potential (45ha) development area reviewed as part of the assessment. This layout incorporates environmental sensitivities identified and would straddle identified drainage line, which are sensitive to increased storm water run-off and subsequent erosion. The proposed solar arrays would be mounted to single-axis tracking systems to maximize efficiency. Mounting structures would be rammed/ driven into the ground thus excluding the need for excavation or use of concrete. Measures shall be set in place to manage storm water runoff and ensure that existing vegetation be retained, with the exception of some large trees and shrubs.

Existing access to the farm and Skuitdrift Substation will have to be altered through one of the following diversion options:

- Align diversion just outside and to the north of the facility security fence and then link back to the existing road alignment to the west of the facility;
- Align diversion along the eastern edge of the facility and then link to and run along the existing Eskom servitude under the transmission line (Eskom permission required);
- Align diversion along the eastern edge of the facility and then link to and run along the existing access road to the north of the transmission line (crossing the Eskom servitude – a wayleave may be necessary). Landowner has confirmed acceptance of the above access road options.

6.2 **Alternative Two layouts**

Two layout options were considered as part of this alternative, primarily aimed at avoiding environmentally sensitive drainage lines or “washes” identified as part of the EIA thus far. Details concerning these layout options are illustrated and described in full in the Facility Layout report attached as Annexure 4 hereto. However, the fragmented layout of arrays proposed as part of this alternative would be impractical and render the project economically unviable. This alternative is therefore not considered feasible.

6.3 **Technological alternatives**

Other alternative solar and installation technologies considered during the planning phase as described in further detail in the Facility Layout report (Annexure 4), include the following:

- Double axis solar tracking;
- Thin Film solar modules;
- Cast foundation anchoring;
- Pre-cast Footing.

7. **HISTORICAL BACKGROUND**

Basic historical background research was commissioned as a specialist input into this Heritage Impact Assessment report and focussed primarily on available primary sources obtained in the Cape Town Archives, National Archives Repository, Deeds Office and Surveyor General’s Office.

7.1 **Introduction**

Details pertaining to earliest property ownership could not be fully researched due to logistic problems associated with unscheduled maintenance by the National Archives. However, web-based Deeds Office records (www.deeds.gov.za) confirm that the Farm (Skuitdrift) 426 is currently registered to Johannes Frederik Nel and held under title deed number T35398/2003. These records further refer to current servitudes across the property registered to Eskom Holdings (Pty) Ltd and that it was created through consolidation of Farm 410 and Schuitdrift Oost 6/4 during 2002. A copy of the current S.G. Diagram (1482/2002) is attached as Annexure 5. The current property boundaries have been transposed onto a historic map of the area in Figure 3 below.

7.2 **Early history**

According to un-referenced secondary sources², Northern Namaqualand as well as southern Namibia were occupied by the Great Namaqua tribe who were herders (goats, sheep, cattle) while the Namnykoa tribe kept primarily along the river corridor and a third group, the Einiqua, occupied the area currently forming part of the Augrabies National Park. Smaller San and “Hottentot” communities were spread out between these tribes and seem to have generally maintained sensitive relationships with their stronger neighbours.

² Lower Orange River Management Plan – Unlocking the Ecotourism Potential of the River, Draft October 2008

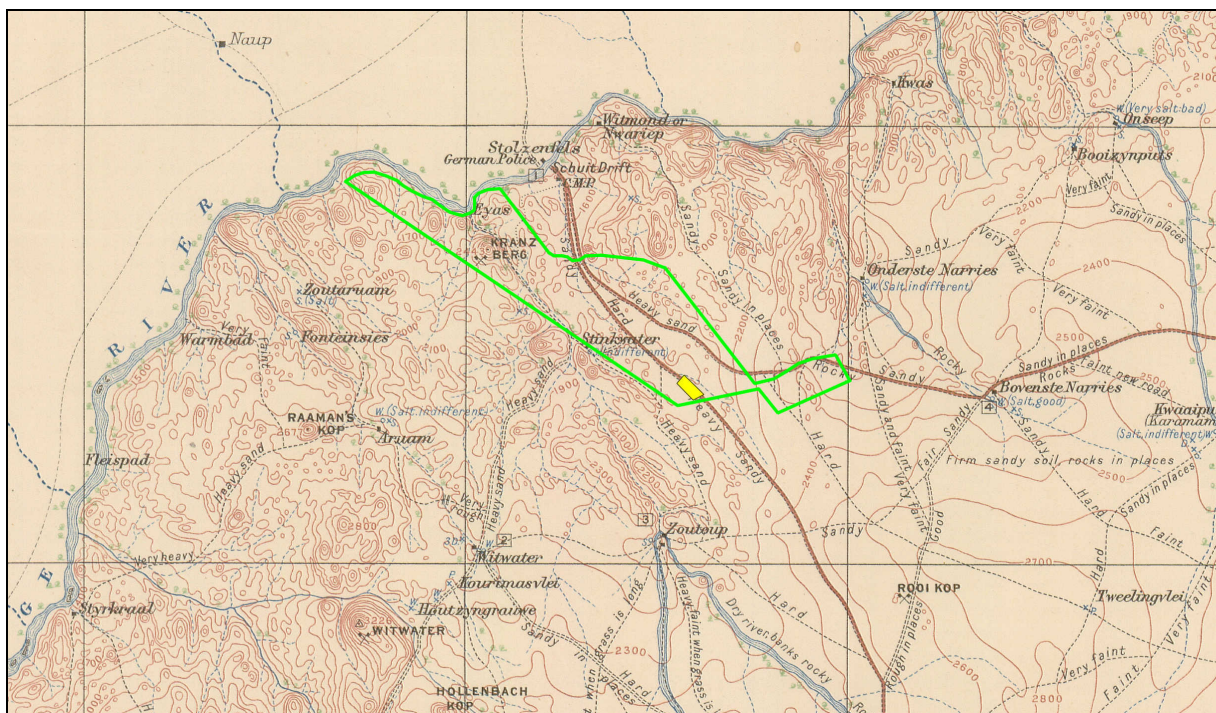


Figure 3: Extract from 1906-1914 compilation of SG Maps highlighting subject development site boundary in green and proposed development site hatched in yellow (Source: CDSM)

Trekboers' moving into the interior from the c. 1770's inevitably resulted in conflict with many of these indigenous peoples and by the early 19th century the influence of various missionary groups entering the area caused many descendants of the Khoekhoen to be limited to mission land in isolated pockets in the Namaqualand and margin lands of the Richtersveld, where in some instances, their indigenous language (Nama) is still spoken by elders.

"Prior to the construction of the Violsdrift high-level bridge in 1956, most vehicular traffic to and from Namibia was routed via the main road through Nakop, or by way of several river crossings, or drifts, which had been in use since the late 1700s. Among the most important crossing points where those at Goodhouse and Raaman's Drift, linking Namaqualand and the newly established mission settlement at Warmbad and the Namibian interior. These early colonial farming, trading and mission settlements and river crossings are of varying historical importance³".

