

Heritage Impact Assessment

Tom Burke Township Development

Heritage Impact Assessment for the Proposed Township
Development at Tom Burke, Lephalale Local Municipality,
Limpopo Province.

Compiled for:
Tekplan Environmental

Survey conducted & Report compiled by:
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Executive Summary

Site name and location: Proposed township development at Tom Burke on Portion 7 of the Farm Van Wykfontein 3 LR in the Lephhalale Local Municipality, Limpopo Province.

Local Authority: Lephhalale Local Municipality.

Developer: Mr. P.J. van der Walt.

Date of field work: 02 September 2015.

Date of report: 13 November 2015.

Findings: Hutten Heritage Consultants was contracted by Tekplan Environmental to conduct a Heritage Impact Assessment (HIA) for the proposed township development at Tom Burke, on Portion 7 of the Farm Van Wykfontein 3 LR, in the Lephhalale Local Municipality, Limpopo Province.

An archival and historical desktop study was undertaken which was used to compile a historical layering of the study area within its regional context. This component indicated that the landscape within which the project area is located has a rich and diverse history. However, the desktop study did not reveal any historic or heritage sites from within the specific locations of the study area.

The Sahrís Palaeontological Sensitivity Map was also consulted and it was found that the palaeontological sensitivity for the study area was moderate and that a Palaeontological Impact Assessment is required.

Prof. Bruce Rubidge completed a desktop palaeontological study for the study area. He concluded that the entire study area is deeply underlain by Precambrian amphibolite rocks of the Beit Bridge Complex of the Limpopo Mobile Belt, which in turn are overlain by Quaternary sediments. There is only a slight possibility that the Quaternary sediments could host fossils but no possibility that the amphibolites of the Beit Bridge Complex could contain fossils. He is also of the opinion that this development will not negatively affect palaeontological heritage.

He recommended that, from a palaeontological perspective, the proposed development should proceed. Should fossils be uncovered in superficial soil deposits during the course of construction activities, the developer must immediately contact a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

The desktop studies were followed by a fieldwork component which comprised an inspection of the study area. Two sites of heritage value and significance were identified during the fieldwork.

The first site was a small, fenced cemetery with 23 graves. It also includes the grave of Tom Burke after which the town was named. The following general recommendations are advisable for identified graves and cemeteries

It is recommended that the area where the graves are located be avoided during development.

If the developer decides to plan the development around the identified graves and leave them undisturbed, adequate arrangements should be made to protect the graves from the impact of the development. These should include the following:

- It is important to understand that the identified graves could have significant heritage value to the relevant families (if identified) and should therefore be preserved.
- The relevant families should be identified (if possible) and should be informed about the proposed activities which could possibly affect their graves.
- It is recommended that the identified graves should be clearly demarcated with barrier tape during the entire duration of the project and especially during earth-moving/bush clearing activities. A 10m buffer zone must be allowed around the graves.
- A watching brief performed by a suitable qualified person is recommended during the bush clearing and construction phases of the project. This person should see to it that the graves are safe and protected during these phases.
- It is advisable to fence the graves to prevent future damage. A buffer zone of at least 10m around the graves is recommended.
- The proposed earth-moving/bush clearing activities should be altered and should be planned around the graves in order to protect it from any damage or other negative impacts.
- Bush clearing crews should be made aware of the presence of the graves in order to avoid damaging it during the earth-moving activities.
- The planning team should **ensure that access to the graves by the next of kin is not limited in any way.** A management plan should be set up to ensure the future safety, access and maintenance of the graves alongside the proposed development.

If the above recommendations can't be adhered to, further steps and measures should be taken to relocate the graves to a registered municipal cemetery in the area. This should only be done as last resort if no other options are deemed to be possible. The following process should be followed:

- A process of consultation with the affected families and communities, if identified, should be initiated.
- The necessary permit applications must be made to the various government departments and compliance agencies as required by law.

Only after all the required permissions and permits have been obtained, can the graves be relocated.

The second identified site was an old farmhouse. The farmhouse is currently being occupied. From the architectural style and the building methods employed during the construction of the house it is believed that the house is most probably older than 60 years. Structures/buildings older than 60 years are protected under Section 34 of the National Heritage Resources Act 25 of 1999, which states that “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...”. It is recommended to apply for a permit for destruction from the Limpopo Heritage Resources Agency (LIHRA). LIHRA will stipulate the requirements for further mitigation work, before the permit of destruction will be issued. Only after the permit for destruction has been obtained can the destruction of the structure continue.

No other site-specific actions or any further heritage mitigation measures are recommended for the rest of the study area, as no other heritage resource sites or finds of any value or significance were identified in the indicated study area. The proposed township development on Portion 7 of the Farm Van Wyksfontein 3 LR at the indicated area can only continue if the recommendations as stipulated in this report are adhered to from a heritage point of view.

Disclaimer: *Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites and/or graves could be overlooked during the study. Hutten Heritage Consultants and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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1. Introduction

Hutten Heritage Consultants was contracted by Tekplan Environmental to conduct a Heritage Impact Assessment (HIA) for the proposed township development at Tom Burke on Portion 7 of the Farm Van Wykfontein 3 LR in the Lephalale Local Municipality, Limpopo Province.

The aim of the study was to identify all heritage sites, to document and to assess their significance within Local, Provincial and National context. The report outlines the approach and methodology implemented before and during the survey, which includes in Phase 1: Information collection from various sources and social consultations; Phase 2: Physical surveying of the area on foot and by vehicle; and Phase 3: Reporting the outcome of the study.

This HIA forms part of the Environmental Impact Assessment (EIA) as required by various Acts and Laws as described under the next heading and is intended for submission to the provincial South African Heritage Resources Agency (SAHRA) for peer review.

Minimum standards for reports, site documentation and descriptions are set by the Association of Southern African Professional Archaeologists (ASAPA) in collaboration with SAHRA. ASAPA is a legal body representing professional archaeology in the Southern African Development Community (SADC) region.

The extent of the proposed development site was determined as well as the extent of the areas to be affected by secondary activities (access routes, construction camps, etc.) during the development.

2. Legislative Requirements

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

National Environmental Management Act (NEMA) Act 107 of 1998
National Heritage Resources Act (NHRA) Act 25 of 1999
Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

National Environmental Management Act (NEMA) Act 107 of 1998
Basic Environmental Assessment (BEA) – Section (23)(2)(d)

Environmental Scoping Report (ESR) – Section (29)(1)(d)
Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
Environmental Management Plan (EMP) – Section (34)(b)
National Heritage Resources Act (NHRA) Act 25 of 1999
Protection of Heritage resources – Sections 34 to 36; and
Heritage Resources Management – Section 38
Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
Section 39(3)
Development Facilitation Act (DFA) Act 67 of 1995
The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

3. Project Area Description

The proposed township development will be situated at Tom Burke on Portion 7 of the Farm Van Wykfontein 3 LR in the Lephalale Local Municipality, Limpopo Province.

The proposed site for the development is situated on the northern side of the R572 between Swartwater and Tom Burke. The proposed area measures approximately 18.2 hectares and will host 90 erven of various sizes, roads, public open spaces and businesses.

The site is relatively flat with gravel and sandy soils. The site is bordered to the northern and western sides by game or cattle farms (figure 1). The Tom Burke Police Station with its staff residences is situated on the south-eastern side of the proposed site (figure 2).

Most of the site is being used for the planting of crops. Most of the site was recently ploughed over as well (figures 3 & 4). A farm worker's cottage (figure 5) and other farm infrastructure are also present on the site. The infrastructure includes a dam (figure 6), pumps, a dilapidated pigsty (figure 7) and an earthen dam (figure 8).

