

Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 **VAT NO.: 4360226270**

**A REPORT ON A BASIC HERITAGE ASSESSMENT
FOR THE PROPOSED SOVENTIX 3.6MWp SOLAR PV FACILITY ON 3.8HA
OF THE PROPERTY OF UNILEVER BOKSBURG
ERVEN 757 & 758 BOKSBURG EAST
PORTIONS 127 & 128 OF VOGELFONTEIN 84IR
CITY OF EKURHULENI METROPOLITAN MUNICIPALITY, GAUTENG**

For:

***Ecoleges Environmental Consultants cc
P.O. Box 516
Machadodorp
1170***

REPORT: **APAC021/87**

by:

***A.J. Pelser
Accredited member of ASAPA***

October 2021

**P.O. BOX 73703
LYNNWOOD RIDGE
0040
Tel: 083 459 3091
Fax: 086 695 7247
Email: apac.heritage@gmail.com**

Member: AJ Pelser BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

©Copyright

APELSE ARCHAEOLOGICAL CONSULTING

The information contained in this report is the sole intellectual property of APELSE Archaeological Consulting. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSE Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

A handwritten signature in black ink, appearing to be 'J. Pel' or similar, located at the bottom center of the page.

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Ecoleges Environmental Consultants cc, on behalf of Soventix South Africa (Pty) Ltd, to conduct a Basic Heritage Assessment (including Cultural Heritage, Archaeological & Paleontological assessments) for a proposed 3.6MWp Solar PV Plant on Unilever's Boksburg property in Boksburg East. The study and proposed development area is located on Erven 757 & 758, Portions 127 & 189 of Vogelfontein 84IR, in the Ekurhuleni Metropolitan Municipality of Gauteng. The proposed PV Plant will comprise approximately 3.8ha of land and 3 Alternative locations are being looked at for the development. This assessment forms part of the Application for Environmental Authorization by way of Basic Assessment (BA).

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. The October 2021 assessment furthermore identified some sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area, and included mainly a Historical Ash Dump and related cultural material on a portion of the study and proposed development area footprint. This report discusses the results of both the background research and physical assessment and provides recommendations on the way forward at the end.

This document represents the Cultural Heritage & Archaeological part of the Basic Assessment, with the Paleontological work contained in a separate report.

From a Cultural Heritage Point of View it is recommended that the proposed development be allowed to continue, taking into consideration the recommendations put forward at the end of the report.

CONTENTS

1. INTRODUCTION	5
2. TERMS OF REFERENCE	5
3. LEGISLATIVE REQUIREMENTS	6
4. METHODOLOGY	8
5. DESCRIPTION OF THE AREA	9
6. DISCUSSION.....	11
7. CONCLUSIONS AND RECOMMENDATIONS	22
8. REFERENCES	24
APPENDIX A: DEFINITION OF TERMS:.....	25
APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE.....	26
APPENDIX C: SIGNIFICANCE AND FIELD RATING:	27
APPENDIX D: PROTECTION OF HERITAGE RESOURCES:.....	28
APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES.....	29

1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Ecoleges Environmental Consultants cc, on behalf of Soventix South Africa (Pty) Ltd, to conduct a Basic Heritage Assessment (including Cultural Heritage, Archaeological & Paleontological assessments) for a proposed 3.6MWp Solar PV Plant on Unilever's Boksburg property in Boksburg East. The study and proposed development area is located on Erven 757 & 758, Portions 127 & 189 of Vogelfontein 84IR, in the Ekurhuleni Metropolitan Municipality of Gauteng. The proposed PV Plant will comprise approximately 3.8ha of land and 3 Alternative locations are being looked at for the development. This assessment forms part of the Application for Environmental Authorization by way of Basic Assessment (BA).

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. The October 2021 assessment furthermore identified some sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area, and included mainly a Historical Ash Dump and related cultural material on a portion of the study and proposed development area footprint.

This document represents the Cultural Heritage & Archaeological part of the Basic Assessment, with the Paleontological work contained in a separate report.

The client indicated the location and boundaries of the area that had to be assessed and the work was confined to this location.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE 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).

3.1. The National Heritage Resources Act

According to the Act 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.

The National Estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²

- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure 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.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of the Act deals with archaeology, palaeontology and meteorites. The Act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological 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 (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister

- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

3.2. 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 for the mitigation thereof are 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.