Archival sources pertaining to the subject study area are limited but it is considered likely that archaeological finds along the Orange River's banks may include buried pottery, fish bone sites and burial cairns of Nama ancestors. Older San and Holocene sites have reportedly been documented on the silt flats and in any small rock shelters or overhangs close to the Orange River and it is considered likely that old river terraces and ridges, as well as tributaries and steep sided valleys, may hold general scatters of archaeological material, especially Early and Middle Stone Age. Rock engravings of San ancestors of the Nama may possibly be located on flat rocky outcrops (particularly dolerite) along the river.

More recent colonial heritage resources may include historic buildings (early farms and missions), graveyards, and possible places of conflict (Anglo-Boer war and Korana uprising⁴). Information obtained from SAHRA as well as other sources⁵ indicate the following sites of cultural significance in the Skuitdrift area and broader region:

- *Skuitdrift*, historic river crossings; German military outpost built in 1901, ruins and graves;

³ Section 2.2, p. 40, LOR Draft Management Plan, 2008

⁴ c. 1868

⁵ SANParke. 2001. "Kultuurerfenis: Hede and Verlede." *Omgewingsopleidingshandleiding vir die Augrabieswaterval Nasionale Park en Omgewing*. SANParke, Pretoria

- *Pella*, a Catholic mission church built in 1878, date plantations;
- *Onseepkans*, a declared national monument, mission and church as well historic bridge;
- *Goodhouse*, graves and church, historic buildings

7.3 **General history pertaining to Skuidrift area**

General archival references pertaining to the Skuidrift area include an application to the government in 1905 by a Mr. Brinkhaus of Brussel & Co to occupy a trading site in the area (presumably at the river crossing)⁶. The occurrence of colonial conflict is also evident through mention in general dispatches to “*arms, ammunition and saddlery surrendered by German soldiers to the Cape Mounted Police at Scuitdrift*” on 11th October 1905⁷.

Ferries between South Africa and then South West Africa Namibia, across the Orange River was established at “*Schuitdrift and Nylersdrift*” during 1911⁸, while reference to an “*enquiry into a boat at Schuitdrift*” during 1917 was noted. Though the nature of this enquiry could not be confirmed, this seems to prove the long-standing, established nature of the ferry crossing at Skuidrift⁹, the former location of which would obviously have been along the river and therefore well outside the proposed development site boundary.

A new school building was established in 1918 at Nous (just southeast of the proposed development site), which suggests a sufficient number of local inhabitants to justify a school in the area¹⁰. More than one archival reference makes mention of an application by Captain Robert Kineard Farrart for lease of land to “*Dredge for precious stones in the Orange River from Schuitdrift for four miles up*”¹¹, dated 1920. Presumably this refers to land directly adjacent to the Orange River. Records also refer to lease of a certain portion of land at Schuitdrift West by “*farmer GS Nel*” for a Dipping tank in 1962¹².

Records pertaining to issuing of former Crown Land within the proximity of the proposed development site to private persons include the following:

- Certain portion of land named Schuitdrift Oost to MWA Pretorius in 1950¹³;
- Certain portion of land named Schuitdrift West to unnamed person in 1950¹⁴;
- Issuing of Crown Grant in respect of Schuitdrift Police Reserve in 1954¹⁵.

7.4 **Conclusions**

Based on the above research the Schuitdrift area, and more particularly areas within relative close proximity to the Orange River, is of high historical cultural significance due to its association with:

- Pre-colonial history and indigenous inhabitants;
- History pertaining to border crossing at Schuitdrift;
- Various conflicts such as Anglo – German but also border wars with local tribes (including Nama wars);
- Early mining activities.

However, no archival references referring to these historic themes, which include the possibility of grave sites/ burial ground on proposed development site and/ or lands directly contiguous to it, could be located.

⁶ KAB, Volume 8297, Ref. X3196

⁷ KAB, Volume 23/93, Ref. 116

⁸ KAB, Volume 4/509, Ref. A20

⁹ KAB, Volume 4/510, Ref. A49

¹⁰ KAB, Volume 111, Ref. B2178

¹¹ KAB, Volume 512, Ref. MM1466/20

¹² SAB, Volume 4277 Ref. 12619

¹³ SAB, Volume 2729 Ref. 874

¹⁴ SAB, Volume 2825 Ref. 3598

¹⁵ SAB, Volume 3211 Ref. 688

8. HERITAGE RESOURCES & ISSUES

With relation to the integrated mapping of all heritage resources and/ or occurrences noted on the site please note that:

- Integrated heritage resource mapping, including the built environment, archaeological and palaeontological occurrences are presented through Annexure 6;
- Archaeological, Palaeontological and aspects pertaining to the Built environment have been transposed into this report have been included on the above mapping where possible. Please however refer to respective specialist reports for detailed mapping and visual presentations.

8.1 *Built environment*

During fieldwork carried out on 24th February 2012 no buildings, ruins or any other structures were noted on the site. Furthermore, no structures considered to be of cultural significance were located within the proximity of the proposed development site boundaries. A farmstead as well as associated outbuildings was however noted directly south of the proposed site as illustrated through mapping attached as Annexure 6 and the table below.

GPS #	Coordinates	Description	> 60 yrs of age
023	S28 36 41.5 E19 46 19.0	Labourer's cottage (modern)	No
024	S28 36 47.2 E19 46 21.6	Farmstead (altered, gabled addition)	Yes
025	S28 36 47.4 E19 46 29.2	Agricultural outbuilding/ Stonewalling	Yes/ No
026	S 28 36 32.8 E19 46 29.5	Gravesite	No

Note: Coordinates displayed in WGS84: Lat/Lon hddd° mm' ss.s"

Buildings older than 60 years noted within the direct proximity of the proposed development site included a single-storey, hipped-roof (corrugated iron) farmstead of modest design. In addition to a verandah, which has been added onto the front (north-east facing) elevation, further additions to the historic core of the building include an interesting hipped-roof, gabled extension to the front elevation and single-storey rectangular flat-roofed addition to the opposite side as illustrated through photographs attached as part of Annexure 3.

This building is considered to be of moderate local architectural cultural significance. A separate flat-roofed outbuilding (garage structure), also considered older than 60 years, is situated to the rear of the farmstead and is considered to be of low local architectural cultural significance. A hipped-roof agricultural outbuilding, situated c. 200m east of the farmstead is considered to be of low local cultural significance. Stonewalling (kraal) to one side of this outbuilding is not older than 60 years.

A single grave (not older than 60 years) and at least two empty graves were noted just off a narrow track, directly north of the proposed development site. The sides of the two abandoned graves were constructed with mud bricks and cement and have been partly filled in by wind-blown sand over time (please refer to annotated photographs, Annexure 3). The single grave (AP Nel, 1962) and two abandoned graves are not considered to be of cultural significance, are situated outside the proposed development footprint and would not be affected through the proposed development.

