



# PHASE 1 HERITAGE IMPACT ASSESSMENT

for the Proposed Lion Valley Truck Stop on Portion 42 of the  
Farm Roodraai 34 JT, Mashishing, Mpumalanga

**For:**

Lokisa Environmental Consulting cc

**Project Ref:**

Lion Valley Truck Stop

**Date:**

02/09/2022

**Phase 1 Heritage Impact Assessment for the Proposed Lion Valley Truck Stop on Portion 42 of the Farm  
Rooidraai 34 JT, Mashishing, Mpumalanga**

Project Ref: Lion Valley Truck Stop  
Report No: LE-0209221  
Report Version: 1

I, Tobias Coetzee, declare that –

- I act as the independent specialist;
- I am conducting any work and activity relating to the proposed Lion Valley Truck Stop in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this declaration are true and correct.

Author	Qualification	Email	Date	Signature
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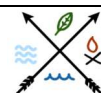
## Executive Summary

The author was appointed by Lokisa Environmental Consulting cc to undertake a Phase 1 Heritage Impact Assessment for the proposed Lion Valley Truck Stop on Portion 42 of the Farm Roodraai 34 JT near Mashishing/Lydenburg in the Mpumalanga Province. The proposed truck stop is located approximately 4.3 km southwest of Mashishing/Lydenburg and falls within the Thaba Chweu Local Municipality. The aim of the study is to determine the scope of archaeological resources that could be impacted by the construction of the proposed truck stop.

The general study area is associated with a combination of open veldt and a section disturbed by the clearing of vegetation. A possibility also exists that the entire area used to be cultivated, indicating a lower sensitivity and potential impact to cultural resources. Three contemporary sites consisting of a building ruin, stone platform and a dam were noted within the demarcated land parcel. These sites (B01 – B03), however, do not exceed 60 years of age, are not considered to be significant or sensitive from a heritage perspective and are located outside of the proposed construction footprint.

One potential grave (B04) consisting of a stone cairn, was observed near the north-western corner of the study area. Due to the sensitive nature of graves/burial sites, a 20m fenced-off conservation buffer should be erected around the potential grave in order to avoid accidental damage to the site. Alternatively, the site may be inspected using Ground Penetrating Radar operated by a suitably qualified specialist, or a grave relocation process may be initiated.

Subject to adherence to the recommendations and approval by SAHRA, the proposed Lion Valley Truck Stop as per the indicated boundary may continue. Should skeletal remains be exposed during development and construction phases, all activities must be suspended, and the relevant heritage resources authority must be contacted (See National Heritage and Resources Act, 25 of 1999 section 36 (6)). Also, should culturally significant material be discovered during the course of the said development, all activities must be suspended pending further investigation by a qualified archaeologist.



## List of Abbreviations

**AIA** – Archaeological Impact Assessment

**CRM** – Cultural Resource Management

**DMR** – Department of Mineral Resources

**EIA** – Environmental Impact Assessment

**ESA** – Early Stone Age

**GPR** – Ground Penetrating Radar

**ha** – Hectare

**HIA** – Heritage Impact Assessment

**km** – Kilometre

**LIA** – Late Iron Age

**LSA** – Later Stone Age

**m** – Metre

**MASL** – Metres Above Sea Level

**MEC** – Member of the Executive Council

**MSA** – Middle Stone Age

**NHRA** – National Heritage Resources Act

**PCD** – Pollution Control Dam

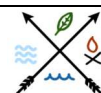
**SAHRA** – South African Heritage Resources Agency





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# 1. Project Background

## 1.1 Introduction

Lokisa Environmental Consulting cc appointed the author to undertake a Phase 1 Heritage Impact Assessment for the proposed Lion Valley Truck Stop on Portion 42 of the Farm Rooidraai 34 JT (**Table 1**) near Mashishing/Lydenburg in the Mpumalanga Province (**Figure 1**). The proposed truck stop falls within the Thaba Chweu Local Municipality and is located approximately 4.3 km southwest of Mashishing/Lydenburg. The purpose of this study is to examine the demarcated study area in order to determine if any archaeological resources of heritage value will be impacted by the construction of the proposed truck stop, as well as to archaeologically contextualise the general study area. The aim of this report is to provide the developer with information regarding the potential location of heritage resources within the demarcated study area.

In the following report, the implications for the proposed Lion Valley Truck Stop on the demarcated portion regarding heritage resources are discussed: Portions 42 of the Farm Rooidraai 34 JT. The development will consist of a truck stop and the associated infrastructure. The legislation section included serves as a guide towards the effective identification and protection of heritage resources and will apply to any such material unearthed during the development and construction phases of the project.