4. METHODOLOGY

4.1. Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2. Field survey

The field assessment section of the study is conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.3. Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4. Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The study and proposed Solar PV Plant development area is located on Erven 757 & 758, Portions 127 & 189 of the farm Vogelfontein 84IR, Boksburg East and in the Ekurhuleni Metropolitan Municipality of Gauteng. The proposed PV Plant will comprise approximately 3.8ha of Unilever Boksburg's property here. Three (3) Alternative locations for the plant had to be assessed.

The general topography of the study & development area is flat and open, with no rocky ridges or outcrops present. Some tree and other vegetation cover is present in sections, but visibility and access was not limited during fieldwork. The area is surrounded by various urban residential, business and industrial developments, while the area itself has been impacted in the recent past through powerlines, water and gas pipelines and servitudes. The informal dumping of building material and other refuse also occurs in the area. If any major significant sites, features or material of cultural heritage (archaeological and/or historical) nature or origin did exist here in the past it would have been extensively disturbed or destroyed as a result of these recent activities.



Figure 1: General location of the study & proposed development area in red polygons (Google Earth 2021).

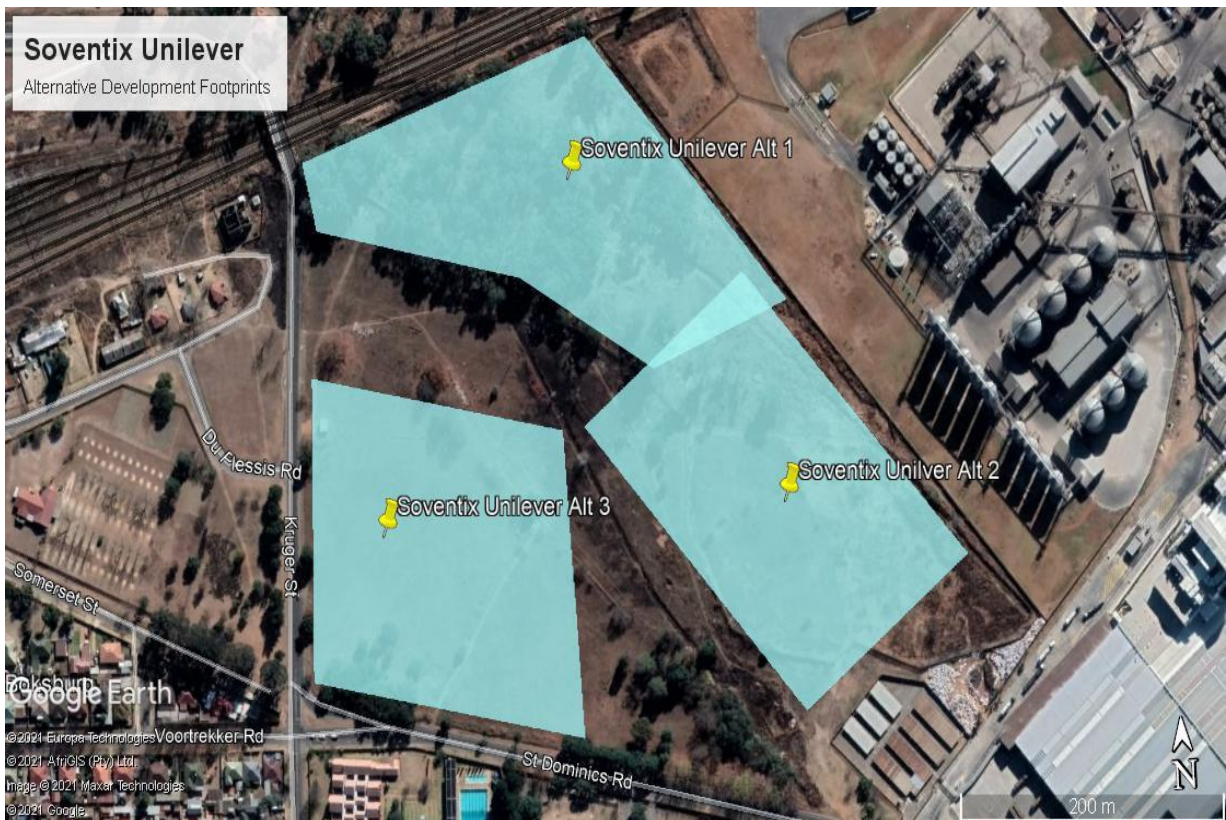


Figure 2: Closer view of study & development area, indicating the 3 Alternative development footprints (courtesy Ecoleges Environmental Consultants cc).