8.2 *Landscape issues*

8.2.1 *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 Northern Cape has been inhabited for many ten 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 than the significant imprints made by humans during the last two – three hundred years. Unlike ancient landscapes in parts of the world where intensive cultivation over periods much longer than locally have allowed natural and cultural components

of the landscape to become interwoven, climatic conditions prevailing with this arid, semi-desert landscape mostly precluded large-scale cultivation, save within the proximity of perennial rivers such as the Orange River or other places with a reliable water source.

Ultimately, definition of a cultural landscape is 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

Given the absence of early aerial photography for the area, identifying any Pre-Modern traditional landscape patterns occur within the direct proximity of the proposed development site has been met with some difficulty. In this case, primary traditional landscape features evident within the current landscape are limited to existing farm tracks, the building complex mentioned in Section 8.1 above, as well as limited agricultural use (kraals), none of which are considered to be of cultural significance. While significant cultural landscape features occur along the Orange River corridor, this falls well outside the scope of the proposed development.

One of the potential water sources to the proposed facility would be via a new water pipeline from Southern Farms/ the Orange River, this pipeline would follow an existing farm track. This route was physically surveyed and would not impact on any heritage resource(s) considered to be of cultural significance.

8.3 *Visual-Spatial issues*

The proposed development site would not be visible from any main roads, public vantage points or any other known area or site considered to be of local, provincial or national aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value cultural significance.

8.4 *Archaeology*

A copy of the Archaeological Impact Assessment (AIA), compiled by Prof. Andrew Smith, is attached as Annexure 7, the findings of which are summarised below¹⁶. Kindly refer to specialist's full report and recommendations.

There were no restrictions to the archaeological investigation and the entire study area was accessible on foot and open to inspection and assessment. A site visit was conducted on 22nd February 2012, and surface indications noted, particularly around the base of inselbergs (koppies) which dot the landscape. The results showed scattered quartz pieces across the terrain, with denser concentrations around the koppies. These artefacts are probably mostly late, but a few MSA and ESA pieces were also noted. Waypoints of archaeological occurrences are as per table below and have been transposed onto Annexure 6.

LABEL	LONGITUDE	LATITUDE	DESCRIPTION
139	19° 46' 34.3223" E	28° 36' 30.2896" S	Isolated quartz chips x 2
140	19° 46' 35.5381" E	28° 36' 29.5026" S	Scattered quartz flakes
141	19° 46' 39.0152" E	28° 36' 27.9716" S	Extent of above
142	19° 46' 42.0205" E	28° 36' 32.0162" S	Quartz chips around base of koppie
143	19° 46' 44.1283" E	28° 36' 33.0268" S	Extent of above

¹⁶ Smith, AB (2012). *Archaeological Report - Proposed 10MW Solar Facility on Farm 426 Skuitdrift, Northern Cape Province*. Unpublished report, Cape Town

144	19° 46' 45.1056" E	28° 36' 33.6683" S	Extent of above
145	19° 46' 50.3386" E	28° 36' 33.8617" S	Extent of above
146	19° 46' 56.9852" E	28° 36' 39.0590" S	Source of quartz raw material
147	19° 46' 57.1237" E	28° 36' 39.2618" S	ESA core axe
148	19° 46' 57.2622" E	28° 36' 39.4166" S	Extent of above
168	19° 44' 4.3026 " E	28° 34' 35.1013" S	Quartz surface scatter along pipeline road

Source: Prof. Andrew B Smith

The road to the Southern Farms was also inspected, as this would be the preferred route of a water pipeline from the Orange River. No archaeological occurrences considered to be of cultural significance were noted along this route.

The artefacts seen across the open veld constitute a low heritage potential. The more sensitive areas are below the koppies that lie immediately outside the footprint of the solar facility. Thus, there would appear to be no inhibitors to the solar installation from an archaeological perspective, but construction of the solar panels should stay within the footprint area to avoid any damage to the denser scatters of white quartz, which are clearly visible below the koppies.

Based on results of the current study it is recommended that:

- Except for the dense scatters below the koppies (GPS 142-145 and GPS 146-147), little of any archaeological significance was noted across the open veld. Since the koppies are just outside the solar facility footprint, these scatters should pose no problems to the proposed installation, but the people doing the construction should be aware of their existence;
- It is thus recommended that, although there are no inhibitors to the installation on the proposed footprint from an archaeological perspective, instructions should be given to the engineers to avoid these quartz scatter areas during the period of construction, so as to prevent any destruction of the sites. The dense scatters of white quartz stand out, so they are easily recognisable, even to the non-specialist.

8.5 Palaeontology

A copy of Recommendation for exemption from further palaeontological studies or mitigation, compiled by Dr. John Almond, is attached as Annexure 8, the findings of which are summarised below¹⁷. Kindly refer to specialist's full report and recommendations.

The above report indicates that the proposed development site is underlain by ancient Precambrian basement rocks (Schuitdrift Gneiss) that are approximately two to one billion years old and entirely unfossiliferous (Almond & Pether 2008). The report furthermore indicates that while alluvial gravels of the Orange River of Miocene and younger age are locally highly fossiliferous, these are highly unlikely to be found in the study area. The palaeontological sensitivity of the Skuitdrift solar plant study area is accordingly assessed as VERY LOW. As such, it is recommended that no further palaeontological studies be required in this instance.

8.6 Eco-tourism¹⁸

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

¹⁷ Almond, J (2012). *Recommended exemption from further palaeontological studies and mitigation (Desktop study) – Proposed 10MW Solar facility on farm Skuitdrift 426, Kenhardt District, Northern Cape*. Unpublished report, Cape Town

¹⁸ Section included in accordance with requirements set by National Department of Environmental Affairs

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.

Existing eco-tourism related activities present in the broader region include e.g. walking trails, horseback riding, geological interpretive excursions, bird watching and river rafting. The Augrabies National Park – approximately 54km east of the proposed development site – is an important formal conservation area in the region. Given the isolated location of the site in relation to important tourism routes and formal conservation areas; as well as 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 it is crucial that the land use planning and EIA processes be informed by and incorporate heritage informants and indicators (as done through the mapping and grading of relevant heritage resources in Section 8 of this report). 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 design of the proposed development and should therefore be read in conjunction with Annexure 6 (integrated mapping of all heritage resources and/ or occurrences noted).

9.1 **Built environment issues**

- Existing structures older than 60 years located within the proximity of the site (farmstead and two associated outbuildings) are considered to be of moderate – low cultural significance and is furthermore situated outside the actual development footprint currently proposed. These structures shall be retained. As such we are of the view that the proposal would not materially impact on these heritage resources.