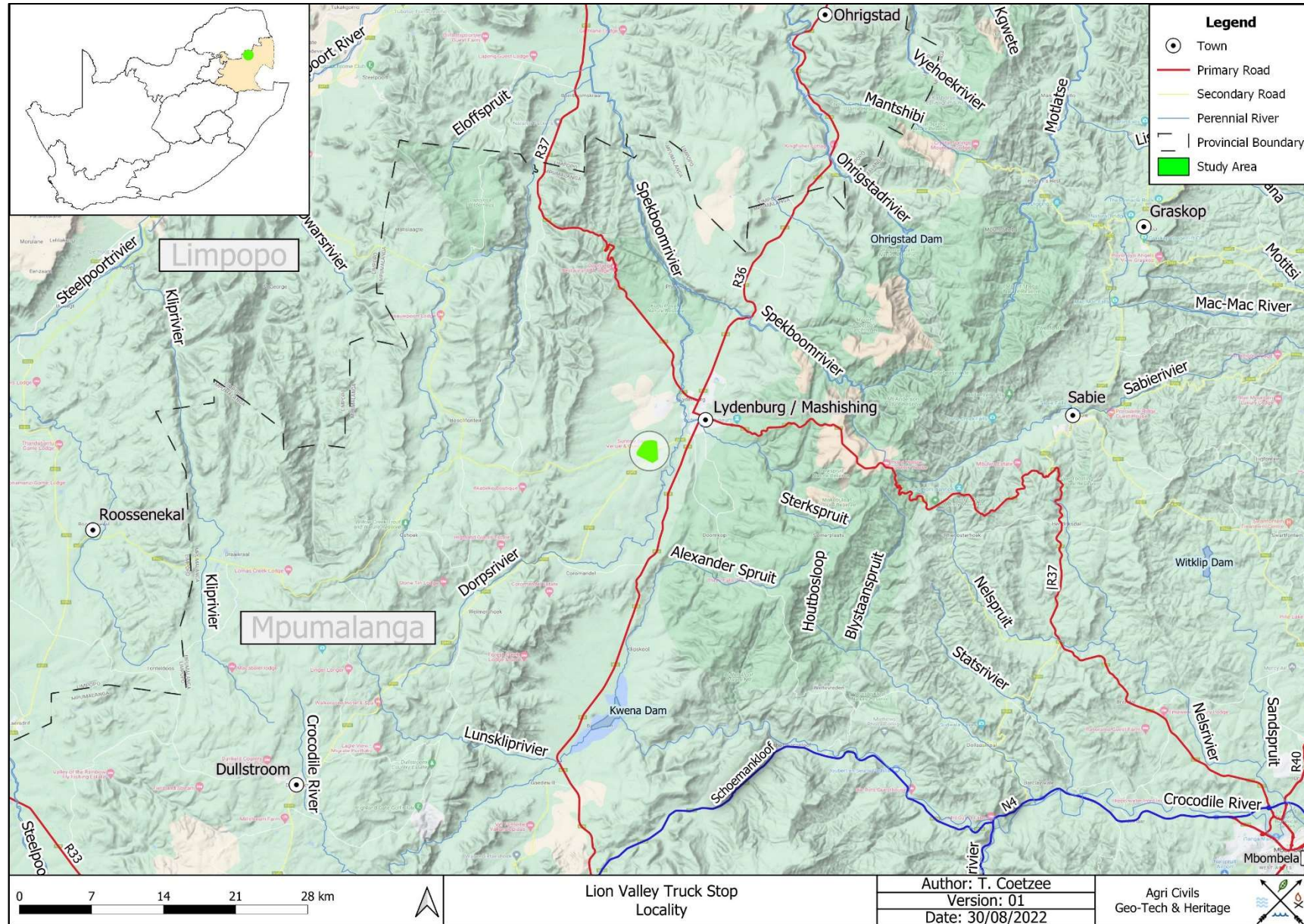


Figure 1: Regional and Provincial location of the study area.





## 1.2 Legislation

The South African Heritage Resources Agency (SAHRA) aims to conserve and control the management, research, alteration and destruction of cultural resources of South Africa and to prosecute if necessary. It is therefore crucially important to adhere to heritage resource legislation contained in the Government Gazette of the Republic of South Africa (Act No.25 of 1999), as many heritage sites are threatened daily by development. Conservation legislation requires an impact assessment report to be submitted for development authorisation that must include an AIA if triggered.

Archaeological Impact Assessments (AIAs) should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources that might occur in areas of development and (b) make recommendations for protection or mitigation of the impact of the sites.

### 1.2.1 The EIA (Environmental Impact Assessment) and AIA processes

Phase 1 Archaeological Impact Assessments generally involve the identification of sites during a field survey with assessment of their significance, the possible impact that the development might have, and relevant recommendations.

All Archaeological Impact Assessment reports should include:

- a. Location of the sites that are found;
- b. Short descriptions of the characteristics of each site;
- c. Short assessments of how important each site is, indicating which should be conserved and which mitigated;
- d. Assessments of the potential impact of the development on the site(s);
- e. In some cases a shovel test, to establish the extent of a site, or collection of material, to identify the associations of the site, may be necessary (a pre-arranged SAHRA permit is required); and
- f. Recommendations for conservation or mitigation.

This AIA report is intended to inform the client about the legislative protection of heritage resources and their significance and make appropriate recommendations. It is essential to also provide the heritage authority with sufficient information about the sites to enable the authority to assess with confidence:

- a. Whether or not it has objections to a development;
- b. What the conditions are upon which such development might proceed;
- c. Which sites require permits for mitigation or destruction;



- d. Which sites require mitigation and what this should comprise;
- e. Whether sites must be conserved and what alternatives can be proposed to relocate the development in such a way as to conserve other sites; and
- f. What measures should or could be put in place to protect the sites which should be conserved.

When a Phase 1 AIA is part of an EIA, wider issues such as public consultation and assessment of the spatial and visual impacts of the development may be undertaken as part of the general study and may not be required from the archaeologist. If, however, the Phase 1 project forms a major component of an AIA it will be necessary to ensure that the study addresses such issues and complies with Section 38 of the National Heritage Resources Act.

### 1.2.2 Legislation regarding archaeology and heritage sites

*National Heritage Resource Act No.25 of April 1999*

Buildings are among the most enduring features of human occupation, and this definition therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Farming Community settlements. The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996), or in a provincial law pertaining to records or archives;
- any other prescribed category.

With regards to activities and work on archaeological and heritage sites this Act 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.” (34. [1] 1999:58)*

and

*“No person may, without a permit issued by the responsible heritage resources authority:*

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.”(35. [4] 1999:58)*

and

*“No person may, without a permit issued by SAHRA or a provincial heritage resources authority:*

- (a) destroy, damage, alter, exhume or remove from its original position or 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, 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;*
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals.” (36. [3] 1999:60)*

On the development of any area the gazette states that:

*“...any person who intends to undertake a development categorised as:*

- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site-*



- i. *exceeding 5000m<sup>2</sup> in extent; or*
  - ii. *involving three or more existing erven or subdivisions thereof; or*
  - iii. *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
  - iv. *the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) *the re-zoning of a site exceeding 10000m<sup>2</sup> in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.” (38. [1] 1999:62-64)*

and

*“The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:*

- (a) *The identification and mapping of all heritage resources in the area affected;*
- (b) *an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) *an assessment of the impact of the development on such heritage resources;*
- (d) *an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) *the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) *if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) *plans for mitigation of any adverse effects during and after the completion of the proposed development.” (38. [3] 1999:64)*





The Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities. Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983.

## 2. Study Area and Project Description

### 2.1 Location & Physical Environment

The proposed Lion Valley Truck Stop is situated to the southwest of Mashishing/Lydenburg. The identified land parcel is listed below (**Table 1**):

**Table 1:** Farm Portions & Coordinates.

Farm Name	Farm Portion	Map Reference (1:50 000)	Lat	Lon	Land Parcel Extent (ha)
Rooidraai 34 JT	42/34	2530 AB	-25.127398	30.410013	9.87
<b>Estimated development area: 3.8 ha</b>					

The study area is located 4.3 km southwest of Mashishing/Lydenburg, while Sabie is located 41 km to the west, Ohrigstad 45 km to the north-northeast and Roosenekal 54 km to the west (**Figure 1**). The study area falls within the Ehlanzeni District Municipality and the Thaba Chweu Local Municipality in the Mpumalanga Province. In terms of vegetation, the study area falls within the Grassland Biome, which is typically associated with summer rainfall regions. This Biome covers approximately 28% of South Africa. According to the vegetation classification by Mucina & Rutherford (2006), the study area falls within the Lydenburg Thornveld vegetation unit.

