

**HERITAGE IMPACT ASSESSMENT (INCLUDING
PHASE ONE PALEONTOLOGY DESKTOP
ASSESSMENT) OF THE PROPOSED
GOEDGEDACT PIGGERY EXPANSION,
FOCHVILLE GAUTENG.**



ACTIVE HERITAGE cc.

For: Green Door Environmental

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Frans received his MA (Archaeology) from the University of Stellenbosch and is presently a PhD candidate on social anthropology at Rhodes University. His PhD research topic deals with indigenous San perceptions and interactions with the rock art heritage of the Drakensberg.

Frans was employed as a junior research associate at the then University of Transkei, Botany Department in 1988-1990. Although attached to a Botany Department he conducted a palaeoecological study on the Iron Age of northern Transkei - this study formed the basis for his MA thesis in Archaeology. Frans left the University of Transkei to accept a junior lecturing position at the University of Stellenbosch in 1990. He taught mostly undergraduate courses on World Archaeology and research methodology during this period.

From 1991 – 2001 Frans was appointed as the head of the department of Historical Anthropology at the Natal Museum, Pietermaritzburg. His tasks included academic research and publication, display conceptualization, and curating the African ethnology collections of the Museum. He developed various displays at the Natal Museum on topics ranging from Zulu material culture, traditional healing, and indigenous classificatory systems. During this period Frans also developed a close association with the Departments of Fine Art, Psychology, and Cultural and Media Studies at the then University of Natal. He assisted many post-graduate students with projects relating to the cultural heritage of South Africa. He also taught post-graduate courses

on qualitative research methodology to honours students at the Psychology Department, University of Natal. During this period he served on the editorial boards of the *South African Journal of Field Archaeology* and *Natalia*.

Frans left the Natal Museum in 2001 when approached by a Swiss funding agency to assist an international NGO (Working Group for Indigenous Minorities) with the conceptualization of a San or Bushman museum near Cape Town. During this period he consulted extensively with various San groupings in South Africa, Namibia and Botswana. During this period he also made major research and conceptual contributions to the Kamberg and Didima Rock Art Centres in the Ukhahlamba Drakensberg World Heritage Site.

Between 2003 and 2007 Frans was employed as the Cultural Resource Specialist for the Maloti Drakensberg Transfrontier Project – a bilateral conservation project funded through the World Bank. This project involved the facilitation with various stakeholders in order to produce a cultural heritage conservation and development strategy for the adjacent parts of Lesotho and South Africa. Frans was the facilitator for numerous heritage surveys and assessments during this project. This vast area included more than 2000 heritage sites. Many of these sites had to be assessed and heritage management plans designed for them. He had a major input in the drafting of the new Cultural Resource Management Plan for the Ukhahlamba Drakensberg World Heritage site in 2007/2008. A highpoint of his career was the inclusion of Drakensberg San indigenous knowledge systems, with San collaboration, into the management plans of various rock art sites in this world heritage site. He also liaised with the tourism specialist with the drafting of a tourism business plan for the area.

During April 2008 Frans accepted employment at the environmental agency called Strategic Environmental Focus (SEF). His main task was to set-up and run the cultural heritage unit of this national company. During this period he also became an accredited heritage impact assessor and he is rated by both Amafa and the South African Heritage Resources Agency (SAHRA). He completed almost 50 heritage impact assessment reports nation-wide during an 18th month period.