9.2 **Cultural landscape issues**

- From a regional and natural landscape perspective, the proposed development site forms part of an isolated wilderness area well outside local tourism routes and areas (including the Orange River corridor). 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.

9.3 **Visual-spatial issues**

- Having regard to the above assessment, we do not consider that the proposed development would negatively impact on any heritage resource, or the spatial relationships and associations between such resources, identified as part of this process.

9.4 **Archaeology**

All recommendations contained in AIA, as summarised in Section 8.4 of this HIA report shall be adhered to.

9.5 **Palaeontology**

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.

9.6 Conclusion

Having regard to the above, we therefore express our support of the Preferred Alternative as this alternative would not negatively affect any heritage resources on or within the proximity of the proposed development site, subject to the conditions set out in Section 8.4 above, pertaining to Archaeology.

10. PUBLIC PARTICIPATION

Due to the fact that there are no known local heritage conservation bodies in the Skuitdrift area (registered as such with the relevant provincial heritage resources authority in terms of 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 Environmental Assessment Practitioners (Pty) Ltd* (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 Skuitdrift 10MW Solar Facility on heritage resources found on/ within the proximity of the development site as defined in this Heritage Impact Assessment;
- 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;
- While every precaution was taken to accurately represent the location and extent of heritage resources with GIS software through the integrated heritage resource mapping (Annexure 6), this should be considered for illustrative purposes only – primarily due to the scale at which it is presented here.

12. RECOMMENDATIONS

Having regard to the above assessment, it is recommended:

- 12.1 That this report fulfils the requirements of a Phase One Integrated Heritage Impact Assessment (HIA);
- 12.2 That this report be subject to a Public Participation Process (PPP) as part of the existing EIA/ NEMA Process to solicit heritage-related comments to the proposed development;
- 12.3 That the Preferred Alternative site layout be assessed in terms of its adherence to any heritage informants and indicators defined through this report or possible input during the PPP.

PERCEPTION Heritage Planning
16th April 2012

SE DE KOCK

B-Tech(TRP) MIPI TRP(IRL) EIA Mgmt (IRL) MAPHP

POWER OF ATTORNEY

I, MATTEO BRAMBILLA, the undersigned being the Client, in my capacity as person holding power of attorney for _____, as Developer of a portion of the *property SKUITDRIF 426, DISTRICT KAKAMAS (40Ha/ 10MW)*, hereby nominate Stéfan de Kock of *PERCEPTION Heritage Planning*, with power of substitution, to be my agent in name, place and stead, (as set out in their quotation dated 7th February 2012) to sign on my behalf and submit to the appropriate authorities the following application, which mandate shall, without limiting the generality of the a foregoing, include:

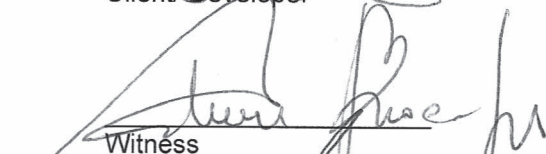
- a.) Heritage Impact Assessment (HIA) in relation to proposed solar development on 40 hectare portion of the said property as required in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999).

I hereby accept the Terms of Agreement as set out in paragraphs 6, 7, 8 and 10 of the abovementioned quotation dated 7th February 2012.

Signed at JOHANNESBURG on 13/12/2012



Client/ Developer



Witness



Witness



SOUTH AFRICAN HERITAGE RESOURCES AGENCY
111 HARRINGTON STREET, CAPE TOWN, 8000
PO BOX 4637, CAPE TOWN, 8000
TEL: (021) 462 4502 FAX: (021) 462 4509

DATE: 11 January 2012
ENQUIRIES: Dr Mariagrazia Galimberti
Archaeology, Palaeontology and Meteorites Unit
E-mail: mgalimberti@sahra.org.za
Web site: www.sahra.org.za

OUR REF: 9/2/032/0001
DEA ref. number: 12/12/20/2604

received
13 January 2012
JH.

Mrs Siân Holder
Cape Environmental Assessment Practitioners (Pty) Ltd
1st Floor Eagles View Building
5 Progress Street,
George
6530

Dear Mrs Holder,

REQUEST FOR A HERITAGE IMPACT ASSESSMENT: Proposed Skuitdrift Solar Installation on Farm 426 Skuitdrift Northern Cape (Basic Assessment Process) (DEA ref: 12/12/20/2604)

Thank you for your indication that a solar installation is proposed on the abovementioned property.

In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that before such sites are disturbed by development it is incumbent on the developer to ensure that a **Heritage Impact Assessment** is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

A Palaeontological Impact Assessment must also be undertaken to assess whether or not the development will impact upon palaeontological resources.

If the property is very small or disturbed and there is no significant site the specialist may choose to send a letter to the heritage authority to indicate that there is no necessity for any further assessment.

Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'M. Scheermeyer'.

PP Mrs Colette Scheermeyer
SAHRA: Archaeology, Palaeontology and Meteorites Unit
For: CHIEF EXECUTIVE OFFICER

Copy: PHRA Northern Cape Office



Final Decision

In terms of section 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention:

Mrs Sian Holder
Cape Environmental Assessment Practitioners
PO Box 2070
George
6530

SKUITDRIFT SOLAR PROJECT on A Portion of Farm 426, Skuitdrift, Northern Cape

de Kock, S. April 2012. DRAFT PHASE ONE INTEGRATED HERITAGE IMPACT ASSESSMENT COMPILED IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999) PROPOSED 10MW SOLAR FACILITY: PORTION (45HA) OF THE FARM SKUITDRIFT 426, KENHARDT DISTRICT, NORTHERN CAPE PROVINCE

Smith, A. April 2012. ARCHAEOLOGICAL REPORT PROPOSED 10MW SOLAR FACILITY ON FARM 426 SKUITDRIFT, NORTHERN CAPE PROVINCE

Almond, JE. March 2012. RECOMMENDED EXEMPTION FROM FURTHER PALAEOONTOLOGICAL STUDIES & MITIGATION: PROPOSED 10 MW SOLAR FACILITY ON FARM SKUITDRIFT 426, KENHARDT DISTRICT, NORTHERN CAPE

Scuitdrift Solar Projects (Pty) Ltd is proposing the establishment of a 20 ha 10 MW Photovoltaic facility on the Farm Skuitdrift 426, north of Pofadder, Kenhardt District, Northern Cape. Two alternative locations have been proposed for the development. The receiving area is flat and sparsely vegetated with grass and shrubs. Several koppies surround the area, but are outside the development footprint. A road transects the study area and an ESKOM substation and a cellular mast are located to the south.

The infrastructure required for the development includes underground cabling linking the panels; access and internal roads; an onsite substation; maintenance and storage facilities and a 9km pipeline.

The Heritage study noted the presence of San and Khoe people in this region when the trekboers arrived there in the late 1700s. The evidence for these people are now limited to their archaeological traces. More recently, colonial period remains include the Skuitdrift river fords and German fortifications from 1901 and several historical churches. The study identified historic farm buildings south of the proposed development as well as a single recent grave and two disturbed/exhumed graves.