Lydenburg Thornveld is found in the Mpumalanga Province in a broad band between the high-lying mountains around Ohrigstad in the north to the Kwena Dam in the south. This vegetation unit's conservation status is considered to be vulnerable with a conservation target of 27%. Only about 2% is protected within the Gustav Klingbiel and Ohrigstad Dam Nature Reserves, while a total of 22% of this unit has been transformed by dryland and irrigated cultivation. Erosion associated with this vegetation unit varies between very low and moderate (Mucina & Rutherford 2006).

The average elevation for Lydenburg Thornveld varies between 1160 and 1660 MASL (metres above sea level). The average elevation of the project area is 1480 MASL and slopes from the slightly more elevated western section to the lower eastern section.

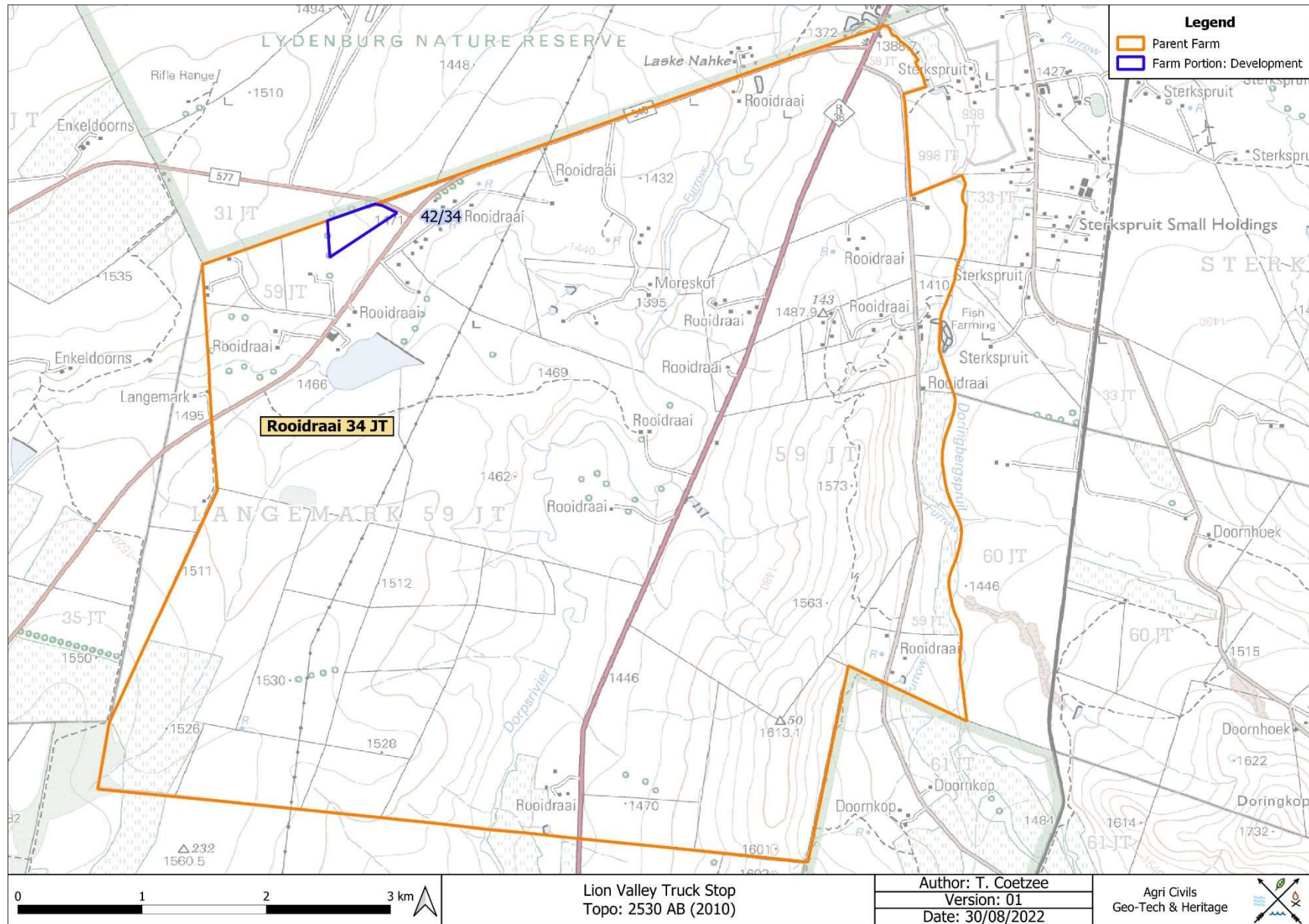


The study area falls within the summer rainfall region and the average annual rainfall is roughly 854 mm. The average annual temperature is 15.2 °C. The average summer temperature is 18.4°C, while the winter temperature averages 10 °C (Climate-data.org accessed 30/08/2022).

The study area falls within the B42A Quaternary Catchment that forms part of the Olifants Water Management Area (WMA). The closest perennial river to the study area is the Dorps River that flows approximately 2.2 km to the east. Another perennial river, the Marambane, flows roughly 2.9 km to the northwest. A non-perennial offshoot of the Dorps River is also found directly to the north of the study area, and another 1 km to the south. The Kwena Dam is located approximately 21 km to the south.

When the surrounding environment is considered, the region is generally associated with agricultural activities. Access to the study area is via the R577 Secondary Road that runs along the north-eastern border of the demarcated land parcel (**Figures 2 & 3**). The R540 runs in a northeast-southwest direction approximately 145 m to the southeast. The demarcated study area is currently associated with open veldt utilised as pasture land, while roughly 4 ha has already been disturbed by the clearing of vegetation.