Frans left SEF and started his own heritage consultancy called “Active Heritage cc” in July 2009. Although mostly active along the eastern seaboard his clients also include international companies such as Royal Dutch Shell through Golder Associates, and UNESCO. He has now completed almost 1000 heritage conservation and management reports for various clients since the inception of “Active Heritage cc”. Amongst these was a heritage study of the controversial fracking gas exploration of the Karoo Basin and various proposed mining developments in South Africa and proposed developments adjacent to various World Heritage sites. Apart from heritage impact assessments (HIA’s) Frans also assist the National Heritage Council (NHC) through Haley Sharpe Southern Africa’, with heritage site data capturing and analysis for the proposed National Liberation Route World Heritage Site and the national intangible

heritage audit. In addition, he has done background research and conceptualization of the proposed Dinosaur Interpretative Centre at Golden Gate National Park and the proposed Khoi and San Interpretive Centre at Camdeboo, Eastern Cape Province. During 2009 he also produced the first draft dossier for the nomination of the Sehlabathebe National Park, Lesotho as a UNESCO inscribed World Heritage Site.

Frans was appointed as temporary lecturer in the department of Heritage and Tourism, UKZN in 2011. He is also a research affiliate at the School of Cultural and Media Studies in the same institution.

Frans's research interests include African Iron Age, paleoecology, rock art research, San ethnography, traditional healers in South Africa, and heritage conservation. Frans has produced more than forty publications on these topics in both popular and academic publications. He is frequently approached by local and international video and film productions in order to assist with research and conceptualization for programmes on African heritage and culture. He has also acted as presenter and specialist for local and international film productions on the rock art of southern Africa. Frans has a wide experience in the fields of museum and interpretive centre display and made a significant contribution to the conceptual planning of displays at the Natal Museum, Golden Horse Casino, Didima Rock Art Centre and !Khwatya San Heritage Centre. Frans is also the co-founder and active member of "African Antiqua" a small tour company who conducts archaeological and cultural tours world-wide. He is a Thetha accredited cultural tour guide and he has conducted more than 50 tours to heritage sites since 1992.

Declaration of Consultants independence

Frans Prins is an independent consultant to Green Door Environmental and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances whatsoever that compromise the objectivity of this specialist performing such work.



Frans Prins

TABLE OF CONTENTS

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1	BACKGROUND INFORMATION ON THE PROJECT	2
2	BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA	3
3	BACKGROUND INFORMATION OF THE SURVEY	6
3.1	Methodology	6
3.1.1	<i>Other sources</i>	6
3.1.2	<i>Assumptions and Limitations</i>	6
3.2	Restrictions encountered during the survey	7
3.2.1	<i>Visibility</i>	7
3.2.2	<i>Disturbance</i>	7
3.3	Details of equipment used in the survey.....	7
4	DESCRIPTION OF SITES AND MATERIAL OBSERVED	8
4.1	Locational data	8
4.2	Description of the general area surveyed.....	8
4.2.1	<i>Background</i>	8
4.2.2	<i>Desktop Paleontology Assessment</i>	8
5	STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)	9
5.1	Field Rating.....	9
6	RECOMMENDATIONS	11
7	MAPS AND FIGURES	12
8	REFERENCES	18

LIST OF TABLES

Table 1.	Background information.....	2
Table 2.	Field rating and recommended grading of sites (SAHRA 2005)	9
Table 3.	Evaluation and statement of significance.....	10

LIST OF ABBREVIATIONS AND ACRONYMS

EIA	Early Iron Age
ESA	Early Stone Age
HISTORIC PERIOD	Since the arrival of the white settlers - c. AD 1820 in this part of the country
IRON AGE	Early Iron Age AD 200 - AD 1000 Late Iron Age AD 1000 - AD 1830
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998 and associated regulations (2006)).
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations (2000))
SAHRA	South African Heritage Resources Agency
STONE AGE	Early Stone Age 2 000 000 - 250 000 BP Middle Stone Age 250 000 - 25 000 BP Late Stone Age 30 000 - until c. AD 200

EXECUTIVE SUMMARY

A heritage survey of the proposed Goedgedacht Piggery Expansion, Fochville Gauteng identified no heritage sites on the proposed development plot. In addition, no heritage sites occur within 50m from the footprint. The greater area is also not part of any known cultural landscape. The desktop paleontology assessment indicate a moderate sensitivity for the area. A qualified palaeontologist will have to conduct a desktop assessment of the area before any development may commence. Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999), which requires that operations that expose archaeological or historical remains as well as graves and fossil material should cease immediately, pending evaluation by the provincial heritage agency.

