

Comprehensive and Professional Solutions for all Heritage Related Matters  
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**A CULTURAL HERITAGE MANAGEMENT PLAN FOR HERITAGE SITES  
LOCATED AT AND CLOSE TO THE PROPOSED 75MW PHOTOVOLTAIC  
SOLAR FACILITY ON PORTIONS OF THE FARMS KAMEELDOORN 271JP &  
KRUISRIVIER 270JP, INCLUDING THE NEW ALTERNATIVE EXPANSION  
AREAS, ZEERUST, NORTHWEST PROVINCE**

For:

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A handwritten signature in black ink, appearing to be 'A. Pelser', is centered on the page.

## SUMMARY

APelser Archaeological Consulting (APAC) was initially appointed by RE Capital 2 (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) for the grid connection for the proposed development of a 75MW Photovoltaic Solar Facility near Zeerust in the Northwest Province (See Report APAC01547b – October 2015). A 2012 study by the same author (See Report AE01244P – July 2012) on Kameeldoorn 271 identified a number of Late Iron Age stone walled sites and finds. As a result of this a number of other alternative sites for the development were earmarked and a 2013 study (by Pelser) had to focus on these 3 Alternatives, as well as the original study area (See Report APAC013/64 – October 2013). In March 2016 APAC was again contracted to look at an Expansion Area for the Plant. The need for this study was driven by the fact that in order to achieve the required generation capacity of the facility, the developers need to expand the area under panel by a total expansion of less than 20 ha (See Report APAC016/18 – April 2016).

A number of archaeological and recent historical sites and finds were identified in the study areas during the earlier assessments, and recommendations on their mitigation were provided in these documents. As part of this a Cultural Heritage Management Plan for the Zeerust Solar Plant development was commissioned by the developer (APAC01624). The South African Heritage Resources Agency (SAHRA) provided comments (Case ID: 9194 – Interim Comments June & August 2016) on this document, and this Amended Version of the CHMP is the result of these comments and the requirements contained in it. SAHRA requires the Heritage Management Plan (HMP) to be amended to include the following:

- A monitoring and evaluation strategy and process that can be implemented and has clear goals which assess any changes in site conditions throughout the construction, operation and decommissioning of the solar energy facility.
- A monitoring schedule of the sites that will implement the monitoring and evaluation process.
- Information about the responsible person managing the conservation of the site within the management staff should also be included. They will have to make sure fencing is maintained and implement regular monitoring of the sites.
- SAHRA also requires that a Monitoring Report should be compiled and submitted to SAHRA once the Monitoring process has been completed.

## **CONTINUATION STRATEGY**

IT IS IMPORTANT TO NOTE THAT A MANAGEMENT PLAN IS AN OPEN DOCUMENT. ACCORDINGLY IT CAN BE CHANGED CONSTANTLY WITHIN THE PARAMETERS OF CULTURAL HERITAGE RESOURCES MANAGEMENT.

THIS PARTICULAR GUIDELINE DOCUMENT/MANAGEMENT PLAN SHOULD BE REVIEWED AT LEAST EVERY FIVE YEARS AND ALSO WHENEVER A SPECIFIC DEVELOPMENT IS PLANNED (WHICHEVER COMES FIRST). IN THE LATTER CASE THE IMPACT OF DEVELOPMENT ON THOSE CULTURAL HERITAGE RESOURCES IN THE AFFECTED AREA SHOULD BE REVIEWED. HOWEVER SUCH A DEVELOPMENT MAY HAVE A SECONDARY IMPACT ON OTHER CULTURAL RESOURCES AND THIS SHOULD ALSO BE ASSESSED.

THE PLAN SHOULD THEN BE ADAPTED IN ACCORDANCE WITH THOSE PLANS AND ANY DEVELOPMENTS IN THE TIME THAT LAPSED UP TO THAT PARTICULAR POINT IN TIME. ANY ADDITIONAL INFORMATION THAT WERE COLLECTED (FOR INSTANCE FROM RESEARCH) SHOULD ALSO BE USED TO RE-EVALUTE CULTURAL HERITAGE RESOURCES.

THIS MANAGEMENT PLAN SHOULD AT LEAST BE RE-EVALUATED IN THE YEAR 2021.

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## **1. INTRODUCTION**

APelser Archaeological Consulting (APAC) was initially appointed by RE Capital 2 (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) for the grid connection for the proposed development of a 75MW Photovoltaic Solar Facility near Zeerust in the Northwest Province (See Report APAC01547b – October 2015). A 2012 study by the same author (See Report AE01244P – July 2012) on Kameeldoorn 271 identified a number of Late Iron Age stone walled sites and finds. As a result of this a number of other alternative sites for the development were earmarked and a 2013 study (by Pelsler) had to focus on these 3 Alternatives, as well as the original study area (See Report APAC013/64 – October 2013). In March 2016 APAC was again contracted to look at an Expansion Area for the Plant. The need for this study was driven by the fact that in order to achieve the required generation capacity of the facility, the developers need to expand the area under panel by a total expansion of less than 20 ha (See Report APAC016/18 – April 2016).

A number of archaeological and recent historical sites and finds were identified in the study areas during the earlier assessments, and recommendations on their mitigation were provided in these documents. As part of this a Cultural Heritage Management Plan for the Zeerust Solar Plant development was commissioned by the developer (APAC01624).