**Figure 2:** Segment of SA 1: 50 000 2530 AB indicating the study area.





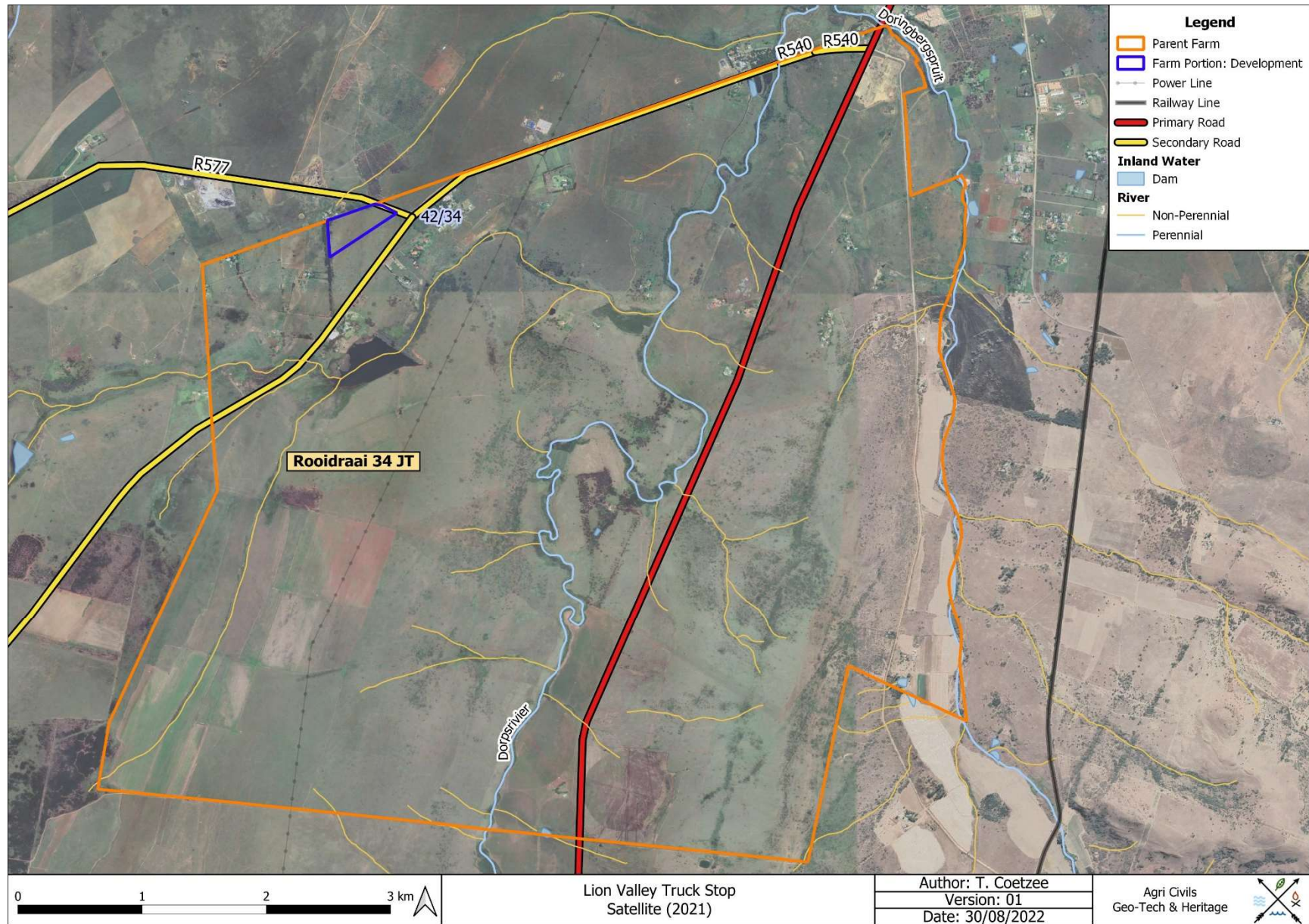


Figure 3: Study area portrayed on a 2021 satellite image.



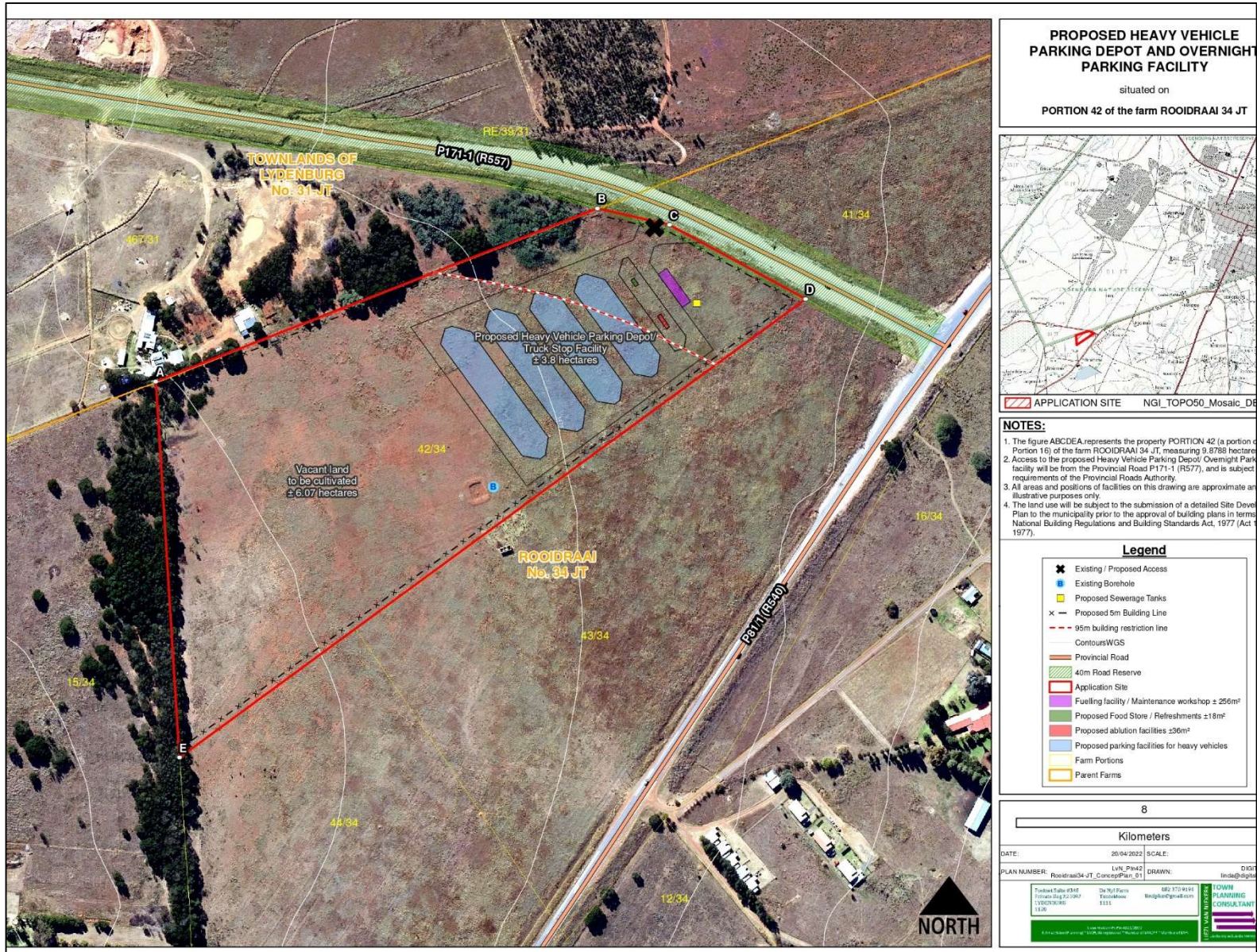
## 2.2 Project Description

The proposed truck stop will measure approximately 3.8 ha, while the remaining 6.07 ha of Portion 42 of the Farm Rooidraai 34 JT will be developed for the cultivation of crops. The proposed development will consist of the following infrastructure (**Figure 4**):