1 BACKGROUND INFORMATION ON THE PROJECT

Table 1. Background information

Consultant:	Frans Prins (Active Heritage cc) for Green Door Environmental
Type of development:	The Applicant, Bloubank Estates (PTY) Ltd proposes to expand its existing 250 sow piggery to a 500 sow piggery on Goedgedacht Farm (Fig 4). The existing piggery is located in the south eastern portion of the Farm and currently comprises four piggery houses and associated infrastructure including workshop, shed, office and storage silo. There is an existing two dam slurry lagoon system located to the north of the piggery, which is used for the disposal and treatment of the slurry from the piggery houses. Water supply for the piggery is sourced from an existing borehole located on the property. As part of the expansion the Applicant wishes to demolish and rebuild three of the existing piggeryhouses at their current locations; and establish four new piggery houses directly adjacent to the existing facility; which will enable the expansion to 500 sows. The expanded piggery will make use of the existing service infrastructure on Goedgedacht Farm including the existing borehole water supply, slurry lagoon system and electricity supply.
Rezoning or subdivision:	Not applicable
Terms of reference	To carry out a Heritage Impact Assessment
Legislative requirements:	The Heritage Impact Assessment was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

1.1. Details of the area surveyed:

The Goedgedacht Piggery is situated approximately 25km to the south of Fochville near the R 54. The Enselspruit Train Station is situated between the R 54 and the Farm (Figs 1 & 2). The existing piggery is located in the south eastern portion of the Farm and currently comprises four piggery houses and associated infrastructure including workshop, shed, office and storage silo. There is an existing two dam slurry lagoon system located to the north of the piggery, which is used for the disposal and treatment of the slurry from the piggery houses (Fig 4). Water supply for the piggery is sourced from an existing borehole located on the farm.

The proposed expansion is located at the following GPS coordinates:

S 26°36'25.82" E 27°24'02.33"

2 BACKGROUND TO ARCHAEOLOGICAL HISTORY OF AREA

According to Van Schalkwyk (2018) the cultural heritage of the greater Fochville area essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial, Stone Age and Iron Age, occupation and a much later colonial or farmer component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less. Added to this is the development of a number of gold mines in the region.

Stone Age

Very little habitation of the central highveld area took place during Stone Age times. Artefacts dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Vaal River or the Harts River and especially in sheltered areas such as at the Taung fossil site. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. In many cases, tools dating to this period are found on the banks of the many pans that occur all over. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. It is also associated with the first anatomically modern people (*Homo sapiens*) in southern Africa. Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. These people were the ancestors and direct descendants of the Khoisan populations of southern Africa. Some Later Stone Age sites are known to occur in the area. These are mostly open sites located near river and pans. For the first time we also get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA. The LSA people have also left us with a rich legacy of rock art but it is unknown if any occurs in the greater Fochville area.

Iron Age

Iron Age agropastoralists started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Because of their specific technology and economy, Early Iron Age agropastoralists preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water. The occupation of the greater Fochville area did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating conditions that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and North West Province. The earliest Iron Age settlers who moved into the North-West Province region were Tswana-speakers such as the Tlhaping, Hurutshe, Fokeng, Kgatla and Rolong. In the region of the study area,

it was mostly the Bakwena baMare-a-Phogole who settled under their chief Kokosi in the region of Losberg south of Fochville and approximately 10km from the north east project area (Vorster 1969:52). Stone walled sites dating to the Late Iron Age and which can be probably be linked to the baMare-a-Phogole occupation of the area, are found on the farm Kraalkop, which is possibly the origin of the farm's name (Van Schalkwyk 2018). This type of settlement has been classified as belonging to the Molokwane settlement type, which originates with the Western Tswana groups such as the Hurutshe. According to Huffman (2007:41) this type of settlement stretches across the hilly areas of Gauteng west to Zeerust and they date from the late eighteenth century to the beginning of the historic period. The sites of Jachtfontein clearly shows the typical layout of these settlement, showing amalgamation into larger units increasing from west to east (Van Schalkwyk 2018).