## **2. TERMS OF REFERENCE**

The Terms of Reference for the Management Plan for the Zeerust Solar PV Plant Cultural Heritage Sites were the following:

1. To provide a sustainable Management Plan for the preservation and management of the cultural heritage resources located at and close to the development's footprint to ensure that these sites are not negatively impacted by development actions & activities during and after the completion of the construction and commissioning of the Solar Plant

## **3. CONDITIONS & ASSUMPTIONS**

The following conditions and assumptions have a direct bearing on this Management Plan:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.

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

3. Cultural significance is site-specific and relates to the content and context of the site. Any future developments planned should be discussed with full cognizance of this management plan. Sites with a high cultural significance are more important than any foreseeable future development and should therefore be preserved at all cost.

4. All recommendations are made with full cognizance of the relevant legislation.
5. A Management Plan entails recommendations as to the preservation, conservation, interpretation and utilization of cultural resources.

Management can be done through five steps that are mutually inclusive and not necessarily chronological. These steps are in accordance with the Heritage Resources Paradigm (See Van Vollenhoven 2000). The steps are conservation/preservation, utilization, marketing, auditing and other action steps.

**(a) Conservation and preservation**

This refers to the criteria for keeping the historical character of a cultural resource intact. It entails the setting of criteria for the preservation of cultural resources. It also refers to the actions necessary for the preservation of the applicable resource. Security measures are also included. This refers to steps needed to prevent the looting of or damage done by humans to the cultural heritage resources. The last aspect here refers to the training of personnel in order for them to know how to deal with cultural heritage resources. The management guidelines and recommendations in this management plan will provide for this purpose.

**(b) Utilization**

This aspect refers to the sustainable utilization of cultural resources in order to also preserve it on the long term. The most important thing here which relates to the Cultural Heritage Sites in the Zeerust Solar Project Area is the interpretation of these resources, which will be in the form of Information Plaques erected on-site. Utilization may include an adapted (new), commercial or scientific use or a combination thereof.

**(c) Marketing**

This issue deals with the possibility to make cultural heritage resources accessible and useful for tourism purposes. It is important to realize that utilization will always be inferior to conservation and preservation principles.

**(d) Auditing**

Auditing refers to the peer review and evaluation of heritage reports and management plans. It also entails the frequent monitoring of management plans in order to determine whether the recommendations thereof are adhered to. For this purpose a Continuation Strategy has been included on page 3 of this document.

**(e) Other action steps**

These are general steps that the managing authority should implement in order to preserve and conserve cultural heritage resources while also maximizing their potential. This should be done within the capacity and capabilities of the managing authority, but it is important that the managing authority should take the necessary steps to improve its capacity and capabilities.

It could include measures to sensitize visitors and staff members to the importance of cultural heritage resources, training of personnel at institutions involved in cultural resources, forming partnerships with other institutions involved in cultural resources and obtaining the necessary funds to implement the management guidelines and recommendation of the management documents (in this case this Management Plan).

#### **4. LEGAL REQUIREMENTS**

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

##### **4.1 The National Heritage Resources Act**

According to the above-mentioned law the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

##### ***Archaeology, palaeontology and meteorites***

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency.



## 4.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals regarding mitigation measures to minimize or negate these impacts should be made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

## 5. SHORT BACKGROUND TO THE ZEERUST SOLAR PROJECT & SITES

Although a number of archaeological and historical sites were recorded during the various assessments, only those that fall within and close to the final footprint area of the Solar Plant will be discussed and the Cultural Heritage Management Plan will only pertain to these sites that will be directly and indirectly impacted. All the other identified sites are located outside of the impact area.

A number of Late Iron Age stone walled sites and features were identified during the various assessments in the area. The sites are located mostly around rocky outcrops and close to the existing Water Reservoir in the area, and fairly close to the preferred and Alternative Substation locations. The sites probably form part of a large LIA settlement complex, representing individual settlement units or homesteads with features such as cattle kraals (livestock enclosures), hut bays and other related features. It possibly dates to the same time period as the Hurutshe settlement complexes at Kaditshwene and other sites close to Zeerust, and around the late 18th to early 19th century. Very little cultural material was observed, and only fragments of undecorated pottery were identified during the field assessment.

Sites 12 & 13 (See Site Distribution Google Earth map) were identified during the 2013 survey, while Sites A & B (Google Map) were identified and recorded during the recent studies. These sites are most likely related to a single settlement complex in the area.

**GPS Locations:** S25.57918 E26.07335 (A)

S25.57196 E26.07626; S25.57202 E26.07615; S25.57186 E26.07589; S25.57164 E26.07613;

S25.57125 E26.07597; S25.57131 E26.07573 & S25.57226 E26.07461 (Site B)

S25.57673 E26.07379 (12) & S25.57221 E26.06867 (13)

**Cultural Significance:** Medium to High

**Heritage Significance:** Grade III. Should be included in the heritage register and may be mitigated (high/ medium significance).

**Field Ratings:** Local Grade IIIB. Sites of local importance and therefore worthy of conservation.

**Mitigation:** It was recommended that no development should be allowed close to the stone walled settlement sites on and around the hills and outcrops, and that they should be demarcated (**fenced-in**) and a Heritage Management Plan for the archaeological sites in the area should be drafted and implemented. If they cannot be avoided and need to be demolished

then the sites will have to be mapped in detail under an archaeological excavation permit prior to a demolition permit being applied for.

Two other sites identified during the 2013 assessment also fall within the development boundary area. Site 14 is situated close to the Keulder farmstead, and consists of the remains of a clay-brick structure. The age could not be determined, but it could be older than 60 years of age. It is possibly related to farm laborers. Very little of the structure remains and its significance as a result is seriously diminished.