The proposed development will be situated on the Tom Burke 2327 BB and the Marnitz 2328 AA 1:50 000 topographical maps.



Figure 1: View of the neighbouring cattle/game farms.



Figure 2: A view of the adjacent Police Station and residences.



Figure 3: View of the extended recently ploughed fields.



Figure 4: Another view of the recently ploughed fields.



Figure 5: View of the farm worker's cottage.



Figure 6: View of the corrugated dam on the site.



Figure 7: View of the dilapidated pigsty.

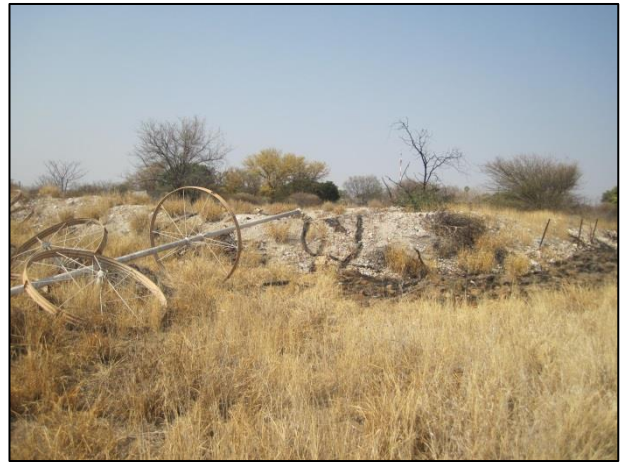


Figure 8: View of the identified earthen dam.

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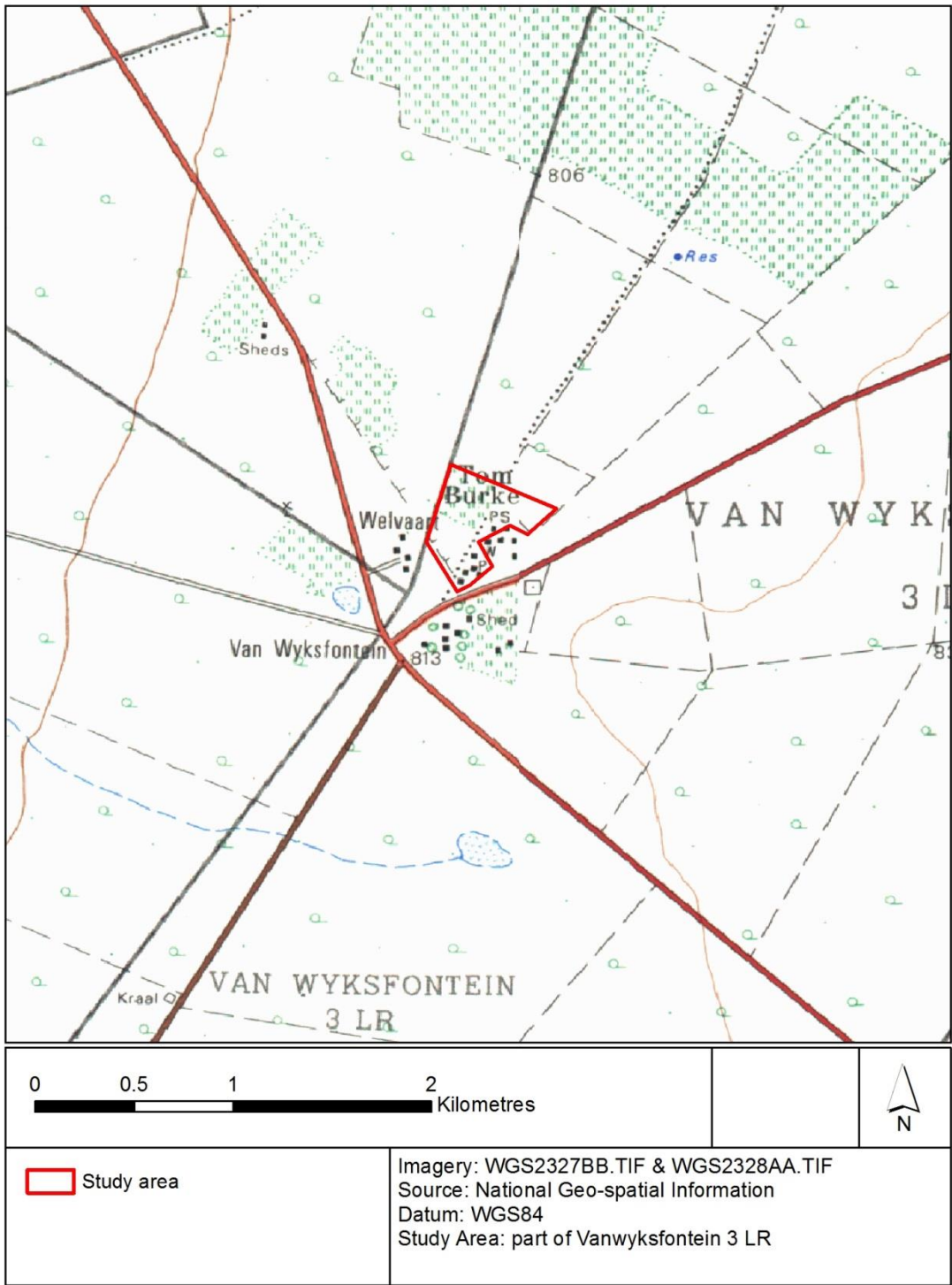


Figure 9: General topographical map of the proposed study area.