- Fueling facility (1 x 23 m<sup>3</sup> diesel fuel tank for refueling of overnighting trucks only) / Maintenance workshop ±256 m<sup>2</sup>
- Food store/refreshments ±18 m<sup>2</sup>
- Ablution facilities ±36 m<sup>2</sup>
- Proposed parking facilities for heavy vehicles
- New access road from the R577







**Figure 4:** Proposed layout for the Lion Valley Truck Stop (supplied by Lokisa Environmental Consulting cc 2022).





### 3. Methodology

Archaeological reconnaissance of the study area was conducted during August 2022 through a systematic pedestrian survey of the disturbed section and an unsystematic pedestrian survey of the undisturbed section (**Figure 5**). The transects were spaced roughly 60 m apart. It should be noted that the study area was also inspected via a pedestrian transect survey in 2014. The initial survey was conducted for the development of a service station and truck stop to the south of the current project location. However, the surrounding area was inspected as well. These transects were spaced roughly 40 m apart and are also shown in **Figure 5**. General site conditions were recorded via photographic record (**Figures 6 – 12**), while **Figure 13** indicates the environment during the initial survey in 2014. Additionally, the study area was inspected on Google Earth, historical topographical maps, and historical aerial imagery in order to identify potential heritage remains (**Appendix A**). The historical topographical maps dating to 1969, 1988, and 2010, as well as the historical aerial images dating to 1956, 1964, 1975, and 1981, proved useful in terms of providing an indication of potential heritage sites and past land uses associated with the study area. No potential sites were identified on the historical datasets, but four (4) sites were identified during the site inspection. It should be noted that the same sites were identified during the initial 2014 survey, but were numbered differently (**Table 2 & Figure 5**). The total area inspected was approximately 9.87 ha. Since heritage resources are often associated with perennial and non-perennial rivers, the rivers and streams located within close proximity of the study area were buffered by a distance of 500 m, indicating a potentially sensitive area. The majority of this buffer zone intersecting the study area, however, might have been disturbed by previous agricultural activities. Part of these activities are shown on historical topographical maps, but historical aerial images show the possibility that the entire area was cultivated.

The reconnaissance of the area under investigation served a twofold purpose:

- To obtain an indication of heritage material found in the general area as well as to identify or locate archaeological sites on the area demarcated for development. This was done in order to establish a heritage context and to supplement background information that would benefit developers through identifying areas that are sensitive from a heritage perspective.
- All archaeological and historical events have spatial definitions in addition to their cultural and chronological context. Where applicable, spatial recording of these definitions were done by means of a handheld GPS (Global Positioning System) during the site visit, as well as by plotting the boundaries from aerial imagery and topographical maps.



**Table 2:** Site coordinates & description.

Name	Off. Name	Previous Name	Latitude	Longitude	Description	Age	Current Status	Estimated Extent	ID Source	Farm Portion	Intersecting Development
B01	2530AB-B01	Lyd 1	-25.128203	30.410341	Building	Contemporary	Ruin	60 m <sup>2</sup>	Field	42	None
B02	2530AB-B02	Lyd 2	-25.127784	30.410248	Platform	Contemporary	Intact	1 Ø	Field	42	None
B03	2530AB-B03	Lyd 3	-25.127815	30.410109	Dam	Contemporary	Ruin	200 m <sup>2</sup>	Field	42	None
B04	2530AB-B04	Lyd 4	-25.126986	30.408031	Potential Grave	Unknown	Intact	1 m <sup>2</sup>	Field	42	None