Historic period

According to Van Schalkwyk (2018) European settlers moved into the area during the first half of the 19th century. A important heritage feature dating to this period is the Voortrekker Fort, a stone built structure, that was constructed in 1847 (Fig 3). These early Dutch-speaking settlers 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 coal and later gold. Potchefstroom was established in 1838, with Parys following a bit later in 1876, and Fochville following much later at 1920 (ibid).

During the Anglo-Boer War, a number of skirmishes occurred in the larger area. Most of these had to do with the British using the Vaal River as a border to catch the elusive Boer commandos. One such event took place in early August 1900, when Lord Methuen, coming from the south, forced Gen. De Wet across the Vaal River at Venterskroon, forcing the latter to retreat in the direction of what later was to become Fochville (Cloete 2000). What became known as the Battle of Modderfontein took place on 31 January 1901 in the area now known as Hillshaven, where Gen. Smuts soundly defeated Brig.-Gen. Cunningham (Van den Bergh 1996:112) (Van Schalkwyk 2018).

3 BACKGROUND INFORMATION OF THE SURVEY

3.1 Methodology

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted. Database surveys produced a number of sites within the greater Fochville region but none within the near environs of the proposed development. The SAHRA database was consulted and a few Specialists AIA reports (Kusel 2008; Van Schalwyk 2018) revealed no significant archaeological, Stone Age or Iron Age, sites near or at the actual footprint. Late Iron Age settlements do occur at Losberg south of Fochville (Van Schalkwyk 2018). However, these are situated approximately 10km to the north east of the project area and they are not threatened by the proposed development.

3.1.1 Other sources

Aerial photographs and topocadastral and other maps were also studied. Information of a very general nature were obtained from these sources. The SAHRIS website was also scrutinized for previous heritage surveys on the area. None of those located covered the actual project area.

.A ground survey, following standard and accepted archaeological procedures, was conducted on 20 April 2018.

3.1.2 Assumptions and Limitations

- The desktop study indicates that Stone Age Sites of all periods and traditions may occur in the greater project area but that it is unlikely to occur on the footprint.
- Early Iron Age Sites typically occur along major river valleys below the 1000m contour. The project area is situated above the 1000m contour far removed from a major river valley setting. It is therefore most unlikely to expect Early Iron Age sites on the footprint.
- Later Iron Age sites may occur in the project area. These sites were occupied by the ancestors of the first Tswana and Sotho-speaking agropastoralists as

well as their descendants. There is a distinct possibility that such sites may also occur at or close to the project area.

- Historical buildings, structures, and farmsteads do occur scattered throughout the greater Fochville area. The desktop study indicated that various historical buildings also occur in the nearby towns of Potchefstroom and Carletonville. The footprint is situated on a farm that dates back to the hisotical era and it is possible that old structures may occur on site.

3.2 Restrictions encountered during the survey

3.2.1 *Visibility*

Visibility was good.

3.2.2 *Disturbance*

No disturbance of any potential heritage features was noted.

3.3 Details of equipment used in the survey

GPS: Garmin Etrek

Digital cameras: Canon Powershot A460

All readings were taken using the GPS. Accuracy was to a level of 5 m.

4 DESCRIPTION OF SITES AND MATERIAL OBSERVED

4.1 Locational data

Province: Gauteng

Closest Towns: Fochville

Municipality: Merafong City Local Municipality

4.2 Description of the general area surveyed

4.2.1 Background

The consultant did not find any heritage sites or features on the footprint. All the buildings on the present piggery appears to be younger than 60 years old (Figs 6 -9). No heritage features or structures occur on the proposed expansion site (Fig 10). In addition, the consultant also spoke to local pedestrians who were passing by on the R54 during the survey. None of them were aware of any potential heritage sites or graves in the area. The area is also not part of any known cultural landscape (Table 3).