The palaeontological report indicates that the study site is underlain by Precambrian Schuitdrift Gneiss of the Namaqua-Natal Province which are entirely unfossiliferous. These deposits are overlain by superficial Quaternary to Recent Age soils, downwasted gravesl, colluvium, sheet wash and alluvium which are also





Enquiries: Kathryn Smuts
Tel: 021 462 4502
Email: ksmuts@sahra.org.za
CaseID: 77

Date: Thursday June 14, 2012

Page No: 2

generally unfossiliferous. The author notes that the significant Orange River gravels are unlikely to be present on site.

The archaeologist notes that little research has been conducted in this region and work that has been conducted has not yielded much archaeology, with most finds concentrated around water sources. Several scatters, predominantly of quartz chips and flakes, were encountered within the open areas, but these were of low density. The only significant concentrations of artefacts were located near the koppies, but these were outside the development area. The route of the proposed pipeline yielded a single dense scatter of quartz pieces, but the archaeologist could not ascertain whether these were indeed anthropogenic. A single grave was noted, but this is of recent age.

Decision:

The sensitive areas near the koppies, although outside of the development area, should be avoided during construction activities. The Environmental Control Officer should be made aware of the presence of archaeological resources there so that their safeguarding during construction can be ensured. The presence of a grave within the study area should also be noted.

As there is apparently no evidence of any significant archaeological material in this area, the SAHRA Archaeology, Palaeontology and Meteorites Unit has no objection to the development (in terms of the archaeological and palaeontological components of the heritage resources) on condition that, if any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during development, construction or mining, SAHRA and an archaeologist and/or palaeontologist, depending on the nature of the finds, must be alerted immediately.

Decisions on Built Environment (e.g. structures over 60 years) and associated Living Heritage (e.g. sacred sites) must be made by the Provincial Heritage Resources Authority of the Northern Cape (**Mr. Andrew Timothy, email: ratha.timothy@gmail.com**) to whom this Archaeological Review Comment will be copied.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>



Enquiries: Kathryn Smuts
Tel: 021 462 4502
Email: ksmuts@sahra.org.za
CaseID: 77

Date: Thursday June 14, 2012

Page No: 3

Kathryn Smuts
Heritage Officer: Archaeology

Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

ADMIN:
(DEA, Ref: 12/12/20/2604)

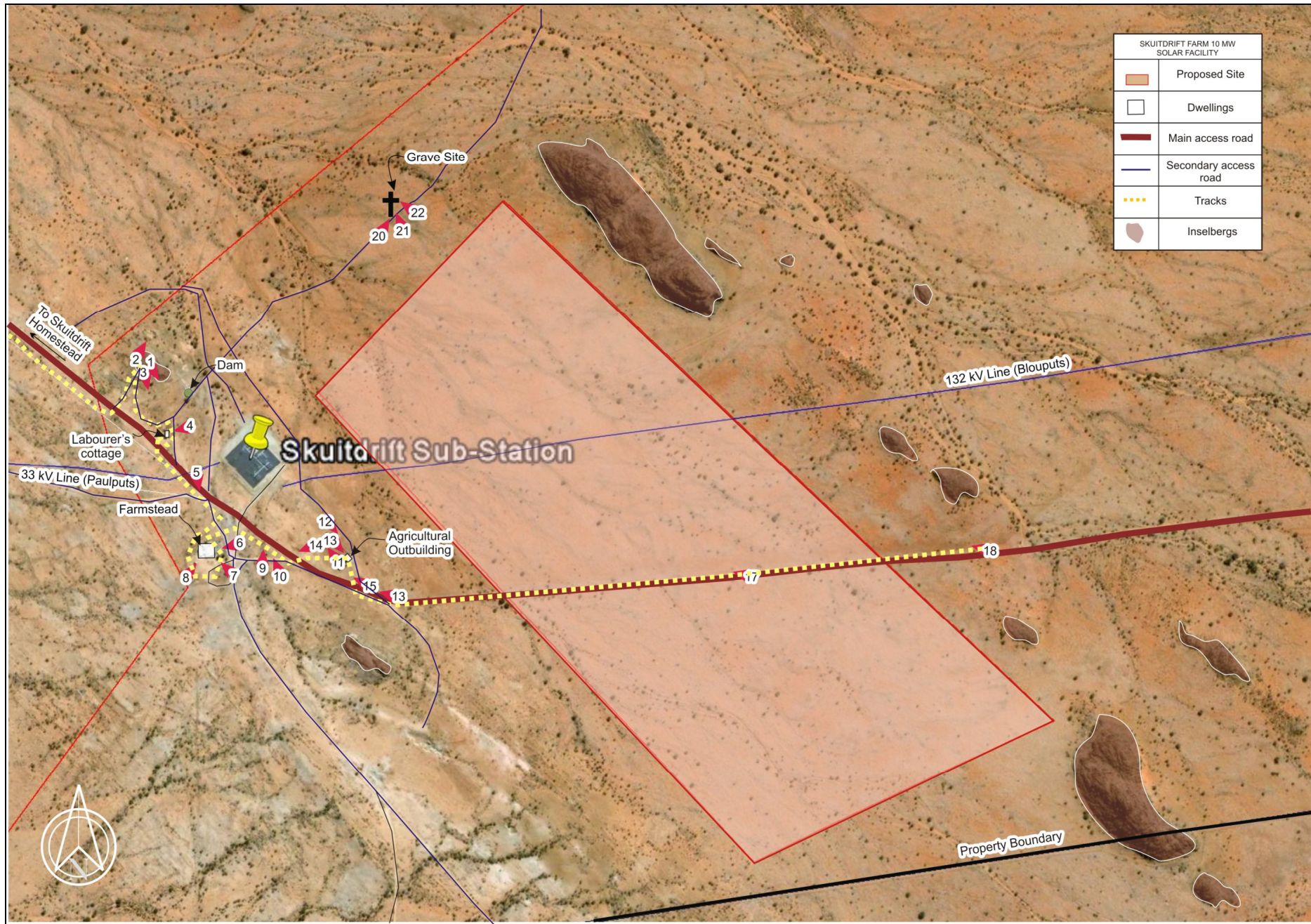
Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
3. SAHRA reserves the right to request additional information as required.



The South African Heritage Resources Agency

Street Address: 111 Harrington Street, Cape Town 8000 * Postal Address: PO Box 4637, Cape Town 8000
* Tel: +27 21 462 4502 * Fax: +27 21 462 4509 * Web: <http://www.sahra.org.za>



SKUITDRIFT FARM 10 MW SOLAR FACILITY	
	Proposed Site
	Dwellings
	Main access road
	Secondary access road
	Tracks
	Inselbergs

PHOTO KEY DIAGRAM



Photo 1: Panoramic perspective showing Skuitdrift Sub-Station adjacent to Skuitdrift outbuilding and dam.