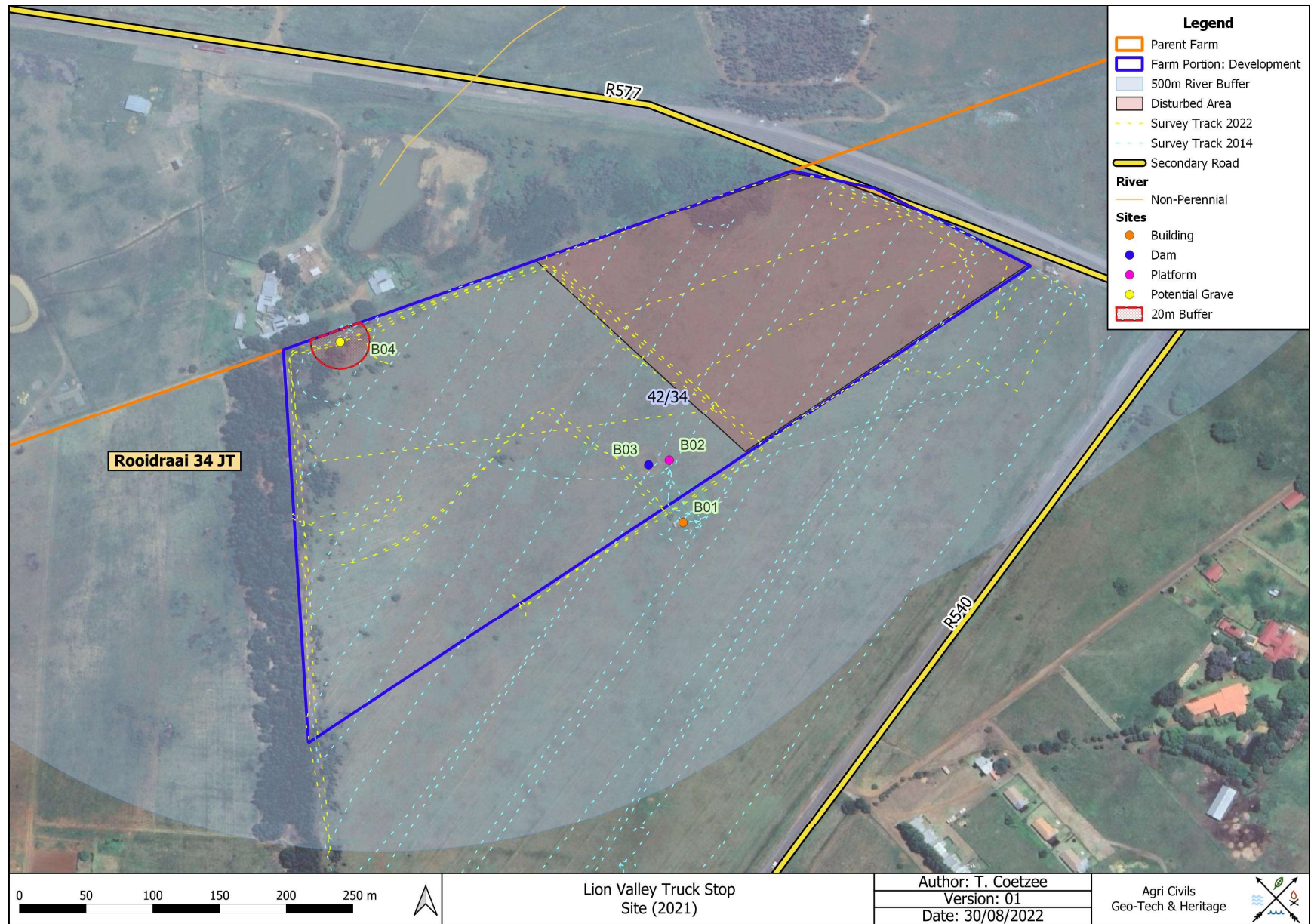


Figure 5: Study area with survey track portrayed on a 2021 satellite image.







**Figure 6:** Disturbed section seen from the northern corner.



**Figure 7:** Disturbed section seen from the eastern corner.







**Figure 8:** Disturbed section seen from the southern corner.



**Figure 9:** Disturbed section seen from the western corner.







**Figure 10:** Undisturbed section seen from the eastern corner.



**Figure 11:** Undisturbed section seen from the south-western corner.







**Figure 12:** Undisturbed section seen from the north-western corner.



**Figure 13:** General environment during the 2014 survey.



### 3.1 Sources of information

At all times during the survey, standard archaeological procedures for the observation of heritage resources were followed. As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was paid to disturbances; both man-made such as roads and clearings, and those made by natural agents such as burrowing animals and erosion. Locations associated with archaeological material remains, as well as general environmental conditions, were recorded by means of a Garmin Oregon 750 GPS and were photographed with a Samsung S7 mobile phone. A literature study, which incorporated previous work done in the region, was conducted in order to place the study area into context from a heritage perspective.

#### 3.1.1 Previous Heritage Studies

##### **Low-density Development on Buffelskloof 382 JT, Waterval 385 JT, Roodewalshoek 17 JT, Naauwpoort 11 JT and Belvedere 385KT**

African Heritage Consultants cc (Küsel 2006) conducted a Cultural Heritage Resources Impact Assessment for the low-density township development on the farms Buffelskloof 382 JT, Waterval 385 JT, Roodewalshoek 17 JT, Naauwpoort 11 JT and Belvedere 385 KT. The study recorded two localities associated with burial sites and one possible grave. Other findings include angular stone-walled enclosures most likely used for keeping cattle and sheep. It was suggested that some of the structures exceed 60 years of age. Two Late Iron Age sites consisting of stone-walled enclosures, one which was damaged by modern agricultural activities and the other still in a good condition, were recorded as well. Accordingly, stones from the damaged enclosure were used to construct a new angular enclosure, while the preserved settlement is characterised by a roughly circular enclosure and several additional circular walls. A farm worker settlement was also observed, as well as a historical school house and demolished historical school. This development is located roughly 21 km east-northeast of the proposed Lion Valley Truck Stop.

##### **Establishment of new Orchards on Portions of the Remaining Extent of Portions 2 and 7 of the Farm Olifantshoek 387 KT**

A Phase 1 Heritage Resources Scoping Report was compiled by Shasa Heritage Consultants for the establishment of new citrus orchards on portions of the Remaining Extent of Portions 2 and 7 of the Farm Olifantshoek 387 KT near Burgersfort (Roodt & Stegmann 2017). The investigation of five areas revealed the presence of two localities associated with burial sites, some marked and some unmarked. The project area referred to is located along the R37 road between Lydenburg and Burgersfort and approximately 24 km to the northwest of the proposed Lion Valley Truck Stop.

##### **Service station and truck stop on Portion 43 of the Farm Roidraai 34 JT**

A Phase 1 Archaeological Impact Assessment was conducted by Coetzee (2014) for the development of a service station and truck stop on Portion 43 of the Farm Roidraai 34 JT. The farm portion borders the farm portion demarcated for the proposed Lion Valley truck stop to the south. The survey, however, covered Portions 42, 43





and 44. The study recorded only contemporary remains in close proximity of the proposed development, while a potential grave was noted in the north-western corner of Portion 42.

### 3.1.2 Historical topographical maps & aerial images

No structures or buildings are visible on the historical aerial images dating to 1956, 1964, 1975 and 1981 and no potential heritage sites are indicated on the historical topographical maps dating to 1969, 1988 and 2010 (**Appendix A: Figures 30 – 36**). It should be noted that the 1969 and 1988 topographical maps (**Appendix A: Figures 32 & 35**) show a small cultivated section along the western border of the study area. However, when the historical aerial images dating to 1975 and 1981 are inspected, the entire demarcated study area appears to be cultivated. The possibility exists that the cultivated area is not indicated on the topographical maps or that the area wasn't cultivated, but only appears to have been. The demarcated study area, therefore, appears to have consisted of open veldt/cultivated land and except for a few modern structures, is still the case as was confirmed during the site visit and on contemporary satellite imagery.

## 3.2 Limitations

The western undisturbed section of the study area is associated with dense vegetation that hampered free movement and visibility (**Figure 14**). However, the complete study area was inspected during the 2014 site visit when the visibility was very good. Also, according to historical aerial imagery and topographical maps, no potential historical buildings or structures existed within the demarcated land parcel. No other access constraints were encountered.



**Figure 14:** Dense vegetation associated with the undisturbed western section.



## 4. Archaeological Background

Southern African archaeology is broadly divided into the Early, Middle and Later Stone Ages; Early, Middle and Later Iron Ages; and Historical or Colonial Periods. This section of the report provides a general background to archaeology in South Africa.

### 4.1 The Stone Age

The earliest stone tool industry, the Oldowan, was developed by early human ancestors which were the earliest members of the genus *Homo*, such as *Homo habilis*, around 2.6 million years ago. It comprises tools such as cobble cores and pebble choppers (Toth & Schick 2007). Archaeologists suggest these stone tools are the earliest direct evidence for culture in southern Africa (Clarke & Kuman 2000). The advent of culture indicates the advent of more cognitively modern hominins (Mitchell 2002: 56, 57).