4.2.2 Desktop Paleontology Assessment

The updated fossil sensitivity map, as provided by the SAHRIS website, shows that the project area has a moderate paleontological sensitivity (Fig 5). According to SAHRA policy the implication is that a desktop study by a qualified palaeontologist will be required before development may proceed.

5 STATEMENT OF SIGNIFICANCE (HERITAGE VALUE)

5.1 Field Rating

Not applicable as no heritage sites are known to occur on the proposed development plot (Tables 2 & 3).

Table 2. Field rating and recommended grading of sites (SAHRA 2005)

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

Table 3. Evaluation and statement of significance.

Significance criteria in terms of Section 3(3) of the NHRA		
	Significance	Rating
1.	Historic and political significance - The importance of the cultural heritage in the community or pattern of South Africa's history.	None.
2.	Scientific significance – Possession of uncommon, rare or endangered aspects of South Africa's cultural heritage.	None.
3.	Research/scientific significance – Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.	None.
4.	Scientific significance – Importance in demonstrating the principal characteristics of a particular class of South Africa's cultural places/objects.	None.
5.	Aesthetic significance – Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.	None.
6.	Scientific significance – Importance in demonstrating a high degree of creative or technical achievement at a particular period.	None.
7.	Social significance – Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	None.
8.	Historic significance – Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa.	None.
9.	The significance of the site relating to the history of slavery in South Africa.	None.

6 RECOMMENDATIONS

No heritage sites, features or graves occur at or near the environs of the proposed piggery expansion. The area is also not part of any known cultural landscape. The paleontological desktop evaluation that an additional desktop evaluation by a qualified palaeontologist will be required before development may proceed. It is important to take note of the South African National Heritage Resources Act requires that any exposing of graves and archaeological and historical residues as well as fossils should cease immediately pending an evaluation by the heritage authorities.