**GPS Location:** S25.56755 E26.06867

**Cultural Significance:** Low

**Heritage Significance:** None

**Field Ratings:** General protection C (IV C): Phase 1 is seen as sufficient recording and it may be demolished (low significance)

**Mitigation:** None required.

Site 15 contains at least 6 stone cairns (heaps) of varying size. The possibility of these being graves should not be excluded, although it is more likely the result of clearance of fields during ploughing. The heaps are not in a distinct pattern (rows) as would be expected with a graveyard. The site is situated in close proximity to Site 14 as well. It was recommended however that should the site be impacted on in any way by the proposed development and related activities, then it would be better to conduct social consultation in order to determine the origin and function of these stone heaps. Should it turn out to be graves then mitigation measures will have to be implemented to minimize any negative impact. This could include fencing-in and managing the site or exhumation and relocation of the graves after all due legal processes have been followed.

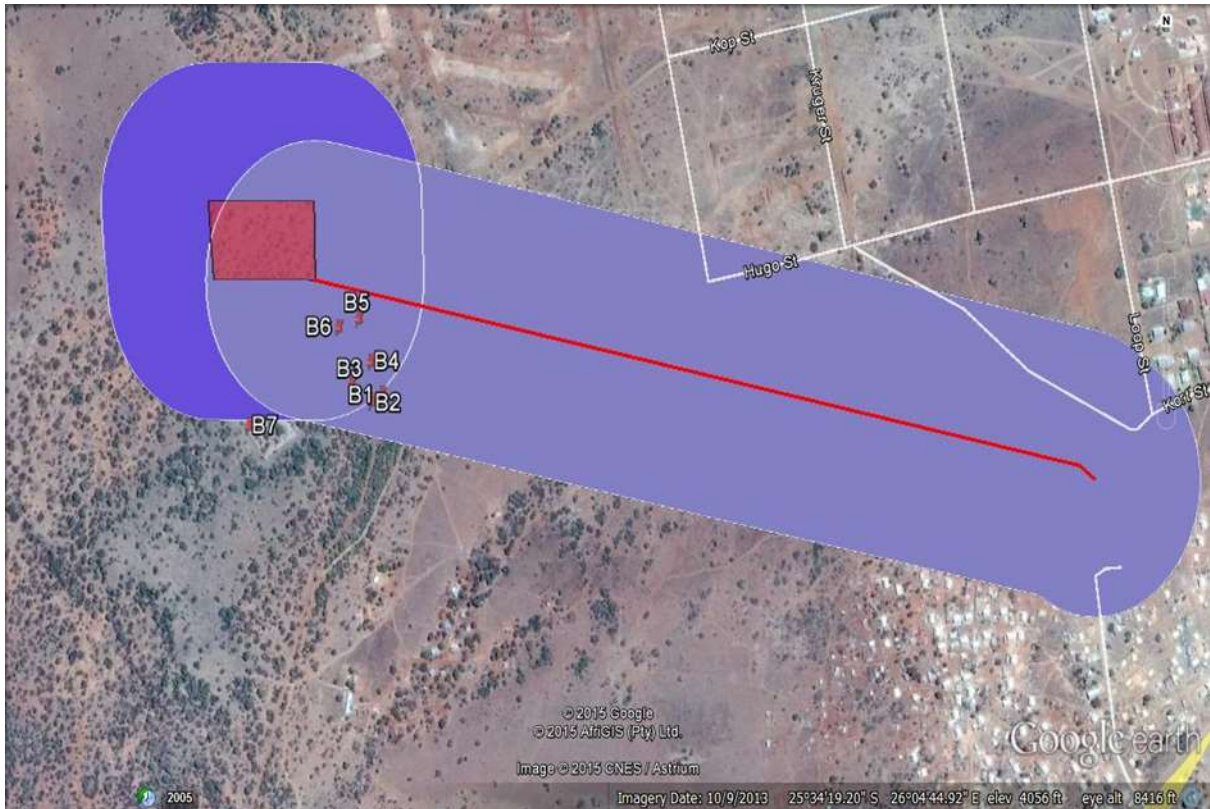
**GPS Location:** S25.56755 E26.06867

**Cultural Significance:** High (if graves). Low (if not graves)

**Heritage Significance:** None

**Field Ratings:** Grade III: Other heritage resources of local importance and therefore worthy of conservation (if graves). General protection C (IV C): Phase 1 is seen as sufficient recording and it may be demolished (if not graves and low significance)

**Mitigation:** If these are not graves then none required. If graves and to be impacted by the development then mitigation measures will have to be implemented. This could include fencing-in and Managing, or Exhumation and Relocation after all due consultation processes have been followed and permits have been issued.