The Acheulean industry completely replaced the Oldowan industry. The Acheulian industry was first developed by *Homo ergaster* between 1.8 to 1.65 million years ago and lasted until around 300 000 years ago. Archaeological evidence from this period is also found at Swartkrans, Kromdraai and Sterkfontein. The most typical tools of the ESA (Early Stone Age) are handaxes, cleavers, choppers and spheroids. Although hominins seemingly used handaxes often, scholars disagree about their use. There are no indications of hafting, and some artefacts are far too large for it. Hominins likely used choppers and scrapers for skinning and butchering scavenged animals and often obtained sharp ended sticks for digging up edible roots. Presumably, early humans used wooden spears as early as 5 million years ago to hunt small animals.

Middle Stone Age (MSA) artefacts started appearing about 250 000 years ago and replaced the larger Early Stone Age bifaces, handaxes and cleavers with smaller flake industries consisting of scrapers, points and blades. These artefacts roughly fall in the 40-100 mm size range and were, in some cases, attached to handles, indicating a significant technical advance. The first *Homo sapiens* species also emerged during this period. Associated sites are Klasies River Mouth, Blombos Cave and Border Cave (Deacon & Deacon 1999).

Although the transition from the Middle Stone Age to the Later Stone Age (LSA) did not occur simultaneously across the whole of southern Africa, the Later Stone Age ranges from about 20 000 to 2000 years ago. Stone tools from this period are generally smaller, but were used to do the same job as those from previous periods; only in a different, more efficient way. The Later Stone Age is associated with: rock art, smaller stone tools (microliths), bows and arrows, bored stones, grooved stones, polished bone tools, earthenware pottery and beads. Examples of Later Stone Age sites are Nelson Bay Cave, Rose Cottage Cave and Boomplaas Cave (Deacon & Deacon 1999). These artefacts are often associated with rocky outcrops or water sources.





## 4.2 The Iron Age & Historical Period

The Early Iron Age marks the movement of farming communities into South Africa in the first millennium AD, or around 2500 years ago (Mitchell 2002:259, 260). These groups were agro-pastoralist communities that settled in the vicinity of water in order to provide subsistence for their cattle and crops. Archaeological evidence from Early Iron Age sites is mostly artefacts in the form of ceramic assemblages. The origins and archaeological identities of this period are largely based upon ceramic typologies. Some scholars classify Early Iron Age ceramic traditions into different “streams” or “trends” in pot types and decoration, which emerged over time in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). Early Iron Age ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. This period continued until the end of the first millennium AD (Mitchell 2002; Huffman 2007). Some well-known Early Iron Age sites include the Lydenburg Heads in Mpumalanga, Happy Rest in the Limpopo Province and Mzonjani in Kwa-Zulu Natal.

The Middle Iron Age roughly stretches from AD 900 to 1300 and marks the origins of the Zimbabwe culture. During this period cattle herding appeared to play an increasingly important role in society. However, it was proved that cattle remained an important source of wealth throughout the Iron Age. An important shift in the Iron Age of southern Africa took place in the Shashe-Limpopo basin during this period, namely the development of class distinction and sacred leadership. The Zimbabwe culture can be divided into three periods based on certain capitals. Mapungubwe, the first period, dates from AD 1220 to 1300, Great Zimbabwe from AD 1300 to 1450, and Khami from AD 1450 to 1820 (Huffman 2007: 361, 362).

The Late Iron Age (LIA) roughly dates from AD 1300 to 1840. It is generally accepted that Great Zimbabwe replaced Mapungubwe. Some characteristics include a greater focus on economic growth and the increased importance of trade. Specialisation in terms of natural resources also started to play a role, as can be seen from the distribution of iron slag which tend to occur only in certain localities compared to a wide distribution during earlier times. It was also during the Late Iron Age that different areas of South Africa were populated, such as the interior of KwaZulu Natal, the Free State, the Gauteng Highveld and the Transkei. Another characteristic is the increased use of stone as building material. Some artefacts associated with this period are knife-blades, hoes, adzes, awls, other metal objects as well as bone tools and grinding stones.

The Historical period mainly deals with Europe's discovery, settlement and impact on southern Africa. Some topics covered by the Historical period include Dutch settlement in the Western Cape, early mission stations, Voortrekker routes and the Anglo Boer War. This time period also saw the compilation of early maps by missionaries, explorers, military personnel, etc.



#### 4.2.1 Mashishing/Lydenburg Archaeo-History

The Mashishing / Lydenburg area has a rich history spanning from early to Historical times. Below is a brief account of earlier events in the Mashishing / Lydenburg area.

One of the more famous EIA sites in Mpumalanga is attributed to the Lydenburg Heads site which comprise seven hollow ceramic sculptures. Pieces of the Lydenburg Heads were discovered and collected by Ludwig von Bezing in the Sterkstroom Valley near Lydenburg in 1957. Over the years he collected the remains of seven heads and while studying medicine at the University of Cape Town brought his finds under the attention of Prof Ray Inskeep of the department of Archaeology. Under Prof Ray Inskeep's supervision two large heads and five small ones were reconstructed. The Lydenburg Heads are housed in the Iziko Museum in Cape Town. Prof Inskeep also arranged for the systematic excavation of the site. Excavations revealed that the site was occupied during two periods. The first period was dated to around AD 600 and the second from the 9<sup>th</sup> – 11<sup>th</sup> century AD. Because the Lydenburg Heads were removed from their context dating is difficult. Compared to ceramics found at the dated sites of Ndongonwane and Msuluzi near the KwaZulu-Natal coast, it is believed that the Lydenburg Heads date to the second period of occupation. These similarities reinforce the fact that EIA communities moved and interacted (Delius 2007: 53 – 55).

Regarding the decorations of the Lydenburg Heads there is a striking similarity. Its form is elongated and bag-shaped orientated in order so that the mouth of the pot becomes the base of the neck of the head. Clay was added to form the eyes, ears, lips and scarification-like features. Patterns were also cut into the wet clay. Some societies typically carry out dental mutilation during initiation and might explain why the bigger heads are missing teeth and the smaller heads have gaps between the front teeth. The Lydenburg Heads may therefore have been used in pre-marital initiation schools. Also, it should be noted that some human remains dating to the Iron Age are missing front teeth, which reinforces the connection (Delius 2007: 55).

Later Iron Age activity are generally marked by stone walled enclosures. The numerous stone walled enclosures in Mpumalanga have long been the subject of identity disputes. Research into these sites were conducted by researchers such as Van Hoepen (1939), Mason (1962), Evers (1975), Marker & Evers (1976), Collett (1979), Maggs (2008), (Delius & Schoeman 2008), Delius, Maggs & Schoeman (2012). Research identified the area occupied by these stone walled enclosures stretching more or less from Carolina in the south to Ohrigstad in the north as Bokoni.