Photo 2, 3 & 4: Perspective showing rocky hills at a distance and labourers' cottage



Photo5& 6: East facing altered farmstead, the historic core of which is older than 60 years.



Photo 7& 8: Perspective showing side of altered farmstead with two extensions, detached garage.

Photo 9: View of Skuitdrift Sub- Station from farmstead.



Photo 10: Perspective shows Skuitdrift Sub- Station on the left hand side of the image and rocky hill bordering the site.



Photo 11: Perspective taken from agricultural outbuilding showing Skuitdrift Sub- Station.



Photo 11: Perspective showing farmstead kraal overlooking the proposed site.



Photo 12: Kraal surrounded by rocky hills.



Photo 13 & 14: Proposed site and environs



Photo 15: North- western view showing farmstead in the background.



Photo 16: Gravel Road leading to proposed site.



Photo 17: Perspective overlooking proposed site.



Photo 18: Main road leading to Skuitdrift farm.



Photo 19: Store and kraal bordered by stone wall.



Photo 20, 21, 22: Grave neighbouring the study area.

KOMPONENTE

- (1) Die figuur a linkerwal van Oranjerivier b C D E F G H J K L M N P Q R S T U V W X Y Z A1 T1 U1 stel voor die Restant van die Plaas No 410
Sien Kaart No F7546/1988
geheg aan Transportakte No 12595/1991
- (2) Die figuur A1 B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 Q1 R1 S1 stel voor Gedeelte 4 van die Plaas Schuifdrift Oost No 6
Sien Kaart No 1479/2002
geheg aan Transportakte No. T 35387/2003

L.G. No.

1482/2002

Goedgekeur

Bleuwaap

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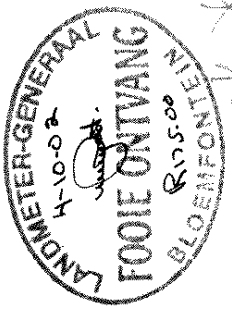
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VEL 1 VAN 4 VELLE

SERWITUUTNOTAS

- (i) Die figuur c linkerwal van Oranjerivier b d e f g h stel voor die Onseepkans Opgaardam Serwituutgebied.
Sien Kaart No F932/1941 geheg aan Serwituutakte No 208/1941
- (ii) Die figuur A1 j k m n p q r s stel voor 'n serwituutgebied van Elektriese Kragleiding.
Sien Kaart No F9560/1996 geheg aan Serwituutakte No
- (iii) Die figuur t u v w x stel voor 'n serwituutgebied.
Sien Kaart No F 9559/1996 geheg aan Serwituutakte No
- (iv) Die lyn w y stel voor die suidoostelike grens van 'n padserwituut, 6 meter wyd.
Sien Kaart No F9559/1996 geheg aan Serwituutakte No
- (v) Die figuur z a1 b1 Z A1 c1 d1 e1 v stel voor 'n serwituutgebied van Elektriese Kragleiding
Sien Kaart No F9559/1996 geheg aan Serwituutakte No
- (vi) Die lyn f1 g1 h1 stel voor die middellyn van 'n Elektriese Kraglynserwituut, 55 meter wyd
Sien Kaart No 1119/2001 geheg aan Serwituutakte No

27/11/2003
12/12/2003
Wait for deeds to respond



Die figuur
a linkerwal van Oranjerivier b C D E F G H J K L M N P Q R S T U V
W X Y Z A1 B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 Q1 R1 S1 T1 U1
stel voor 7942,3758 hektaar grond, synde

Die Plaas Skuitdrif No 426
en bestaan uit (1) en (2) hierbo aangehaal
geleë in die Administratiewe Distrik Kenhardt
Provinsie Noord-Kaap

Saamgestel in November 1997 deur my

J L N van Zyl

PLS0680 J L N van Zyl
Professionele Landmeter

Hierdie kaart is
geheg aan
No. T35389/2003
ged. 22/4/2003
t.g.v.
Registrateur van Aktes

Die oorspronklike kaarte
is soos hierbo aangetoon.

Lêer KNHD 6
M.S. Saamgestel
A.P.
Komp. GI-6 (5549)

L.G. No.

1482/2002

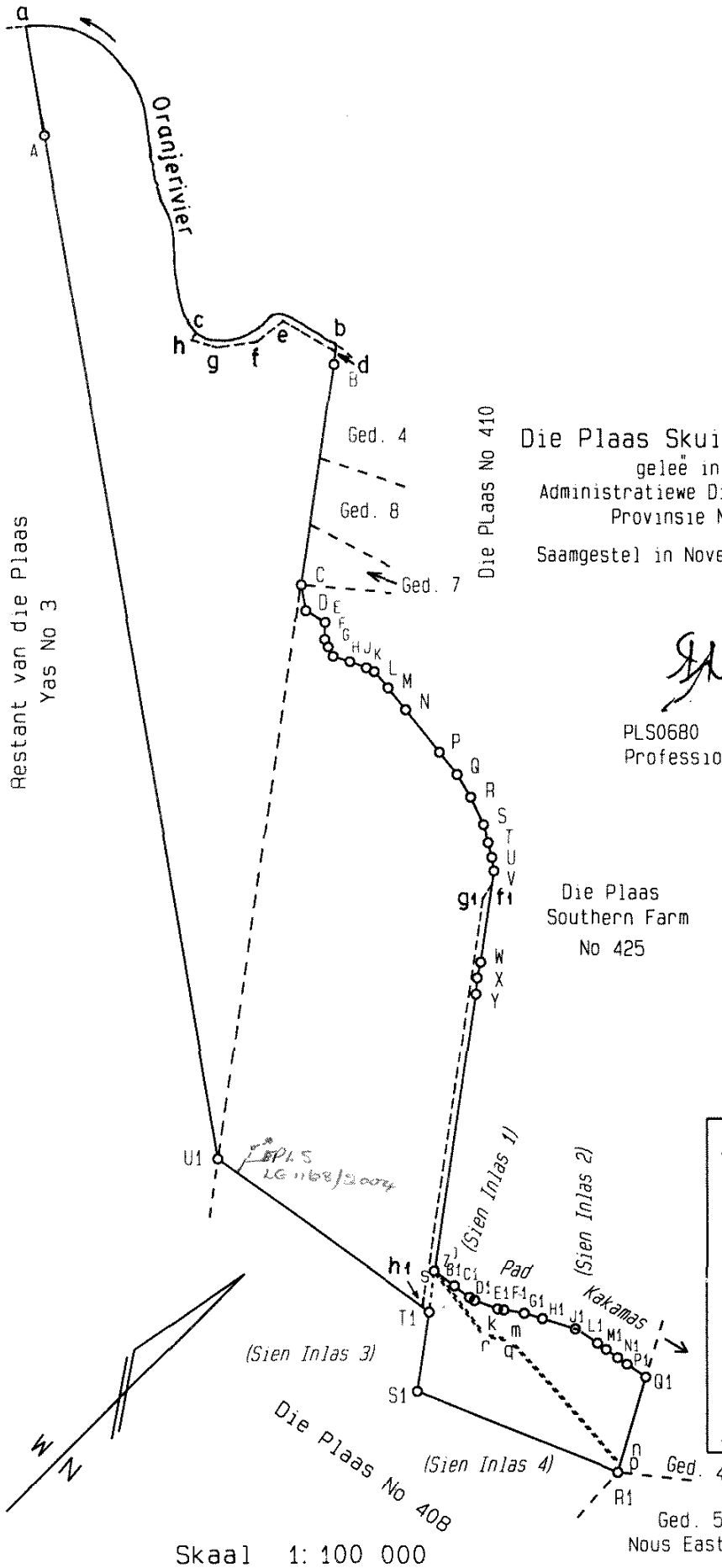
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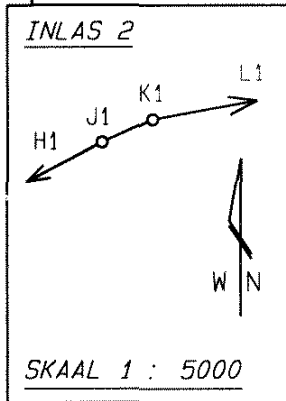
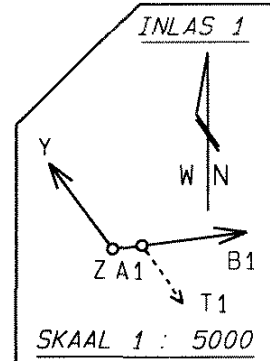
Die Plaas Skuitdrijf No 426