**Figure 1: Aerial view of Alternative 1 study area and sites identified (Google Earth 2015).**



**Figure 2: Aerial view of Alternative 2 study area with sites recorded (Google Earth 2015).**



**Figure 3: Aerial view showing Alternative 3 study area with sites recorded (Google Earth 2015).**

**THE IMAGES THAT FOLLOW SHOW THE VARIOUS CULTURAL HERITAGE SITES IDENTIFIED IN THE AREA UNDER CONCERN.**



**Figure 4: Site 12.**



**Figure 5: Site 13 stone walling. Possible hut foundations.**



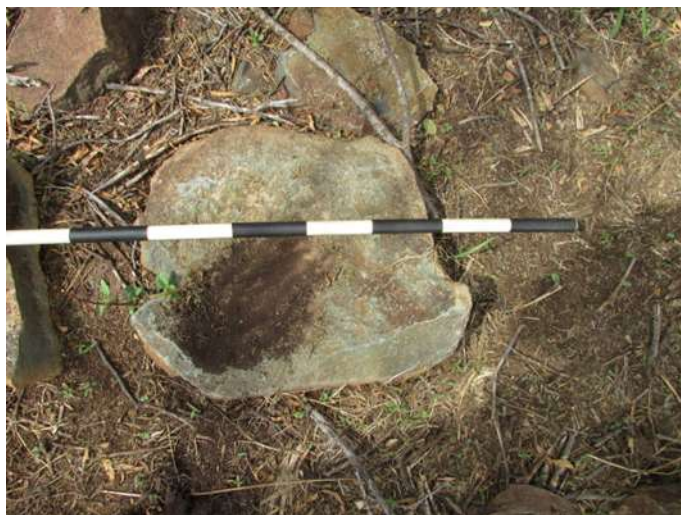
**Figure 6: Undecorated pottery from Site A.**



**Figure 7: Stone walling at Site B.**



**Figure 8: More stone walling at Site B.**



**Figure 9: A lower grinding stone at Site B.**



**Figure 10: Dirt road running through the Site B Stone walled site.**



**Figure 11: Site 14 – remains of brick built structure.**



**Figure 12: One of the stone heaps on Site 15.**





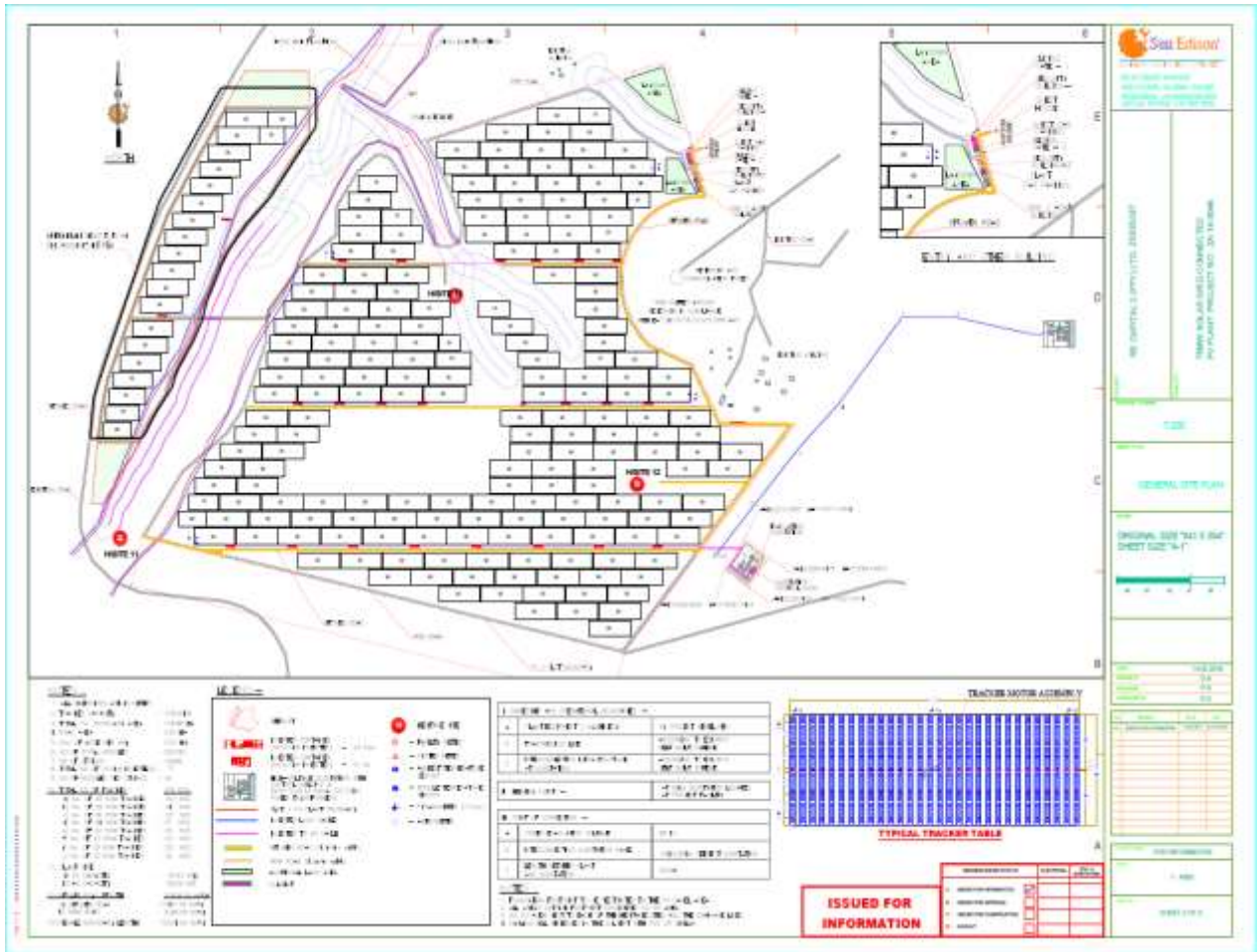
**Figure 13: One of the other stone heaps.  
This one is more rectangular giving the impression  
of a possible grave.**

## **6. PROPOSED NEW DEVELOPMENT**

The proposed development of a 75MW Photovoltaic Solar Facility near Zeerust in the Northwest Province is located on portions of the farms Kameeldoorn 271JP & Kruisrivier 270JP. APelser Archaeological Consulting (APAC) was initially appointed by RE Capital 2 (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) for the grid connection for the proposed development of a 75MW Photovoltaic Solar Facility near Zeerust in the Northwest Province. A 2012 study by the same author on Kameeldoorn 271JP identified a number of Late Iron Age stone walled sites and finds. As a result of this a number of other alternative sites for the development were earmarked and a 2013 study by Pelser focused on these 3 Alternatives, as well as the original study area. In March 2016 APAC was again contracted to look at an Expansion Area for the Plant. The need for this study was driven by the fact that in order to achieve the required generation capacity of the facility, the developers have to expand the area under panel by a total expansion of less than 20 ha.