7 MAPS AND FIGURES

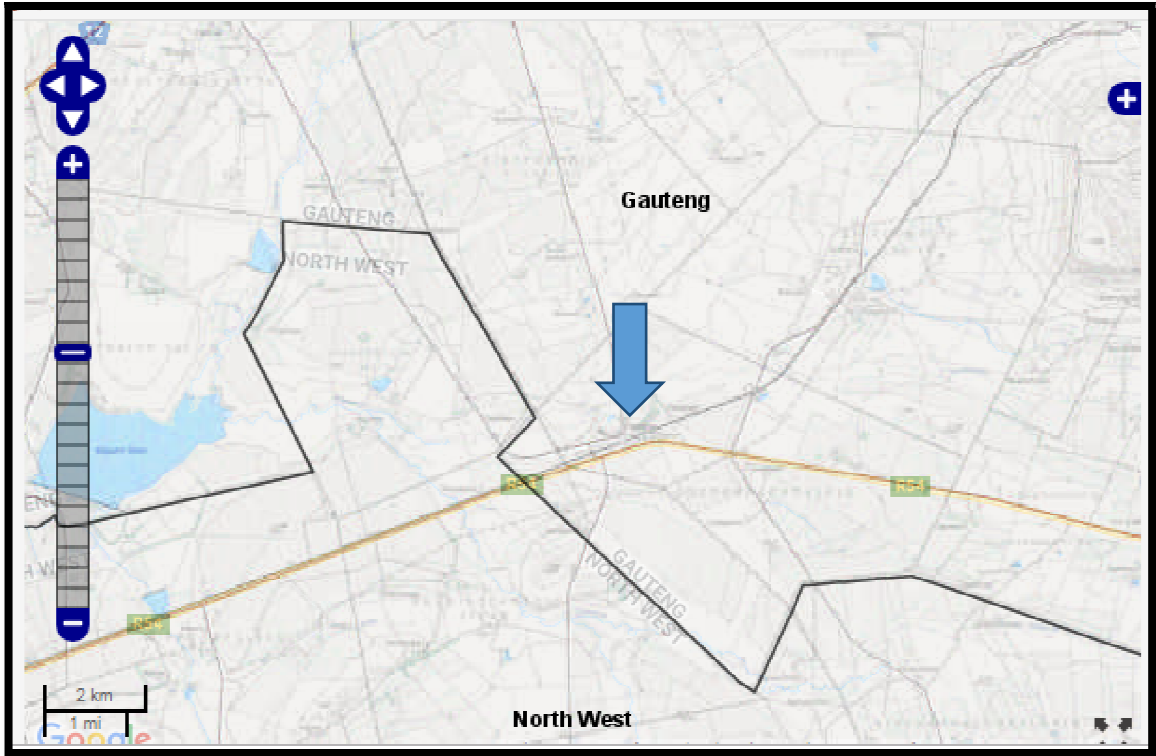


Figure 1. Topographical Map showing the location of the project area (blue arrow) near Fochville, Gauteng.



Figure 2. Google Earth Imagery showing the location of the project area near Fochville, Gauteng.