geleë in die
Administratiewe Distrik Kenhardt
Provinsie Noord-Kaap

Saamgestel in November 1997 deur my

J L N van Zyl

PLS0680 J L N van Zyl
Professionele Landmeter



Skaal 1: 100 000

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SKAAL 1:5000

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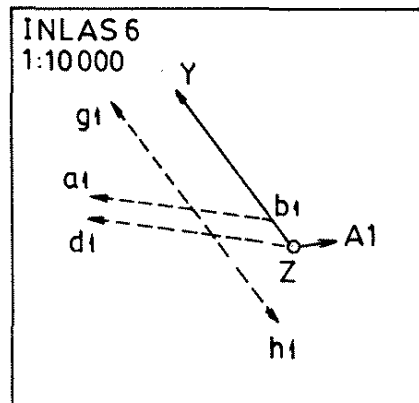
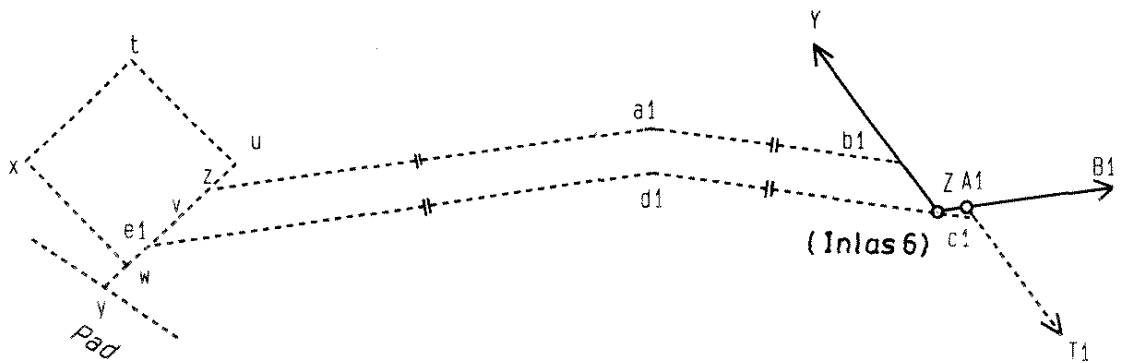
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2003.01.10

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Die Plaas Skuitdriif No 426
geleë in die Administratiewe Distrik Kenhardt
Provinsie Noord-Kaap

Saamgestel in November 1997 deur my



PLS0680 J L N van Zyl
Professionele Landmeter

INLAS No 4
SKAAL 1:30000

Die Plaas Skuitdrif No 426
 geleë in die Administratiewe Distrik Kenhardt
 Provinsie Noord-Kaap
 Opgemeet in November 1997 deur my

L.G. No.
 1482/2002

Goedgekeur

P. de Waard

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 LANDMETER-
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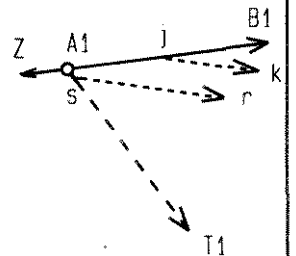
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J L N van Zyl