6. DISCUSSION

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago

Middle Stone Age (MSA) less than 300 000 – 20 000 years ago

Later Stone Age (LSA) 40 000 years ago – 2000 years ago

No known Stone Age sites or artifacts are present in the area. The closest known Stone Age sites are those at Asvoelkop, Melvillekoppies, Linksfield and Primrose (Bergh 1999: 4). Records indicate that stone tools dating to the Early and Middle Stone Age occurred all over, for example in the Primrose Ridge area in adjacent Germiston, as well as to the south at Henley-On-Klip (Van Schalkwyk 2013: 7). If any Stone Age artifacts are to be found in the area then it would more than likely be single, out of context, stone tools.

No Stone Age sites or material were identified in the study & proposed development area during the field assessment.

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

No Early Iron Age sites are known in the area (Bergh 1999: 6). The closest known LIA sites are at Melvillekoppies and Bruma Lake (Bergh 1999: 7). The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand in the region of Klipriviersberg. Here, a large number of settlements dating to the Later Iron

Age occur and, according to Huffman et al (2006/2007) these sites can be related to the Bafokeng people (Van Schalkwyk 2013: 7).

No Iron Age sites, features or material were identified in the area during the assessment.

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. The first Europeans to move through and into the area were the group of Cornwallis Harris in 1836 (Bergh 1999: 13). These groups were closely followed by the Voortrekkers after 1844 (Bergh 1999: 14).

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovery of gold and later of coal. From early days this region was subjected to intense gold mining activities). The result is that most sites and features of heritage significance in the larger region derive from this development. The town of Boksburg was started in August 1887 with the sale of the first stands, but was created as municipality only in 1903. During the early years, the principal mining property was the East Rand Proprietary Mines, Ltd., while other mines were the Witwatersrand Deep, Ltd., Ginsberg, Driefontein Deep, Balmoral, Anglo Deep, Cinderella Deep, Boksburg Global Mines, and East Rand Extensions (Van Schalkwyk 2013).

"Prior to 1860, the present municipal area of Boksburg and its immediate environs comprised mainly the highveld farms called Leeuwpoot, Klippoortje, Klipfontein and Driefontein. Carl Ziervogel bought the farm Leeuwpoot in 1875 and for 300 morgen of barren, rocky veld he paid £75. In September 1886 Pieter Killian, a young Afrikaans prospector, discovered quartz reefs on Leeuwpoot. He also discovered quartz reefs on the farm Vogelfontein, named after Adolf Vogel. Samples of the quartz were sent to Pretoria for assaying, which confirmed the presence of gold. Killian advised Dr W.E. Bok, Secretary of State for the Transvaal Republic, of the results of the assay. The result was the proclamation, on the 10th March 1887, of the two farms as public diggings. Carl Ziervogel, who had been trying to sell Leeuwpoot, now opened the first gold mine on the East Rand, the Ziervogel Gold Mining Company. Cornish miners were brought out to work the diggings.

Unfortunately, it soon transpired that heavy expenditure was necessary for development, and as the Directors were unable to finance this, the mine closed down. Mr Abe Bailey of the Barnato Group, which owned the Johannesburg Consolidated Investment Company (JCI), bought the farm Leeuwpoot in 1894 for £100,000. The mynpacht was controlled by JCI who established E.R.P.M. Ltd. JCI also developed many residential suburbs over the years.

Gold was also found at Elsburg, 8km to the southwest. Elsburg was a recognized stopping point for coaches and wagon traffic. The first Government offices were at Elsburg and what was to become Boksburg was but a suburb of Elsburg. With the real centre of mining being centred on Boksburg, however, soon President Paul Kruger ordered that a new town be laid out to accommodate the miners. Land for the new town was released by having the boundaries of the farms Leeuwpoot, Driefontein and Klipfontein moved back from where they met. The newly-created farm was called Vogelfontein, on which 1000 stands of 50x50 feet

each were created. The new town of Boksburg was named after Dr Bok. In 1887 the first auction sale of stands took place, at which prices of £5 to £25 were realized”.

The above section is taken from a 2016 article on the Early History of Boksburg by the Boksburg Historical Society on the Heritage Portal platform (www.heritageportal.co.za).