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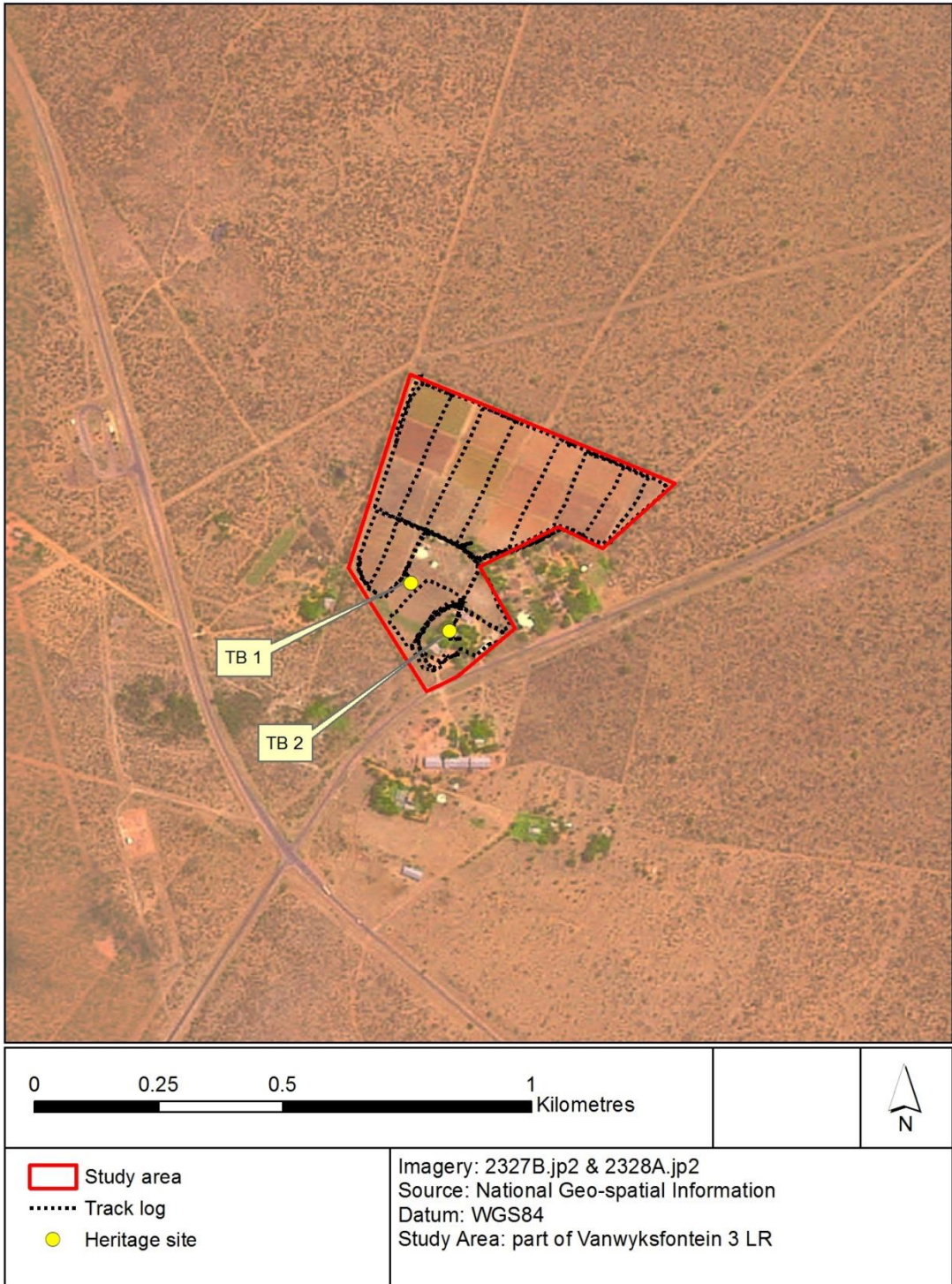


Figure 10: Satellite image of the proposed study area.

4. Proposed Project

The developer, Mr. P.J. van der Walt, has proposed a township development at Tom Burke on Portion 7 of the Farm Van Wykfontein 3 LR in the Lephalale Local Municipality, Limpopo Province.

The proposed township development measures approximately 18.2 hectares and will consist of the following:

- 79 x Residential 1 Erven
- 1 x Residential 3 Erf
- 3 x Open Space Erven
- 3 x Business Erven
- 1 x Filling Station
- 1 x Undetermined Erf
- Roads with a length of 2016m

Engineering services like sewage, water supply and electricity will also be supplied (see figure 11: development layout plan).

The purpose of the study was to determine if the proposed area was suitable for the township development from a heritage point of view.

The project was tabled during September 2015 and the developer intends to commence as soon as possible after receipt of the ROD from the Department of Environmental Affairs.

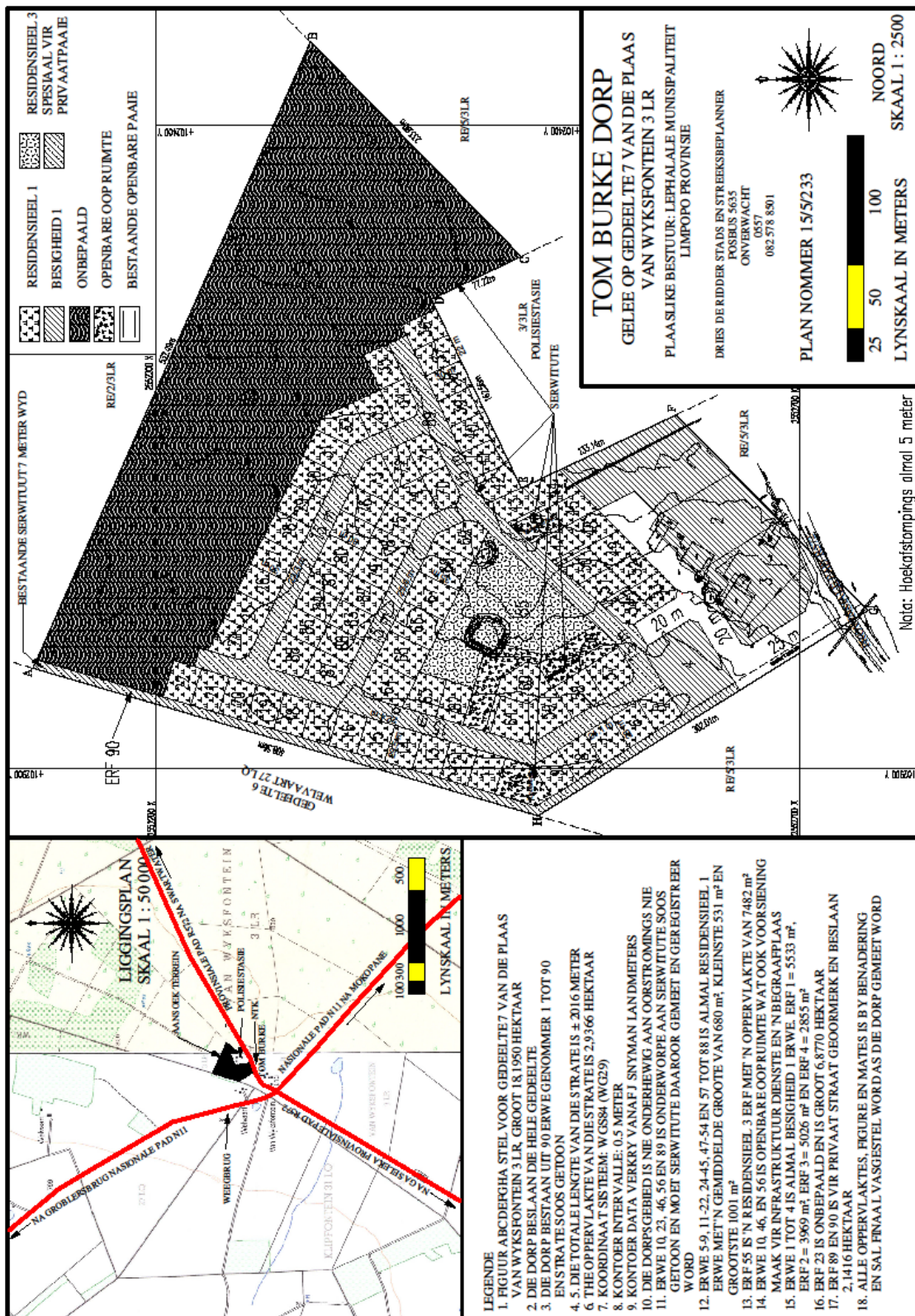


Figure 11: Proposed township development layout plan (as supplied by the developer).

5. Desktop Study Findings

The examination of heritage databases, historical data and cartographic resources represents a critical additional tool for locating and identifying heritage resources and in determining the historical and cultural context of the study area. Therefore an internet literature search was conducted and relevant archaeological and historical texts were also consulted. Relevant topographic maps and satellite imagery were studied.

5.1. Previous Heritage Studies

Researching the SAHRA APM Report Mapping Project records and the SAHRIS online database (<http://www.sahra.org.za/sahris>), it was determined that a few other archaeological or historical studies have been performed within the wider vicinity of the study area. Previous studies listed for the area in the APM Report Mapping Project included two surveys within the area listed in chronological order below:

Hutten, M., & Gaigher, S., 2000. **Proposed Development of a Cellular Base Station-Kauletsi-Northern Province.** An unpublished report by Archaeo-Info on file at SAHRA as: 2000-SAHRA-0081.