The following sites will be directly impacted on by the proposed development due to their location within and/or in close proximity to the footprint area of the Plant and will therefore have to be fenced-in to protect and manage them:

**Sites 12, 13, A & B (B1 to B7), as well as Site 15.**



**Fig.14: Layout Plan showing Plant/Panel footprint area, with Heritage Sites indicated (courtesy RE Capital/Sun Edison).**



**Figure 15: Aerial view of Expansion Area and current Plant Area showing all the sites identified during 2012, 2013 & 2015 (Google Earth 2016). Sites 1-7 was identified in 2012 and will not be impacted & is not included in the CHMP.**

It is clear that Sites A, 12, 13 and B (B1-7) will be directly impacted on by the proposed development, while Sites 14 & 15 is situated in fairly close proximity to the boundary of the footprint area. The following is recommended:

**Sites A, B, 12 & 13:** *No development should be allowed closer than 30m (buffer zone) around these stone walled settlement sites and they should be properly fenced in with a wooden pole fence to protect them. If they cannot be avoided and need to be demolished then the sites will have to be mapped & archaeologically investigated in detail under an archaeological excavation permit prior to a demolition permit being applied for.*

**Site 14:** *Very little of the structure remains, and its significance as a result is seriously diminished. No mitigation is needed.*

**Site 15:** *As the stone cairns located here could possibly be graves, it is best avoided and should in no way be disturbed. No development should be allowed closer than 30m (buffer zone) around the site and it should be properly fenced in to protect. If the site and the stone cairns on it cannot be avoided by the development, then they should be properly investigated to determine if they are graves or not. This would include social consultation with community members and the property owner. If these turn out to be graves they can be exhumed and relocated after all due consultation and legal processes have been concluded satisfactorily. However, best practice will be to leave them intact and to fence in the site.*

*SAHRA furthermore recommended that Informative Signage should be placed on-site with an additional warning to staff about access restrictions.*

## **7. INTERNATIONAL CONVENTIONS FOR THE PROTECTION OF CULTURAL RESOURCES**

Three internationally accepted documents relating to the protection of cultural resources can be taken into consideration when writing management plans. These are:

1. The Australian ICOMOS charter for places of cultural significance, also called the Burra charter, of November 1999.
2. The Venice charter of January 1996.
3. The Conservation plan: a guide to the preparation of conservation plans for places of European cultural significance by James Semple Kerr of Augustus 1985.

Following the guidelines of these conventions will give the correct guidance in dealing with the protection of cultural resources. The principles of the documents correspond with the guidelines of the former National Monument Council (1983) for cultural sites.

### **7.1 The Burra Charter**

The Burra Charter is concerned with the implementation of conservation to repair the cultural significance of a place. In article 2 of the document it is stated clearly that the aim of conservation is to repair the cultural significance of a place. It includes the protection, maintenance and future of such a place (ICOMOS 1999: 1). This idea is in line with the principles of heritage management. Factors that are taken into account for this purpose are the context of the ethical, historical, scientific and social value of a place (ICOMOS 1999).

Article 3 of the Charter states that work on a heritage site should be done with caution in order to take into consideration the existing material, functions, associations and meaning of a site. It basically means that as much change as necessary, but as little as possible should be implemented (ICOMOS 1999: 1).

Article 4 of the Burra Charter indicates that all disciplines which can potentially play a role in studying a place should be used in the study thereof (ICOMOS 1999: 1). It means that anything that could give information should be used. In line with this, article 5 states that all aspects of the cultural significance of a place should be taken into consideration without emphasizing any one to the detriment of the others. It is this cultural significance which, according to article 6, is determining for the conservation policy of a place. The conservation policy is determining for the use, changes, protection and preservation of a historical site (ICOMOS 1999: 2).

The Charter emphasize that even the condition of a place give ample reason for the preservation of it in terms of cultural significance. Preservation includes the protection, maintenance and stabilization of structures.

Only if not enough information is available on the previous state of the structure which may be used to recapture and emphasize its cultural significance, one may use the processes of restoration, reconstruction and adaptation of structures. However the cultural significance of various periods should be taken into account (ICOMOS 1999: 2-3). Archaeological excavations is seen by the charter as an important method to collect information, either for restoration purposes or for the collection of scientific knowledge (ICOMOS 1999: 3-4).

In article 25 the Charter indicates that the cultural significance of a place should be strengthened by supporting information such as photographs, drawings and material samples (ICOMOS 1999: 4). This clause is very important as it influences the methodology with regards to the research on places of cultural importance. It includes the documentation of sites by all means available and as completely as possible. It also includes the safekeeping and making available of this documentation and material.