One site of historical origin was identified and recorded in the study & development area during the October 2021 field assessment and will be discussed in the following section.

Results of the October 2021 field assessment

Only 1 site was identified and recorded during the field assessment in the study area. This site is fairly extensive and consists of a refuse midden/ash dump with late 19th to mid-20th century cultural material. It is located in the so-called Alternative 2 development footprint portion. The site and the findings will be discussed in more detail below.

No other sites, features or material of archaeological and/or historical origin or significance were found in the study area (Alternatives 1 & 3 footprints). Informal dumping of building rubble and other household residential refuse occurs throughout the area and many of the remains identified here were brought into the area from other locations. According to Mr. Louis de Kok of Unilever the illegal/informal dumping of material has occurred here for some time and that no other historical sites or structures are known to be present in the area. This includes graves (Personal Communication 2021-10-01).



Figure 3: A general view of the Alternative 2 study area near Boksburg Unilever’s plant.



Figure 4: Another view of the Alternative 2 area. Note the refuse.



Figure 5: Powerline across the area.



Figure 6: A view of the Alternative 2 area towards the Alternative 1 area. The recent historical midden area is also visible here.



Figure 7: A general view of a section of the Alternative 1 area. Note the relatively dense grass & tree cover.



Figure 8: Another section of the study area. Note the Powerlines & Rand Water Services Pipeline.



Figure 9: Blocks of concrete/cement in the Alternative 2 area. These were more than likely dumped here.



Figure 10: A general view of the Alternative 1 area.



Figure 11: Another view of the Alternative 1 area with the Rand Water Services pipeline visible.



Figure 12: More dumped building rubble in the study area.



Figure 13: Another view of the Alternative 3 area.



Figure 14: A view of part of the study area taken from Alternative 3 to the Alternative 1 area & the railway line north of it.

Ash Dump/Refuse Midden

This site is fairly extensive as can be seen from the aerial image of the area below (**See Figure 15**). The site consists of burnt coal and slag dumped over a large area, containing metal, glass, porcelain and plastic artifacts, as well as bone (faunal remains) in between this material. The porcelain and glass pieces can be dated to between the late 19th to mid-20th centuries and these are similar to material found by the author of this report on similar sites in Gauteng (Pelser et.al 1998; 2011; 2013).

Although it is not known if this site and the material found here is in a primary context (with other words if this ash dump/refuse midden is associated earlier historical activities such as mining on the site) or if the material was dumped here recently from another location, the site is still fairly significant in terms of its size and the fact that a fair amount of identifiable and dateable cultural material is present here. It is therefore, from an historical-archaeological perspective recommended that if the site can be avoided by the proposed development that this should be considered. Alternatively the site should be investigated through Phase 2 Archaeological mitigation that would include excavations to recover cultural material from the site.

GPS Location of Site: S26 13 12.30 E28 16 03.60.

Cultural Significance: Medium

Heritage Significance: Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field Ratings: General protection B (IV B): Site should be recorded before destruction (Medium significance)

Mitigation: See Above



Figure 15: View of the study area with the three Alternatives shown. The location and extent of the Historical Ash Dump is evident (Google Earth 2021).



Figure 16: Some of the late 19th to mid-20th century glass, porcelain and metal from the site.



Figure 17: A Late 19th century medicine bottle on the site.



Figure 18: More Late 19th century cultural material from the historical ash/refuse dump.

It is finally recommended that based on this Basic Heritage Assessment that the development of the Unilever Solar PV facility on their Boksburg East property be allowed to continue. The location of a possible in situ historical ash/refuse dump on the Alternative 2 portion does however make this the least viable location for the development and if possible Alternatives 1 & 3 should be considered from a Cultural Heritage (archaeological and/or historical) perspective.

It should be noted that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.

7. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Ecoleges Environmental Consultants cc, on behalf of Soventix South Africa (Pty) Ltd, to conduct a Basic Heritage Assessment (including Cultural Heritage, Archaeological & Paleontological assessments) for a proposed 3.6MWp Solar PV Plant on Unilever's Boksburg property in Boksburg East. The study

and proposed development area is located on Erven 757 & 758, Portions 127 & 189 of Vogelfontein 84IR, in the Ekurhuleni Metropolitan Municipality of Gauteng. The proposed PV Plant will comprise approximately 3.8ha of land and 3 Alternative locations are being looked at for the development. This assessment forms part of the Application for Environmental Authorization by way of Basic Assessment (BA).