Roodt, F., 2008. **Phase 1 Heritage Resource Impact Assessment (Scoping & Evaluation) Shopping Complex Development Lephalale, Limpopo.** An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as 2008-SAHRA-0432.

Researching the SAHRIS online database (<http://www.sahra.org.za/sahris>) a few further studies were identified in the wider vicinity of the study area and are listed in numerical order below:

SAHRIS case number 889. 2012. **Final Scoping Report for the proposed construction and operation of a photovoltaic (PV) plant near Lephalale for the generation of electricity where the output is 75MW on Area 1 Farm Sterkstroom.**

SAHRIS case number 1553. 2009. **Consultation in terms of section 40 of the Mineral and Petroleum Resources Development Act 2002, (Act 28 of 2002) for the approval of an Environmental Management Plan in respect of the remaining extent of the farm Paarl 102 LQ situated in the magisterial district of Lephalale: Limpompo [sic] region.**

SAHRIS case number 2290. 2011. **Consultation in terms of Section 40 of the Mineral and Petroleum Resources Development Act 2002, (Act 28 of 2002) for an Environmental Management Programme for a mining right on the farms Gouda Fontein 76 LR, Julietta 112 LR and Moonlight 111 LR situated in the magisterial district of Lephalale/Molemole.**

SAHRIS case number 3646. 2013. **Proposed Township Development (4 700 erven) on Remainder of Richards' Lager 124 LR, Lephalale Local Municipality, Waterberg District, Limpopo Province.**

SAHRIS case number 6737. 2014. **New Eskom overhead power line to be erected from existing overhead power line on property Groenpan 92 LR**

SAHRIS case number 7995. 2015. **Eskom LOU intends to construct a 2858.06m powerline to supply the customer Radipabe with electricity. The powerline will traverse the property Hantam 114 LR in the Lephalale Local and Waerberg [sic] District Municipality of the Limpopo Province.**

SAHRIS case number 8003. 2015. **Eskom Holdings SOC Ltd, Limpopo Operating Unit (LOU) intends to construct a powerline for the above-mentioned project. documents [Distribution Environmental Screening Document (DESD), Wayleave, Span plan and Pegging coordinates attached for your reference]. Heritage resources as outlined on item 6.3 of the DESD were observed on site.**

SAHRIS case number 8478. 2015. **Eskom Holdings SOC Ltd, Limpopo Operating Unit (LOU) intends to electrify the village of Lebu. The powerline will include 519m m MV and 1.620 km LV line which will be connected from the existing MV powerline in the area on pole number TBV4/63/52/42. (Refer to the Span plan sheets and the Pegging Coordinates for more information). The line will be constructed in Lebu Village, around Marken area of Lephalale Local Municipality in the Limpopo Province.**

In addition the author undertook a 2012 heritage impact assessment a few hundred metres to the west of the current study area:

Hutten, M., 2012. **Heritage Impact Assessment for the Proposed Tom Burke Solar Park at Tom Burke, Limpopo Province.** An unpublished report by Hutten Heritage Consultants undertaken for Africa Geo-Environmental Services.

The studies consulted either found no heritage resources resulting from surveys undertaken (Hutten & Gaigher 2000, 30 kilometres south west of this study; Roodt 2008, 50 kilometres south of this study; SAHRIS case number 889, 80 kilometres south west of this study; SAHRIS case number 3646, 50 kilometres south of this study; Hutten 2012) or had no relevant impact assessment documents available (SAHRIS case number 1553, 50 kilometres south west of this study; SAHRIS case number 2290, 50 kilometres south east of this study; SAHRIS case number 6737, 70 kilometres south east of this study; SAHRIS case number 7995, 50 kilometres south east of this study; SAHRIS case number 8478, 15 kilometres south of this study). One recent study (SAHRIS case number 8003) approximately 30 kilometres to the south west noted heritage resources in the project description, indicating that these were further described in Environmental Management Plan documentation available on the SAHRIS website. However this documentation was found to be incomplete with no references to such heritage resources.

5.2. Archaeological & Historical Sequence

The historical background and timeframe of the study area and other areas in Southern Africa can be divided into the Stone Age, Iron Age and Historical period. These can be divided as follows:

Stone Age sites

The Stone Age is divided into the Early; Middle and Late Stone Age. The Early Stone Age (ESA) includes the period from 2.5 million years B.P. to 250 000 years B.P. and is associated with Australopithecines and early Homo species who practiced stone tool industries such as the Oldowan and Acheullian. The Middle Stone Age (MSA) covers various tool industries, for example the Howiesons Poort industry, in the period from 250 000 years B.P. to 25 000 years B.P. and is associated with archaic and modern Homo sapiens. The Late Stone Age (LSA) incorporates the period from 25 000 years B.P. up to the Iron Age and Historical Periods and contact between hunter-gatherers and Iron Age farmers or European colonists. This period is associated with modern humans and characterised by lithic tool industries such as Smithfield and Robberg.

Both ESA and MSA sites are known from the Limpopo Valley as well as lithic industries that appear to be transitional between the two ages and with dates estimated at 300 thousand years ago (Kuman et al. 2005). The presence of numerous rock art sites with associated stone tool assemblages in the Limpopo River basin as well as Blouberg, Makgabeng and Soutpansberg to the east and Waterberg to the south attest to the presence of Late Stone Age San/Bushman communities across the region (e.g. Pager, 1973; Eastwood et al., 2002). Migrating Sotho/Tswana tribes who entered this region called the San 'Barwana' and named the Blouberg/Makgabeng area Senwabarwana meaning the 'drinking place of the Barwana' (Bonner & Carruthers 2003). The town of Bochum east of Blouberg was recently renamed to Senwabarwana.

Iron Age

The Iron Age incorporates the arrival and settlement of Bantu speaking people and overlaps the Pre-Historic and Historical Periods. It can be divided into three phases. The Early Iron Age includes the majority of the first millennium A.D. and is characterised by traditions such as Happy Rest and Silver Leaves. The Middle Iron Age spans the 10th to the 13th Centuries A.D. and includes such well known cultures as those at K2 and Mapungubwe. The Late Iron Age is taken to stretch from the 14th Century up to the colonial period and includes traditions such as Icon and Letaba. The Limpopo Valley, particularly to the north-east of the study area, is well known for its Early and Middle Iron Age sites in the vicinity of the Shashe-Limpopo confluence and related Zhizo settlements spread to the north and west as the Toutswe culture (contemporary with K2, circa 1000 A.D.) of the Mahalapye-Palapye area of Botswana (Huffman 2007) and north of the study site. The next century saw the arrival of Sotho/Tswana groups in the region and their ceramic style was collectively named Moloko (Evers 1983). Huffman renamed the first phase of Moloko to the Icon facies. Sites with Icon type pottery extend north and south of the Soutpansberg and westwards across the study area, northwards into

Botswana. Icon sites range from 1300 - 1450 AD. The later, 2nd phase of Moloko can be divided into the Letsibogo-, Madikwe- and Olifantspoort-facies of which the Letsibogo facies is most relevant to the study area (\pm 1500 – 1700 AD). The Letsibogo facies is however, poorly documented, but occurs along the Limpopo River to the west and south of the confluence with the Shashe (Huffman 2007). The western parts of Limpopo Province and adjacent areas of the North West province are noted for the Sotho-Tswana “mega-sites” that have been the focus of intensive archaeological investigations (Evers 1983; Mason 1986; Pistorius 1992).