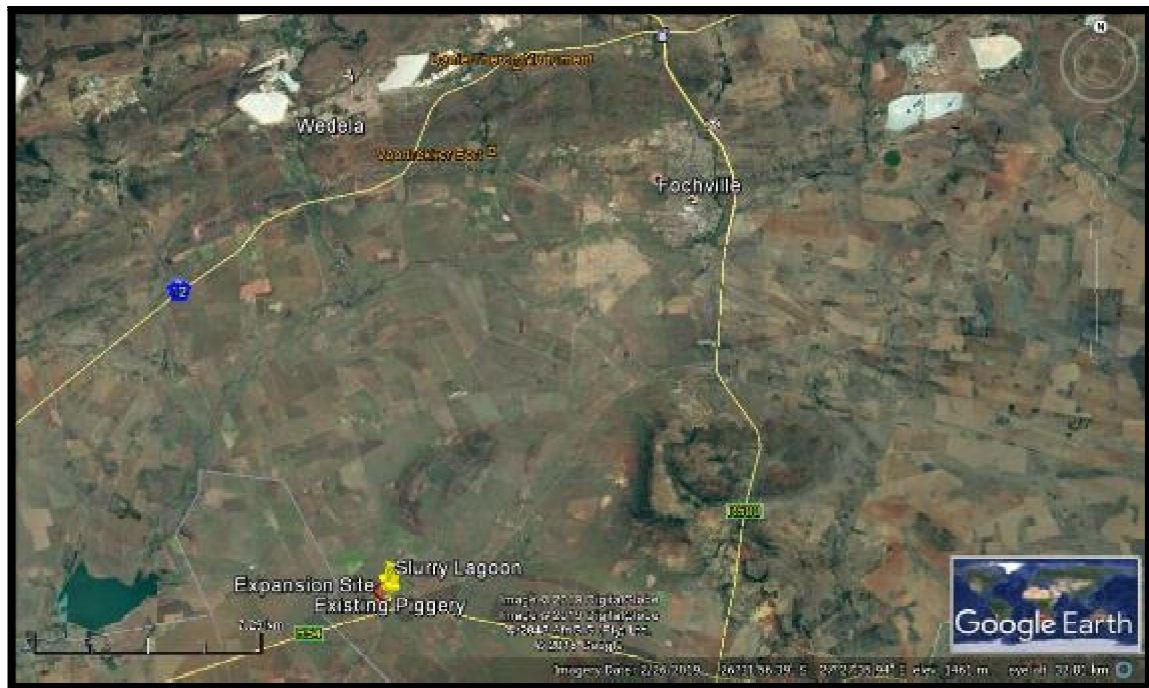
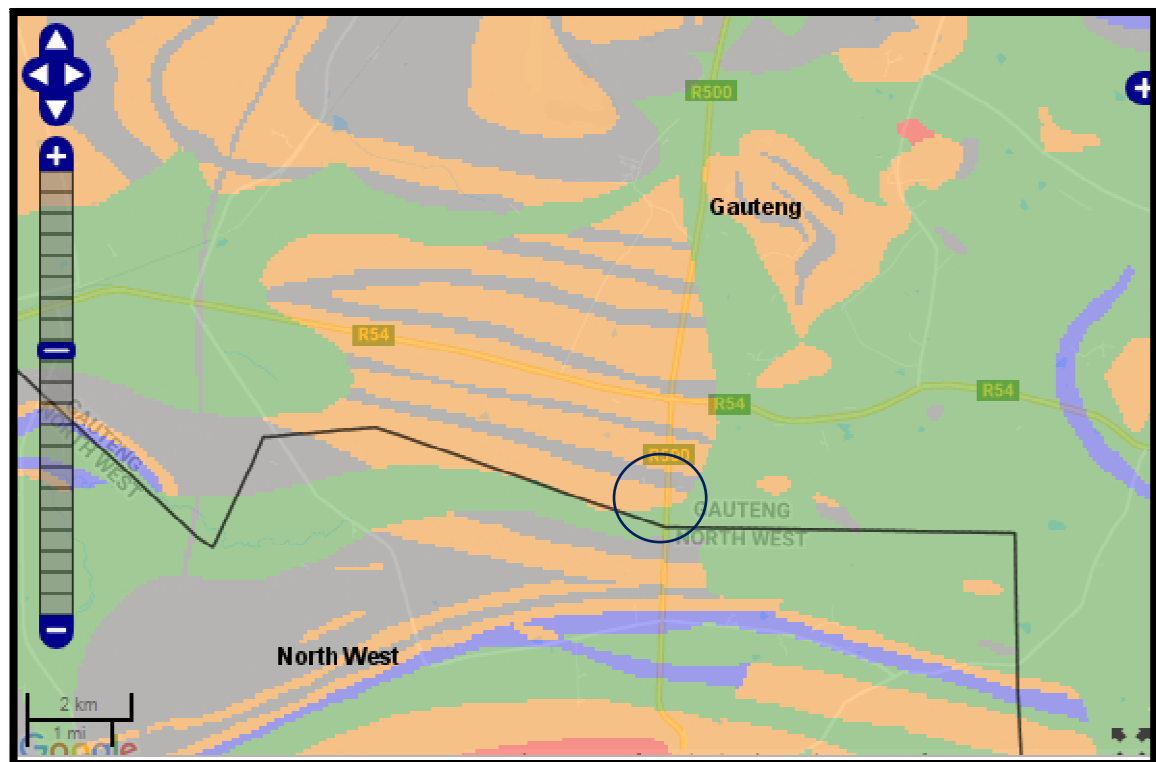


Figure 3. Google Earth Imagery showing the location of proposed piggery expansion near Fochville. The orange markers to the north of Fochville indicates the location of known historical sites.



Figure 4. Map showing the location of the proposed Fochville Piggery Expansion and relevant features on the footprint (Source: Green Door Environmental).



Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 5. Fossil Sensitivity Map of the project area: The location of the proposed development site is indicated by the black polygon. A desktop assessment by a qualified palaeontologist will be required before development may proceed (Source: SAHRIS website).



Figure 6. The Voortrekker Fort (1847) situated to the immediate north of Fochville approximately 18km from the project area.



Figure 7. View over Goedgedacht Piggery.



Figure 8. Storage silo, shed, office and associated infrastructure. None of these buildings are older than 60 years old.



Figure 9. Inside of one of the Piggery Houses. These structures are younger than 60 years old.



Figure 10. View over the proposed expansion area adjacent to the existing piggery. No heritage sites or features occur on this site.

8 REFERENCES

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