The Burra Charter also has an important influence on the way in which the cultural heritage is handled. Cultural significance is sometimes also referred to as heritage significance. The National Heritage Resources Act refers to this in article 3(3). According to this a place or object is regarded as part of the national estate when it has cultural significance for one of the following reasons:

- a. The importance for the community or in the history of South Africa;
- b. If it is an unusual, rare or endangered aspect of the natural or cultural heritage of South Africa;
- c. The potential to reveal information that will be a contribution to the understanding of South Africa's natural or cultural heritage;
- d. The importance to reveal the most important characteristics of certain classes of South Africa's natural or cultural places or objects;
- e. The importance in having specific aesthetical characteristics on which a community or cultural group place value;
- f. The importance to contain a high value of creative or technical achievements in a specific time period;
- g. The strong or special association of it with a specific community or cultural group for social, cultural or religious reasons;
- h. The strong or special association with the life and work of a person, a group or an organization of importance in the history of South Africa;
- i. Places of meaning with relation to the history of slavery in South Africa (Act 25 of 1999: 15).

## **7.2 The Venice Charter**

The Venice Charter sees historical sites as the most important living witness of the past. The heritage is accordingly seen as the responsibility of today's generation and that it should be conserved in an authentic state (ICOMOS 1996: 1).

The articles of the Venice Charter are more or less in agreement with those of the Burra Charter. It means that the application of last mentioned supports the first and will contribute to the upkeep of international standards in the conservation, preservation and the restoration of historical places.

## **7.3 The Conservation Plan of Kerr**

The Conservation Plan of Kerr is closely associated with the Burra Charter. Although it is stated that it is concerned with sites of European origin, it can also be applied to other historical and archaeological sites. It gives an explanation of the use of the Charter and the steps to be followed in the implementation of the conservation of a historical place. The process consists of two phases.

### **Phase 1**

The first phase deals with establishing cultural significance. It includes the collection of information (documents and physical), the analysis of the importance thereof, the assessment of this importance and the stating of the said importance (Kerr 1985: 2). Assessment consists of the establishing of criteria for the determination of cultural significance, whilst the stating of the cultural importance is only an explanation thereof (Kerr 1985: 8, 12).

### **Phase 2**

The second phase consists of the conservation plan. Firstly information should be collected. This includes four sectors namely:

1. The needs of the client
2. External needs
3. Requirements for the maintenance of the cultural significance and
4. The physical condition of the place.

Hereafter a conservation plan is developed, a conservation policy is stated and a strategy for the implementation of the conservation plan is rolled out (Kerr 1985: 2).

The needs of the client in this case are to maintain and protect the cultural heritage sites located in the Zeerust Solar PV Project area against negative impacts of the development. External needs refer to things such as legislation specifically with regards to heritage, but also includes local ordinances and regulations with regards to for instance safety and security.

The requirements for maintenance of the cultural significance refer to issues such as not to remove any cultural material and other objects from the sites. The physical condition refers to the current state of the stone walling and other site features associated with resources located here.

Although a conservation plan is stated here, it may be adapted from time to time. This management document therefore gives basic principles for the conservation and management of the site.

## **8. STATING THE MANAGEMENT PLAN**

*The most important principle in the Management Plan for the Cultural Heritage Sites in the Zeerust Solar PV Project area is that the various heritage sites (mainly the Late Iron Age Stone Walled sites) should be maintained in their current state. The development should in no way impact negatively on any of the sites and any of the related features on it, and should be done in complete sympathy with it.*

## **9. MANAGEMENT & MAINTENANCE PRINCIPLES**

The reasons for sites to be protected in accordance with the National Heritage Act can be summarized as follows:

1. The importance of the sites for the community and in the history of South Africa
2. The importance in having specific aesthetical characteristics on which a community or cultural group place value
3. The strong or special association of it with a specific community or cultural group for social, cultural or religious reasons
4. The sites and associated structures and features are older than 100 years of age
5. Cultural Heritage sites are unique, non-renewable, cultural resources, with both archaeological and historical significance, displaying both scientific and archaeological/historical research potential.

The following principles should be followed in the Management of these sites:

- I.** The cultural heritage sites should under no circumstances be disturbed during the development of the Solar PV Plant and any other activities associated with this
- II.** All the sites needs to be either fenced-in or a Buffer Zone of at least 30m place around the perimeter of each site to prevent accidental damage to these sites during the development of and subsequent operation of the Plant

## **10. MAINTENANCE OF THE SITE, ITS FEATURES AND INFRASTRUCTURE**

The above mentioned principles should be used as starting point.

## **Action steps**

(1) If any additional (previously unknown or invisible) historical or archaeological features or objects (cultural objects/artifacts) are found during the development of the Zeerust Solar PV Plant work should be stopped immediately so that detailed investigation of the finds are undertaken. Such work can only be done by a qualified archaeologist after obtaining the necessary permit from SAHRA. Although the previous Impact Assessments aimed at finding all possible sites & features of cultural heritage origin and significance in the development area, there is always a possibility that some might have been overlooked. The subterranean nature of archaeological & historical remains and features should be taken into consideration here as well.

(2) The various sites should be properly demarcated either through fencing or by putting a buffer zone around them in order for the development and related activities not to negatively impact on them. It is recommended that a fence should be placed around each site approximately 5m from the outer boundary/perimeter of the site.

(3) The Management Plan should be renewed periodically, at least every 5 years.

## **11. VISITORS CONTROL**

The area does not receive many visitors under normal circumstances. It is however envisaged that the number of visitors to the area will increase fairly dramatically (albeit only during the development of the Solar PV Plant) for a limited period of time. Not only will these be visitors on foot, but also an increase in vehicular visits (construction vehicles etc.). Care should therefore be taken to limit the possible damage to the identified sites as a result, by limiting the number of visitors to the heritage sites.