Bonner & Carruthers (2003) quoted an extract from van Warmelo’s text regarding the Ba-Birwa who settled in the region from the 1700’s. According to the oral history of the Ba-Birwa as documented by Van Warmelo, they originated from near the Letswalo country above modern Tzaneen. A group splintered away and moved west to Tlokwa country (Ramokgopa and Mmatshaka north of Polokwane) under chief Mahothodiala. Clashes with the Ba-Tlokwa made them move further westward and they divided again. The smaller section moved to the Ngwala hills on the farm Mietjesfontein next to the Mogalakwena River approximately 10-15km south of the Limpopo. After several years at Mietjesfontein they moved south to the Tolwe hills on the farm Klimaf, approximately 60 km to the north-east of the study area. From here the chief, Bjalope, tried to expand his rule and sent his subjects successfully in several directions to occupy a larger area. (Van Warmelo 1953). The Ba-Tlokwa (from the east), Bagananwa (from the west and south) and Ndebele (from the north) had periodic influences on the Ba-Birwa from the study area through conflict, trade and intermarriage during the 18th and 19th Centuries. The Bagananwa group settled in the Blouberg region (to the east) during the early 1800’s. The Bagananwa originated from the earlier Bahurutshe chiefdom further to the south (Rustenburg/Zeerust). After their split with the Bahurutshe these people moved to Shoshong and then to Tshwapong in Botswana (Bonner & Carruthers 2003).

Historical Period

The beginning of the Historical Period overlaps the demise of the late Stone and Iron Ages and is characterised by the first written accounts of the region from 1600 A.D. A number of early European travellers travelled through the region, including Coenraad de Buys and his party who spent time amongst the Bamangwato in the Shoshong-Tswapong area before eventually settling at Buysdorp at the base of the western Soutpansberg. Captain Frederick Elton was the first explorer to follow the Limpopo from the Shashe area to the sea and must have passed fairly close to the study area on his way to the Shashe (Elton 1872). European big game hunters started to hunt in the north-western parts of the Limpopo Province from the mid 1800’s. Their operations were based at the frontier town of Schoemansdal at the foot of the Soutpansberg. These hunters ranged widely through the Limpopo Valley and south and eastern Botswana, focussing mainly on the ivory of elephants for trade; they later employed African hunters including the Ba-Birwa, BaVenda and Bagananwa (Bonner & Carruthers 2003).

In an effort to claim control over the whole of the Republic the ZAR-government ventured into several wars with African Chiefs who resisted these claims. The 1894 war

against the Blouberg Bagananwa and their chief Malebogo was well documented by local missionary Christoph Sonntag. The war ended with the imprisonment of chief Malebogo and the ZAR-government gaining control over the Bagananwa (Sonntag undated; Bergh 1999). The area was not a significant theatre during the Anglo-Boer War although a brief battle was fought between Rhodesian and Boer forces in the vicinity of Rhodes Drift on the Limpopo some distance to the east of the study area. According to Bonner and Carruthers (2003) one overall effect of the war on the area was the total effacing of a 'previously negligible' white presence and the re-occupation of their land by formerly displaced black communities. After 1900 European farmers were encouraged by the ruling government to occupy farms in the region in an effort mainly to compromise for land losses in other parts of the province (Bonner & Carruthers 2003).

It is interesting to note that the Bourke's Luck Potholes were named after a rather unsuccessful gold digger who once staked his claim nearby. Tom Burke was perhaps one of the first prospectors to proclaim that the surrounding area at Bourke's Luck would yield gold. Unfortunately for him, he never found it – though hundreds of others did. His small gold mine proved to be completely fruitless but his legacy lives on at Bourke's Luck Potholes. The small town of Tom Burke was also named after him and his grave is situated within a small cemetery within the study area.

A point of concern was raised by one of the neighbouring landowners. He indicated that the neighbouring farm Welvaart belonged to ZAR President Paul Kruger. An archival study was launched to verify this. No information regarding President Kruger's involvement in the farm Welvaart was found in the archives. A recent and comprehensive study by Professor J.S. Bergh (S.J.P. Kruger and landownership in the Transvaal - *Historia* 59, 2, November 2014, pp 69-78) regarding the landownership of President Kruger also did not mention a farm Welvaart or any other properties in the Tom Burke area.

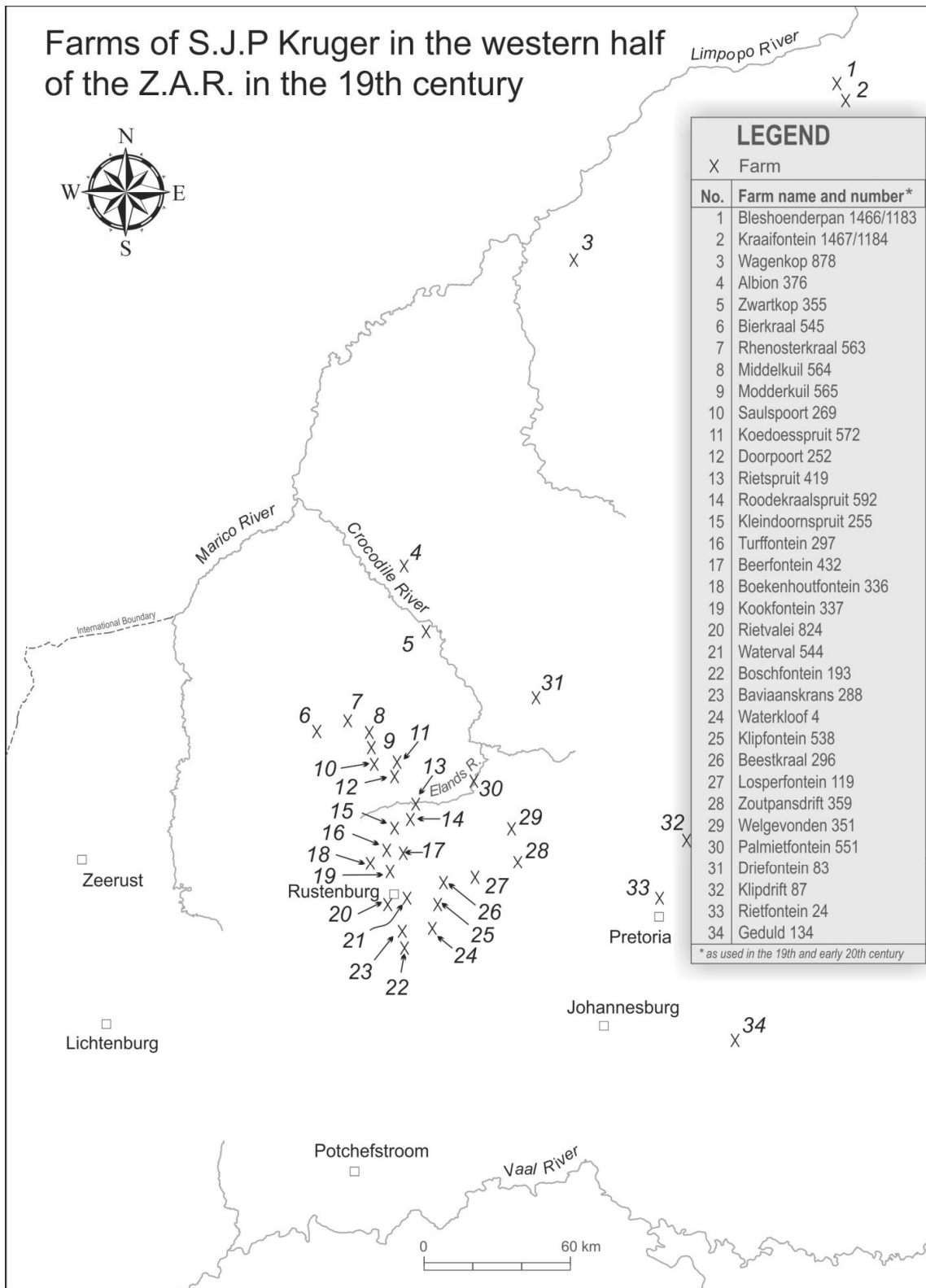


Figure 12: Farms of S.J.P. Kruger in the western half of the Z.A.R. (Bergh, 2014).