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. Only 1 site was identified and recorded during the field assessment in the study area. This site is fairly extensive and consists of a refuse midden/ash dump with late 19th to mid-20th century cultural material. It is located in the so-called Alternative 2 development footprint portion. No other sites, features or material of archaeological and/or historical origin or significance were found in the study area (Alternatives 1 & 3 footprints). Informal dumping of building rubble and other household residential refuse occurs throughout the area and many of the remains identified here were brought into the area from other locations. According to Mr. Louis de Kok of Unilever the illegal/informal dumping of material has occurred here for some time and that no other historical sites or structures are known to be present in the area. This includes graves.

The ash/refuse dump site is fairly extensive and consists of burnt coal and slag dumped over a large area, containing metal, glass, porcelain and plastic artifacts, as well as bone (faunal remains) in between this material. The porcelain and glass pieces can be dated to between the late 19th to mid-20th centuries and these are similar to material found by the author of this report on similar sites in Gauteng.

Although it is not known if this site and the material found here is in a primary context or if the material was dumped here recently from another location, the site is still fairly significant in terms of its size and the fact that a fair amount of identifiable and dateable cultural material is present here. It is therefore, from an historical-archaeological perspective recommended that if the site can be avoided by the proposed development that this should be considered. Alternatively the site should be investigated through Phase 2 Archaeological mitigation that would include excavations to recover cultural material from the site.

It also needs to be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

It is therefore recommended that based on this Basic Heritage Assessment that the development of the Unilever Solar PV facility on their Boksburg East property be allowed to continue. The location of a possible in situ historical ash/refuse dump on the Alternative 2 portion does however make this the least viable location for the development and if

possible Alternatives 1 & 3 should be considered from a Cultural Heritage (archaeological and/or historical) perspective.

8. REFERENCES

General and Closer views of Study Area location & footprints: Google Earth 2021.

Location of Sites Found: Google Earth 2021.

Alternative development footprints for the Soventix Unilever Solar PV: Provided by Ecoleges Environmental Consultants cc.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

Huffman, T.N. 2007. Handbook to the Iron Age: **The Archaeology of Pre-Colonial Farming Societies in Southern Africa**. Scottsville: University of KwaZulu-Natal Press.

Knudson, S.J. 1978. **Culture in retrospect**. Chicago: Rand McNally College Publishing Company.

Lombard, M., L. Wadley, J. Deacon, S. Wurz, I. Parsons, M. Mohapi, J. Swart & P. Mitchell. 2012. **South African and Lesotho Stone Age Sequence Updated (I)**. South African Archaeological Bulletin 67 (195): 120–144, 2012.

Pelser, A, van Schalkwyk J. & F.Teichert. 1998. Excavation of a Late 19th/Early 20th Century Rubbish Dump in Minnaar Street, Pretoria. **Research by the National Cultural History Museum. Vol.7 1998. pp. 93-119.**

Pelser, A.J. & A.C. van Vollenhoven. 2011. **A Report on the Historical-Archaeological Excavation of a Late 19th/Early 20th Century Midden on the farm Langlaagte 224 IQ, Crown Mines, Crownwood Road, Johannesburg Gauteng**. Unpublished Report Archaeos cc AE1139. For SAHRA. July 2011.

Pelser, A.J. 2013. **A Report on a Desktop Study and site assessment of a Historic Ash Dump associated with the Modderfontein (AECI) Dynamite Factory, located on Modderfontein 35 IR to be impacted by the Westlake View Development**. Unpublished Report APAC013/06. For: IMPROVON. February 2013.

Republic of South Africa. 1999. **National Heritage Resources Act (No 25 of 1999)**. Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act (no 107 of 1998)**. Pretoria: The Government Printer.

Van Schalkwyk, J.A. 2013. **Cultural Heritage Impact Assessment for proposed Development**

on Portions 397 & 399 of Driefontein 85IR, Bosburg, Gauteng Province. Unpublished Report 2013/JvS/031 For: INDEX. May 2013.

www.heritageportal.co.za: The Early History of Boksburg. Article by the Boksburg Historical Society. 30th of January 2016.

APPENDIX A: DEFINITION OF TERMS:

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.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C: SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D: PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.