No visitor should be allowed on the sites without prior arrangement with a central office or without supervision of appointed CLO or Site/Construction Manager. Visitors should not be allowed to climb over or sit on any of the stone-packed walls or other features or do anything that may compromise the cultural integrity of these sites.

No person may pick up any archaeological or historical artifact from the sites. Such a find must be reported to an archaeologist who will recommend the appropriate action to be taken.

**Informative site signage should be placed with an additional warning to staff about access restrictions.**

## **12. EDUCATIONAL ACTIVITIES**

One of the many communicative functions of a museum or heritage site is that of education (Van Zyl et al 1989: 5). Education is also seen as one of the most important museum functions and is aimed at interpreting the information contained inside the museum for the education and entertainment of the public at large (Van Zyl 1989: 10).

In this case it is not envisaged that the sites will be visited by large groups of people (such as school groups) or smaller tour groups, but possibly individual visitors from time to time. The



history and archaeology of the area and the identified heritage sites can be made available to these visitors via the various heritage reports on request.

Although the development and implementation of an Educational Program is therefore not envisaged, the following aspects are normally related to Educational Programs:

### **Aims of an education program**

1. Making the sites accessible to visitors
2. To interpret the sites to visitors
3. To stimulate interest in the sites, but also in heritage in general
4. To serve the visitors by providing an enjoyable educational experience, and
5. to foster appreciation of different cultures

### **Types of educational programs**

There are three types of educational programs, namely formal, non-formal and informal education programs. Formal programs include the following:

- a. Lectures
- b. Educational school programs
- c. Workshops and special courses
- d. In-service training
- e. Publications

Non-formal programs include:

- a. Guided tours
- b. Activities of the friends of the museum
- c. Holiday courses
- d. Volunteer training programs
- e. Museum related field trips
- f. Audio-visual programs
- g. Open day programs

Informal programs include:

- a. Displays and exhibitions
- b. Radio and television programs
- c. Public relations

### **Site interpretation**

The interpretation of the sites also plays an important role in education. For these purposes on-site Information Plaques can play an important role. **SAHRA recommended that Informative Signage should be placed on-site with an additional warning to staff about access restrictions.**

## **13. MONITORING & EVALUATION STRATEGY**

SAHRA requires a Monitoring and Evaluation Strategy and Process that can be implemented and has clear goals which assess any changes in site conditions throughout the construction, operation and decommissioning of the solar energy facility. In light of this the following is recommended:

- a. The Heritage Specialist/Archaeologist needs to be informed in advance of the scheduled commencement of the development actions at the Project Site in order to implement the CHMP strategies for the Management, Preservation and Protection of the identified Heritage Sites that will be impacted by the Development.
  - This will include the fencing in of the identified sites (Sites A, B, 12, 13 and 15). The Specialist needs to be on site when these sites are being fenced to monitor the correct fencing and keeping of the required 30m buffer zone around these sites, as well as to ensure that no previously unknown features or cultural material are exposed and damaged in the process
  - Secondly, the Specialist needs to ensure that the correct Site Signage, as requested by SAHRA, is erected in locations that are visible to staff and other visitors to the area

**The fencing of the sites and erection of the Site Signage needs to be conducted prior to full-scale development actions commencing.**

b. Once the development actions commence the Heritage Specialist/Archaeologist will, on an ad-hoc basis and from time to time, conduct Monitoring Site Visits to Evaluate the condition of the Heritage Sites, the fences placed around them, as well as assess any possible new sites, features or material of cultural heritage (archaeological and/or historical) that might have been exposed or identified during any development actions. The goal with the Monitoring and Evaluation is to ensure that no undue or accidental damage is caused to any of the existing Heritage Resources or any possible previously unknown significant sites.

c. A Monitoring and Evaluation Assessment Report will be drafted and submitted to the Client & SAHRA after the completion of each site visit and a Final Report will be submitted

at the completion of the Construction Phase of the Development Project. Thereafter, the sites will be Monitored/Evaluated at least once a year during the Operational Phase of the Project, after which a Report will be submitted to the client and SAHRA. The scheduling of these Monitoring/Evaluation visits will be determined by the Client, who will subcontract a Specialist of their choice for this undertaking. At the Decommissioning of the Project a Final Monitoring and Evaluation will be undertaken and a Report drafted and submitted.

The ultimate goal of the Monitoring & Evaluation Process is to ensure that the Cultural Heritage Management Plan is properly implemented and that the recommendations included in it is fully adhered to. The correct management of and preservation of the identified Cultural Heritage (archaeological & historical) Resources in the Project Area for future generations forms part of this.