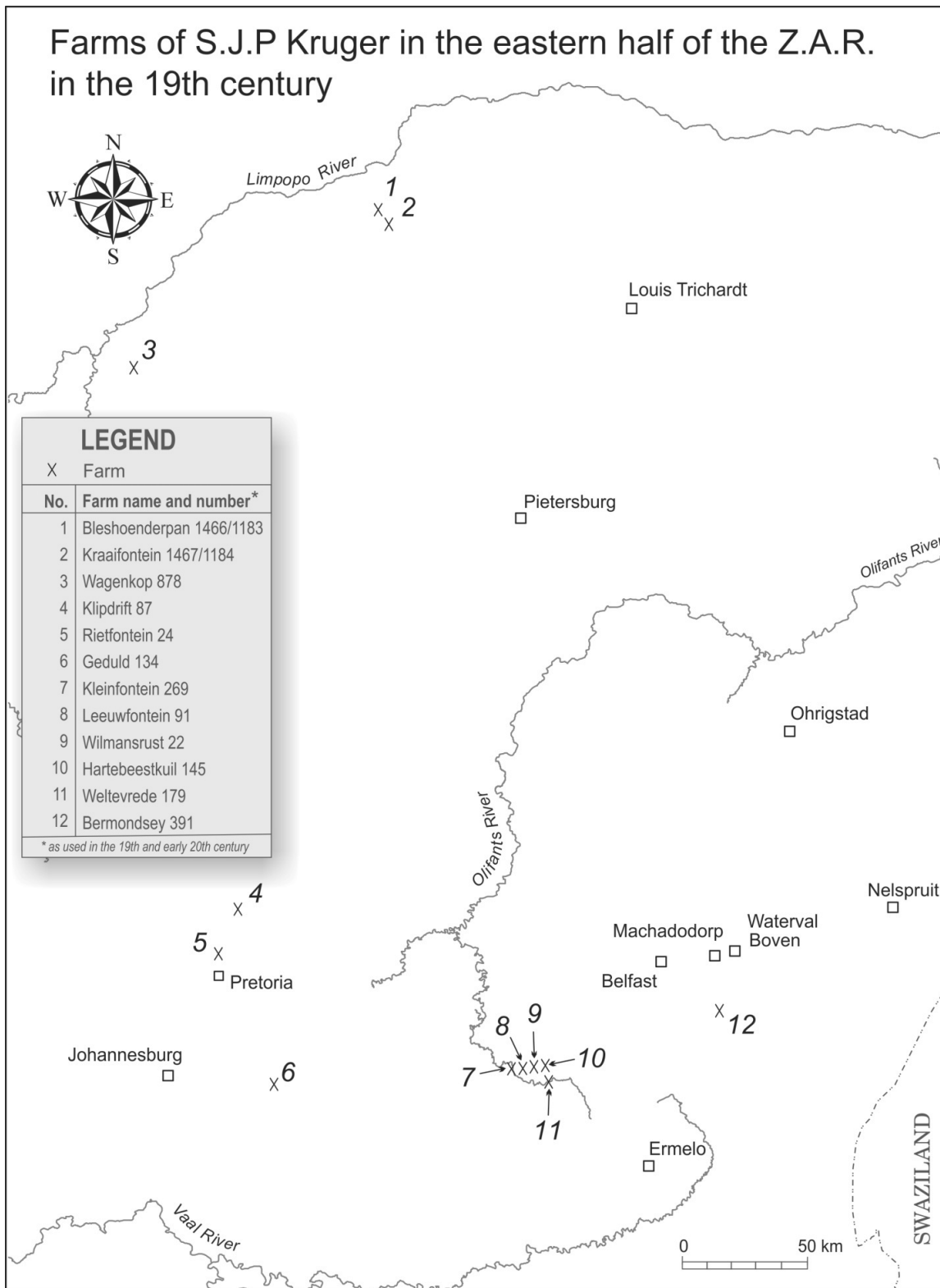


Figure 13: Farms of S.J.P. Kruger in the eastern half of the Z.A.R. (Bergh, 2014).

5.3. Palaeontology

The SAHRIS online database (<http://www.sahra.org.za/sahris>) was accessed and the Palaeontological Sensitivity Map was consulted. This map is colour coded to indicate the varied palaeontological sensitivities across the country. The following guidelines/recommendations are provided in the table below regarding the palaeontological sensitivity for each identified colour.

PalaeoSensitivity Map Action Guideline.

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 14: Palaeontological Sensitivity Map of the study areas indicated in blue (Sahrís Palaeosensitivity Map).

It was found that the palaeontological sensitivity for the study area was moderate and that a palaeontological desktop study is required.

Prof. Bruce Rubidge completed a Palaeontological Desktop Study for the proposed development (Rubidge, 2015). The following is an excerpt from that study:

“...The entire study area is deeply underlain by Precambrian amphibolite rocks of the Beit Bridge Complex of the Limpopo Mobile Belt, which in turn are overlain by Quaternary sediments. There is only a slight possibility that the Quaternary sediments could host fossils but no possibility that the amphibolites of the Beit Bridge Complex could contain fossils.”

6. Assessment Criteria

This chapter describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites were based on the following criteria:

- The unique nature of a site
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.)
- The wider historic, archaeological and geographic context of the site
- The preservation condition and integrity of the site
- The potential to answer present research questions.

6.1. Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

<i>FIELD RATING</i>	<i>GRADE</i>	<i>SIGNIFICANCE</i>	<i>RECOMMENDED MITIGATION</i>
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected (GP.A)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected (GP.C)	Grade 4C	Low Significance	Destruction

6.2. Impact Rating:

Low or No Significance:

The constraint is absent, but in instances where present, poses a negligible significance on the proposed development in terms of heritage concerns.

Moderate Significance:

The constraint is present and poses a notable but not major significance on the proposed development in terms of heritage concerns. If the constraint can't be avoided, appropriate mitigation measures must be implemented to minimize the significance.

High Significance:

The constraint is present and poses a high significance on the proposed development in terms of heritage concerns. It is recommended that the constraint be avoided or appropriate mitigation measures must be implemented to minimize the significance.

6.3. Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a particular fact, or of the likelihood of an impact occurring.

POSSIBLE: Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.

UNSURE: Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

6.4. Duration

SHORT TERM: 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

6.5. Mitigation

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified as follows:

- **A** – No further action necessary
- **B** – Mapping of the site and controlled sampling required
- **C** – Preserve site, or extensive data collection and mapping required; and
- **D** – Preserve site

7. Methodology

7.1. Physical Survey

The extent of the proposed development site was determined as well as the extent of the areas to be affected by secondary activities (access route, construction camp, etc.) during the development.