PLS0680 J L N van Zyl
 Professionele Landmeter

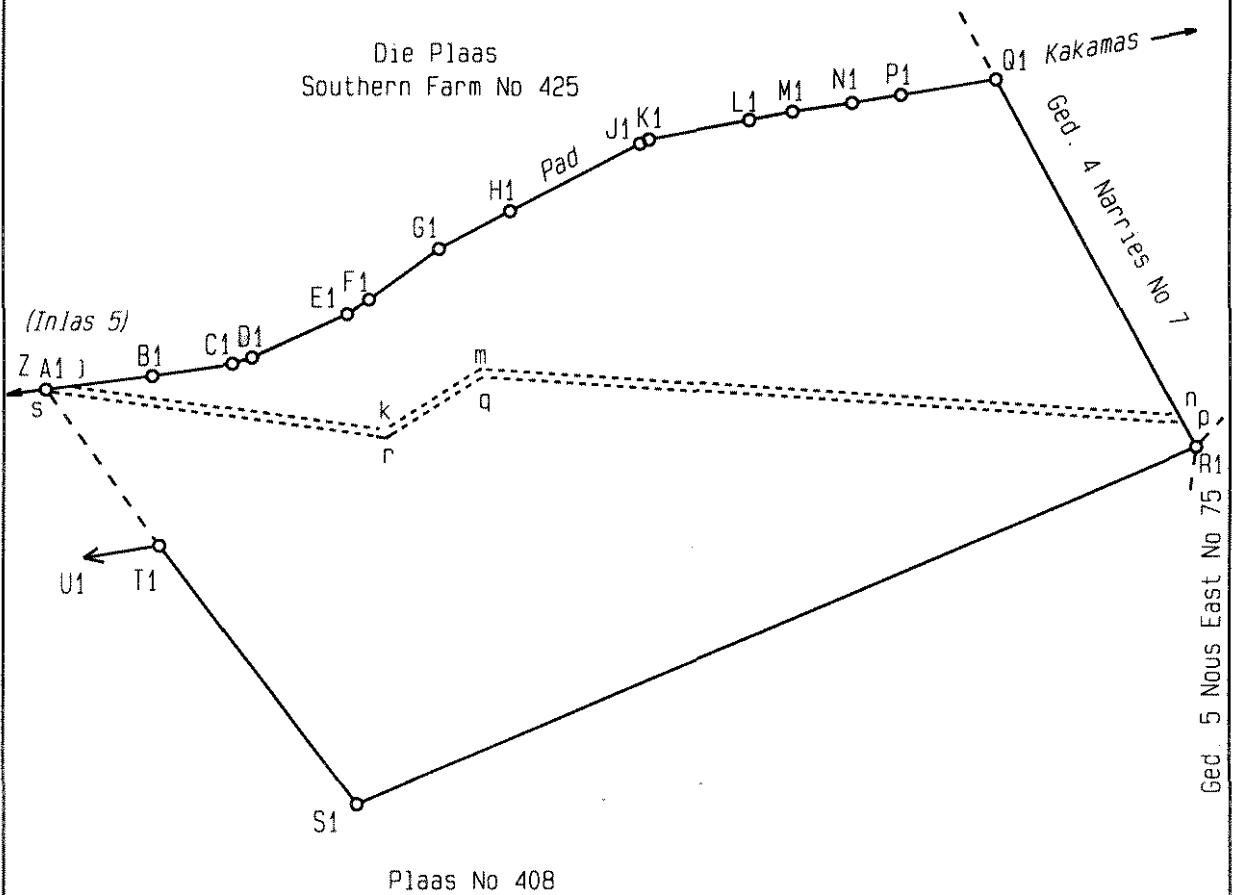
INLAS 5

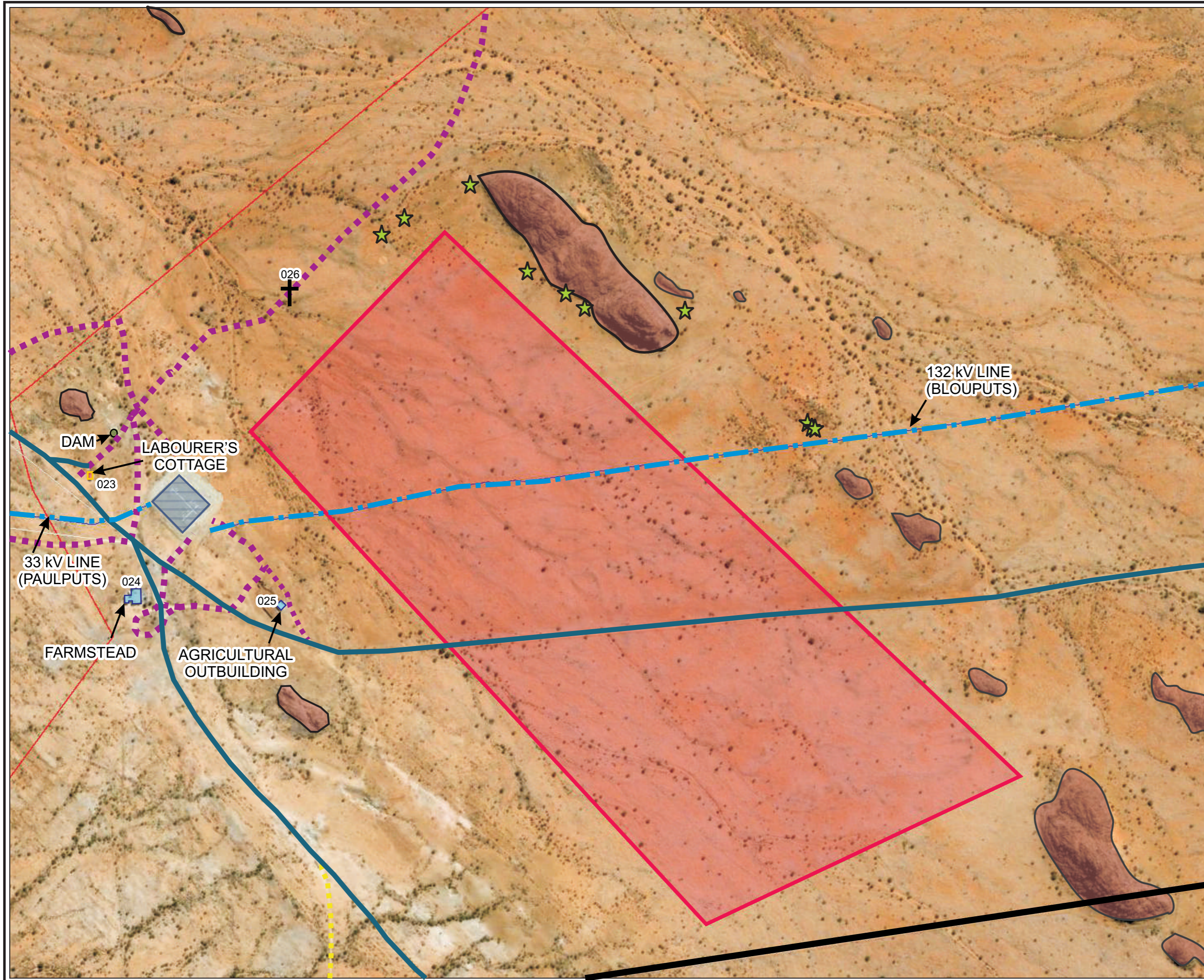


SKAAL 1:7500



Die Plaas
 Southern Farm No 425
















Project
PROPOSED 10MW SOLAR ENERGY INSTALLATION: SKUITDRIFT 426, KENHARDT DISTRICT, NORTHERN CAPE

Plan
PHASE ONE HERITAGE IMPACT ASSESSMENT
in terms of Section 38(8) of the NHRA (Act 25 of 1999)

Name
INTEGRATED HERITAGE RESOURCE MAPPING

- Legend**
-  PROPERTY BOUNDARY
 -  PROPOSED SITE
 -  SKUITDRIFT SUB-STATION
 -  MAIN FARM TRACKS
 -  SECONDARY FARM TRACKS
 -  OVERHEAD POWER LINES
 -  STRUCTURES OLDER THAN 60 YEARS
 -  MODERN STRUCTURE
 -  ARCHAEOLOGICAL OCCURRENCES
 -  INSELBERGS
 -  GRAVE SITE

Notes
 * Aerial photography: Google Earth

SCALE  Not to scale

 HERITAGE IMPACT ASSESSMENT URBAN PLANNING
 Mobile: 082 568 4719, Fax: 086 510 8357
 Email: perceptionenvplg@gmail.com
 P.O. Box 9995, George, 6530 Western Cape, South Africa

Plan No	Date	Annexure
S10 MW/ Rev. 2	April 2012	6