#### **14. MONITORING SCHEDULE**

This schedule will to a great degree depend on the Project Development Schedule (Construction Phase) and its full commencement. This schedule needs to be communicated to the Heritage Specialist well in advance so that a proper schedule for the monitoring and evaluation process can be drafted and provided to all parties involved. The following is however envisaged:

- a. Fencing of sites and erection of Site Signage
- b. First Monitoring & Evaluation Report draft and submit to client and SAHRA
- c. Construction Phase commencement: Monthly site visits and submission of Monitoring & Evaluation Reports to client and SAHRA
- d. Completion of Construction Phase and Handing over of Site: Final Monitoring & Evaluation Report to client and SAHRA
- e. Thereafter, depending of schedule and expected Operational Lifetime of Solar Plant, Yearly Site Visits and submission of Reports
- f. Decommissioning of Plant: Final Evaluation and submission of Final Report to client and SAHRA

#### **15. CONCLUSIONS AND RECOMMENDATIONS**

This Management Plan is an Open document, meaning that additions and changes can be made and incorporated at any time. It should be fully reviewed at least once every 5 years (therefore again in 2021). It is important to remember that although the recommendations put forward in this document is based on both applicable legislation and the knowledge and experience of the author and the sources utilized, the public at large can provide valuable insight into the management and preservation of the sites. They could therefore also be consulted when the plan is implemented and when it is reviewed as well in order to give recommendations of their own. This document should also be lodged with SAHRA (The South African Heritage Resources Agency) for their knowledge and comments.

To conclude it is important to remember that there is always a possibility of the subterranean presence of archaeological or historical features or artifacts. Therefore, even though nothing might be visible on the surface of the development areas, construction work on the proposed Zeerust Solar PV Plant, and any related work, should proceed with the necessary care. If anything is discovered, the work should cease and an archaeologist called in to investigate before work can continue

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## APPENDIX A

### **Definition of terms:**

#### **Artifact:**

Cultural object (made by humans).

#### **Buffer Zone:**

Means an area surrounding cultural heritage (see def. cultural heritage) which has restrictions placed on its use or where collaborative projects and programs are undertaken to afford additional protection to the site.

#### **Conservation:**

In relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance as defined.

#### **Co-management:**

Managing in such a way as to take into account the needs and desires of stakeholders/ neighbors and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

#### **Conservation:**

All the processes used to maintain a place or object in order to keep its cultural significance. The process includes preservation, restoration, reconstruction and adaptation.

#### **Contextual Paradigm:**

A scientific approach which places importance on the total context as catalyst for cultural change and which specifically studies the symbolic role of the individual and immediate historical context.

#### **Cultural Resource:**

Any place or object of cultural significance (see Heritage Resource).

#### **Cultural Resource Management:**

The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which is of value to the general public (see Heritage Management).

#### **Cultural Significance:**

Means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance of a place or object for past, present and future humans.

#### **Feature:**

A coincidental find of movable cultural objects (also see Knudson 1978: 20).

#### **Grade/Grading:**

The South African heritage resource management system is based on grading, which provides for assigning the appropriate level of management responsibility to a heritage resource.

Grading is a step in the process towards a formal declaration, such as a declaration as a National Heritage Site, Provincial Heritage Site, or in the case of Grade 3 heritage resources the placing of a resource on the Register. It is not an end in itself, but a means of establishing an appropriate level of management in the process of formal protection. Grading may be carried out only by the responsible heritage resources authority or in the case of a Grade 3 heritage resource by the Local Authority. Any person may however make recommendations for grading. These are known as Field Ratings and usually accompany surveys and other reports.

**Heritage resource (Cultural):**

Any place or object of cultural significance (see Cultural Resource).

**Heritage Resources Management Paradigm:**

A scientific approach based on the Contextual paradigm, but placing the emphasis on the cultural importance of archaeological (and historical) sites for the community.

**Heritage management (Cultural):**

The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage resources which are of value to the general public (see Cultural Resources Management).

**Historic:**

Means significant in history, belonging to the past; of what is important or famous in the past.

**Historical:**

Means belonging to the past, or relating to the study of history.

**Iron Age:**

In southern African archaeology, the Iron Age is the stage in the development of a specific groups or groups where the use of iron implements as tools and weapons is prominent. The adoption of this new material coincided with other changes in some past societies often including differing agricultural practices, religious beliefs and artistic styles, although this is not always the case.

**Maintenance:**

Means the continuous protective care of the fabric, contents and setting of a place. It does not involve physical alteration.

**Management:**

With reference to cultural heritage resources it includes preservation/ conservation, presentation and improvement of a place or object.

In relation to a protected area, includes control, protection, conservation, maintenance and rehabilitation of the protected area with due regard to the use and extraction of biological resources, community based practices and benefit sharing activities in the area in a manner consistent with the Biodiversity Act as defined and required as per the National Environmental Management: Protected Areas Act, No. 57 of 2003.

**Object:**

Artifact (cultural object) (also see Knudson 1978: 20).

**Partnership/s:**

Means a co-operative and/or collaborative arrangement/s between the various client/parties responsible for the implementation of the Management Plan and a third party that supports the achievement of the Project objectives.

**Preservation:**

Refers to protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary. Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

**Protection:**

With reference to cultural heritage resources this includes the protection, maintenance, preservation and sustainable utilization of places or objects in order to maintain the cultural significance thereof.

**Site:**

A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location (also see Knudson 1978: 20). Also means any area of land, including land covered by water, and including any structures or objects on it.

**Stone Age:**

The period encompasses the first widespread use of stone for the manufacture of tools and weapons in human evolution and the spread of humanity from the savannas of East Africa to the rest of the world. It ends with the development of agriculture, the domestication of certain animals and the smelting of copper ore to produce metal.

**Structure:**

A permanent building found in isolation or which forms a site in conjunction with other structures (also see Knudson 1978: 20). Also means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

**Sustainable:**

In relation to the use of a biological resource, means the use of such resource in a way and at a rate that would not lead to its long-term decline; would not disrupt the ecological integrity of the ecosystem in which it occurs; and would ensure its continued use to meet the needs and aspirations of present and future generations of people (as per National Environmental Management: Biodiversity Act, No. 10 of 2004).