The physical survey was conducted on foot over the entire area proposed for development. Priority was placed on the undisturbed areas. A systematic inspection of the areas on foot along linear transects resulted in the maximum coverage of the proposed areas. The author and two experienced field workers, transected the study area in parallel transects of approximately 30m between them. The field work was conducted on 02 September 2015 and most of the day was spent on the survey, which was performed by M. Hutten and field workers T. Mulaudzi and E. Khorommbi. The survey focused on the indicated study area as provided by the developer where the proposed development will be situated. Areas outside of the indicated study areas were not surveyed.

7.2. Interviews

No one was interviewed as nobody was present on site during the time of the investigations.

7.3. Restrictions

Recent ploughing activities disturbed and restricted the surface visibility in most of the study area.

7.4. Documentation

All sites/find-spots, if any, located during the foot surveys were briefly documented. The documentation included digital photographs and descriptions as to the nature and condition of the site and recovered materials. The sites/find-spots were plotted using a Global Positioning System (GPS) (Garmin GPSmap 60CSx) and numbered accordingly. The track logs and identified sites are depicted on the following map and satellite image.

Tom Burke Township Development

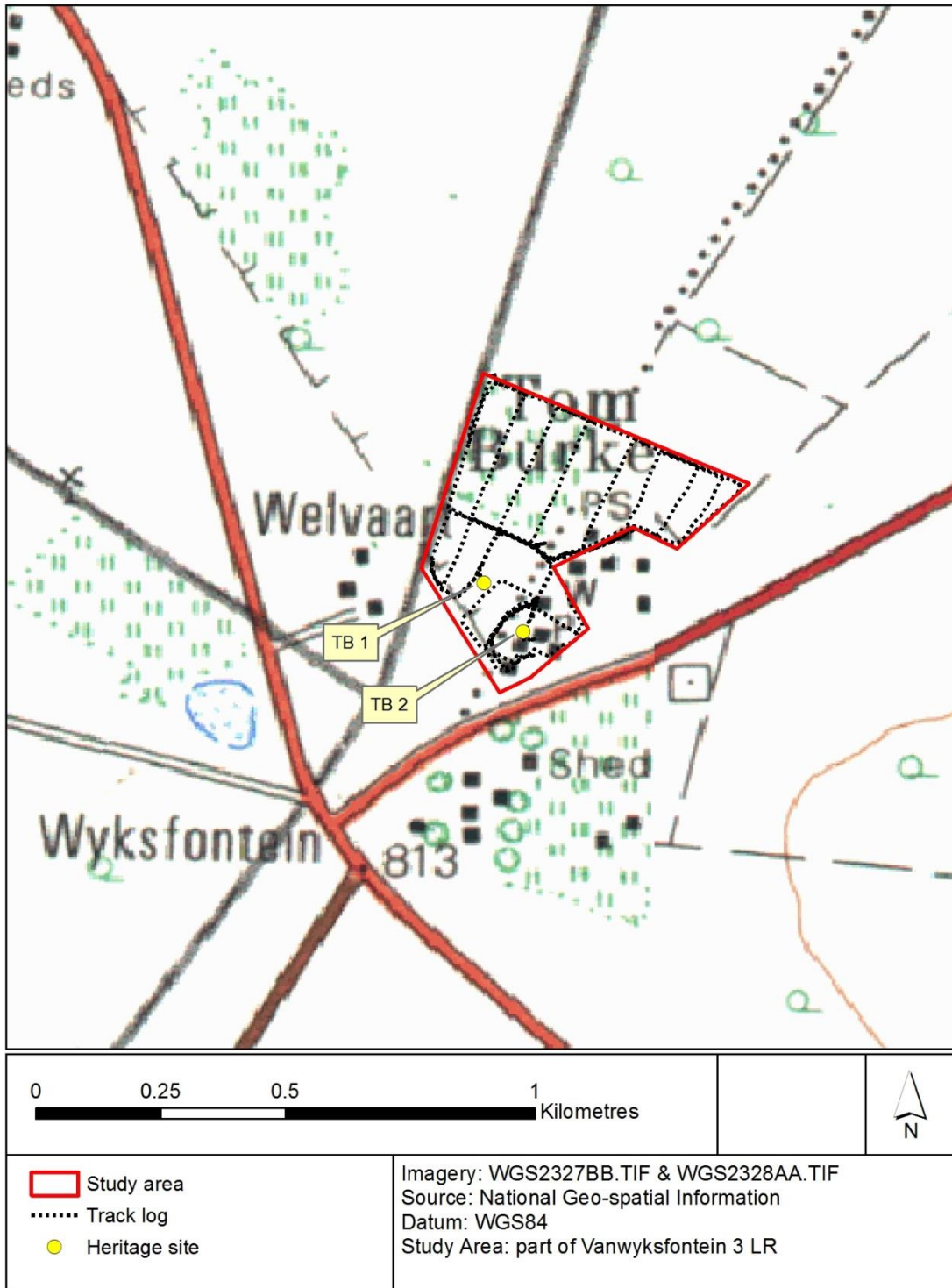


Figure 15: Topographic map of the study area with the track log.

Tom Burke Township Development

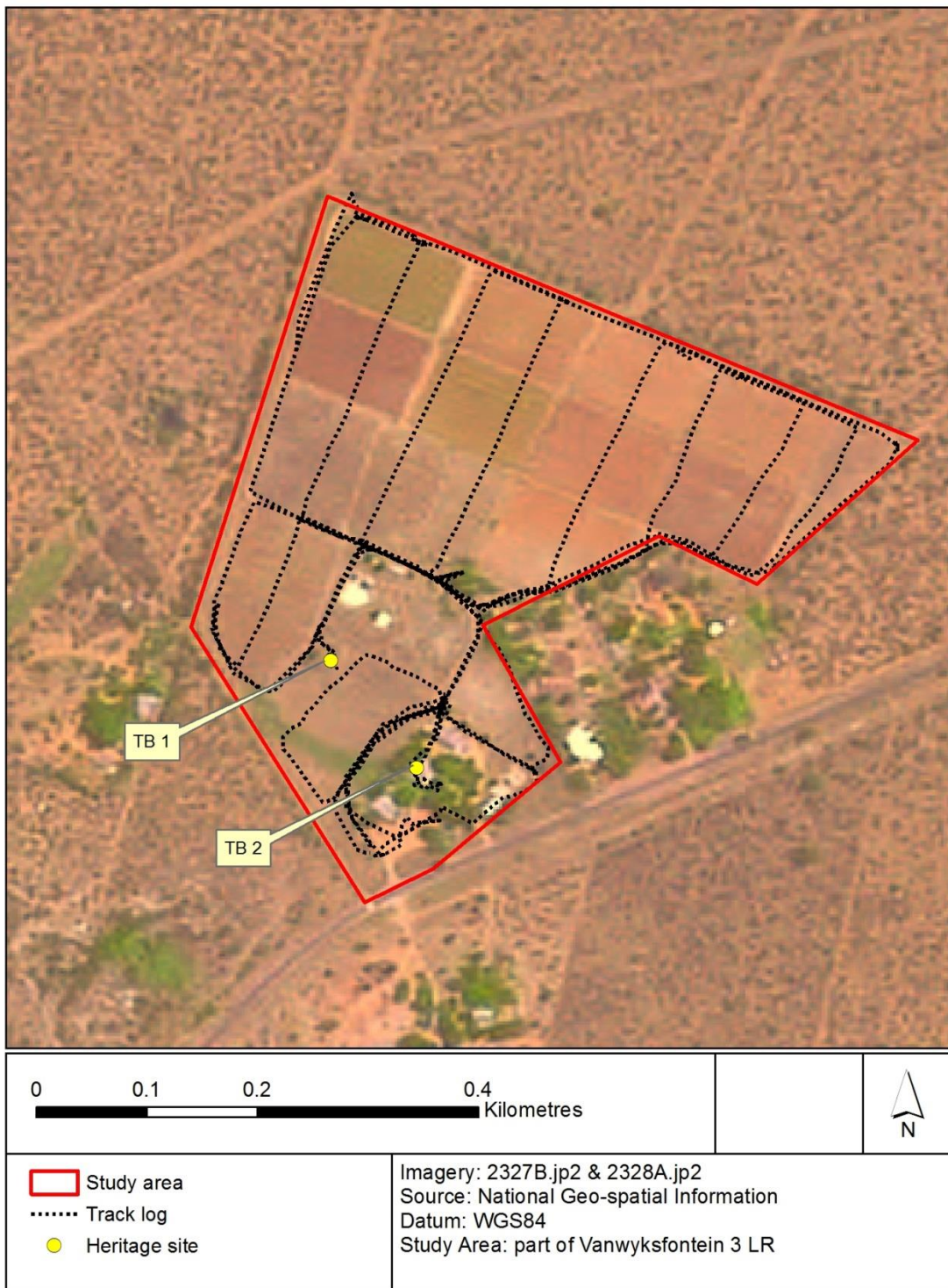


Figure 16: Satellite image of the study area with the track log

8. Assessment of Sites and Finds

This section contains the results of the heritage site/find assessment.

Tom Burke Township Development

8.1. Site TB 001:

GPS: 23,06887° S
27,99662° E

A small, fenced cemetery was identified at this location (figure 17). The cemetery measures approximately 10m x 20m in size and has 23 graves within it. The graves were all orientated from west to east and they were placed in two unequal lines next to each other. Nine of the graves have formal granite dressings and headstones (figures 18 & 19) and the rest of the graves have brick and cement frames as dressings, with cement or sandstone headstones (figure 20). The graves varied in age from between the 1920's up to the 1970's. The cemetery was not maintained recently and some of the graves are damaged.



Figure 17: View of the cemetery from the south.



Figure 18: View of some of the formal granite graves.



Figure 19: View of the grave of Tom Burke and his wife.



Figure 20: View of one of the cement framed graves.

Field Rating:	Generally Protected A
Heritage Significance:	High
Impact:	High
Certainty:	Probable
Duration:	Long Term
Mitigation:	D – Preserve site

8.2. Site TB 002:

GPS: 23,06974° S
27,99732° E

An old farmhouse was identified at this location (figure 21). The farmhouse is square and measures approximately 20m x 20m in size. The house has a pitched corrugated roof and metal window and door frames (figure 22). An extended veranda is situated on the western side of the house (figure 23). The house has external water (figure 24) and electrical systems and this could indicate that the house is most probably older than 60 years old.

Several other structures are situated near or next to the house. These include a garage/storeroom and a shop. These structures were later additions and are not as old as the house itself.



Figure 21: View of the old farmhouse from the north.



Figure 22: View of one of the metal framed doors of the house.



Figure 23: View of the veranda on the western side of the house.



Figure 24: View of the external plumbing system of the house.



Figure 25: View of the garage/storeroom on the eastern side of the house.



Figure 26: View of the shop on the western side of the house.

Field Rating:	Generally Protected B
Heritage Significance:	Medium
Impact:	Moderate
Certainty:	Probable
Duration:	Demolished
Mitigation:	B – Site will be demolished or is already demolished

9. Conclusion and Recommendations

The following steps and measures are recommended regarding the investigated area:

Tom Burke Township Development

Hutten Heritage Consultants was contracted by Tekplan Environmental to conduct a Heritage Impact Assessment (HIA) for the proposed township development at Tom Burke, on Portion 7 of the Farm Van Wykfontein 3 LR, in the Lephalale Local Municipality, Limpopo Province. Two sites of heritage value and significance were identified during the investigations.

9.1. Site TB 001:

This site is a small, fenced cemetery with 23 graves. It also includes the grave of Tom Burke after which the town was named. The developer has indicated that the development will be around the cemetery and that it would not be affected by the development. The following general recommendations are advisable for identified graves and cemeteries:

It is recommended that the area where the graves are located be avoided during development.

If the developer decides to plan the development around the identified graves and leave them undisturbed, adequate arrangements should be made to protect the graves from the impact of the development. These should include the following:

- It is important to understand that the identified graves could have significant heritage value to the relevant families (if identified) and should therefore be preserved.
- The relevant families should be identified (if possible) and should be informed about the proposed activities which could possibly affect their graves.
- It is recommended that the identified graves should be clearly demarcated with barrier tape during the entire duration of the project and especially during earth-moving/bush clearing activities. A 10m buffer zone must be allowed around the graves.
- A watching brief performed by a suitable qualified person is recommended during the bush clearing and construction phases of the project. This person should see to it that the graves are safe and protected during these phases.
- It is advisable to fence the graves to prevent future damage. A buffer zone of at least 10m around the graves is recommended.
- The proposed earth-moving/bush clearing activities should be altered and should be planned around the graves in order to protect it from any damage or other negative impacts.
- Bush clearing crews should be made aware of the presence of the graves in order to avoid damaging it during the earth-moving activities.
- The planning team should **ensure that access to the graves by the next of kin is not limited in any way**. A management plan should be set up to ensure the future safety, access and maintenance of the graves alongside the proposed development.

If the above recommendations can't be adhered to, further steps and measures should be taken to relocate the graves to a registered municipal cemetery in the area. This should only be done as last resort if no other options are deemed to be possible. The following process should be followed:

- A process of consultation with the affected families and communities, if identified, should be initiated.
- The necessary permit applications must be made to the various government departments and compliance agencies as required by law.

Only after all the required permissions and permits have been obtained, can the graves be relocated.

9.2. Site TB 002:

This identified site is an old farmhouse. The farmhouse is currently being occupied. From the architectural style and the building methods employed during the construction of the house it is believed that the house is most probably older than 60 years. Structures more than 60 years old are protected under Section 34 of the National Heritage Resources Act 25 of 1999, which states that “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...”.

It is recommended to apply for a permit for destruction from the Limpopo Heritage Resources Agency (LIHRA). LIHRA will stipulate the requirements for further mitigation work, before the permit of destruction will be issued. Only after the permit for destruction has been obtained can the destruction of the structure continue.

9.3. Palaeontology:

The Sahrís Palaeontological Sensitivity Map was also consulted and it was found that the palaeontological sensitivity for the study area was moderate and that a Palaeontological Impact Assessment is required.

Prof. Bruce Rubidge completed a desktop palaeontological study for the study area. He concluded that the entire study area is deeply underlain by Precambrian amphibolite rocks of the Beit Bridge Complex of the Limpopo Mobile Belt, which in turn are overlain by Quaternary sediments. There is only a slight possibility that the Quaternary sediments could host fossils but no possibility that the amphibolites of the Beit Bridge Complex could contain fossils. He is also of the opinion that this development will not negatively affect palaeontological heritage.

He recommended that, from a palaeontological perspective, the proposed development should proceed. Should fossils be uncovered in superficial soil deposits during the course of construction activities, the developer must immediately contact a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

No other site-specific actions or any further heritage mitigation measures are recommended for the rest of the study area, as no other heritage resource sites or finds of any value or significance were identified in the indicated study area. The proposed township development on Portion 7 of the Farm Van Wyksfontein 3 LR at the indicated area can only continue if the recommendations as stipulated in this report are adhered to from a heritage point of view.

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