Oral traditions from Bokoni are scarce but some historical information from other groups such as the Pedi has been collected. Oral traditions from the Maroteng, who established a Pedi kingdom in the eastern Transvaal, indicate contact between them and the Koni when they crossed the Crocodile River around 1650. Thus the Koni were already established in the Crocodile River area by that time (Delius & Schoeman 2008: 142-143). Pedi oral traditions indicate that Bokoni was occupied from the 1500s to the mid-1800s (Delius & Schoeman 2008). This



occupation phase, marked by a period of peace, was disrupted by episodes of prolonged violence. One of these, the *mfecane*, resulted in major shifts in Bokoni and a reconfiguration of the region.

Van Hoepen's research indicated that Pedi or Ndzundza groups settled in the study area while research by Evers (1975) and Collett (1979) drew on similarities between ceramics and settlement layout patterns of modern Pedi communities. Later research done by Schoeman (1997) and Delius and Schoeman (2008) challenged the Pedi model.

Research by Marker and Evers (1976), which focused on settlement attributes, identified three different levels of settlement complexity in their study of stone walled enclosures in the eastern Transvaal. The first type is associated with smaller isolated settlements and consists of two concentric circles. The second settlement type is characterized by large central enclosures with two entrances on both sides and smaller stone circles which are found in association with these large enclosures. Whereas the first two types may be associated with terracing, the third type is not and consists of small stone walled enclosures grouped together.

Revil Mason (1962) conducted research on a larger scale and also employed aerial photographs. His study focused on the stone walled settlements of the Steelpoort, Crocodile, Komati and Sabi rivers where he located 1792 sites. Evers (1975) then covered the area between Lydenburg and Machadodorp also using aerial photography and identified 166 sites which, based on Mason's definition, is equivalent to 5000 sites.

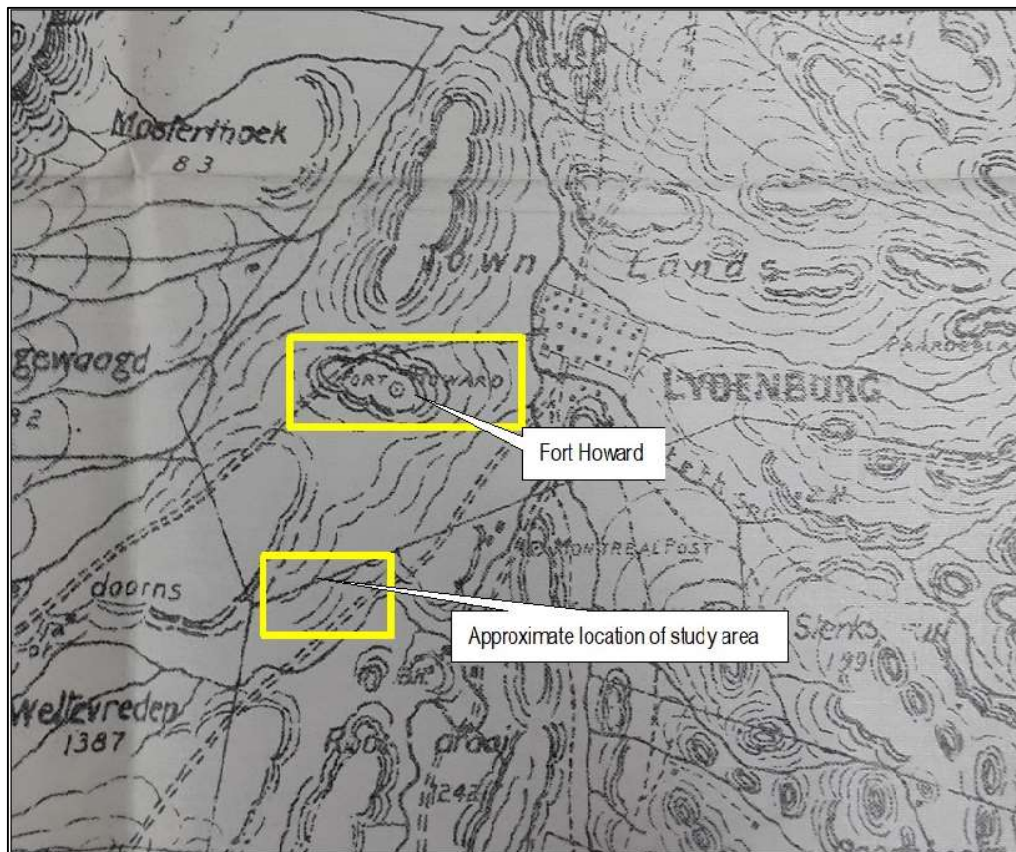
### **Lydenburg / Mashishing town origins & Anglo Boer War**

The town of Lydenburg, or Mashishing as it is now known, has its origins in the 19<sup>th</sup> Century. The Voortrekkers in the Transvaal, Natal and the Free State made use of Durban / Port Natal for trading, until the British annexed Natal in 1843 (Celliers 2007). This led to the Voortrekkers Andries Pretorius and Hendrik Potgieter exploring different possibilities to reach the coast at Delagoa Bay (Maputo). This resulted in Potgieter leaving for Delagoa Bay in November 1843 to explore trade possibilities as well as to make contact with a Dutch trading ship sent by the merchant George Ohrig. This route more or less followed the present N4 highway through Schoemanskloof and the Crocodile River (Bulpin 2002: 93). Subsequent expeditions to Delagoa Bay were undertaken by Karel Trichardt and passed the site where the town of Andries-Ohrigstad would be established in 1845. Tsetse and Malaria severely hampered routes to the coast (De Vaal 1990).

During March / April 1848 Potgieter and his party departed the town of Andries-Ohrigstad and moved to Soutpansberg. Factors for this decision included poor suitability for cattle farming, failure to find a practicable route free from tsetse to Delagoa Bay, conflict among the leaders of the Andries-Ohrigstad community, and the presence of malaria. With the malaria epidemic of 1849 the rest of the community left the town and established the town of Lydenburg further south in 1850 (Bergh 1998: 131).



During the Anglo-Boer War (1899 – 1902) the town of Lydenburg surrendered to British forces on September 6, 1900 under Sir Redvers Buller. This led to the battle of Paardeplaats on September 8, 1900. The British occupied the town of Lydenburg for the duration of the Anglo-Boer War. One of the forts constructed by the British during these times, Fort Howard, is located roughly 3 km northeast of the study area, Portion 42 of the farm Rooddraai 34 JT (**Figure 15**) (Celliers 2007).



**Figure 15:** Fort Howard in relation to the study area (Extract from: General's Office under direction of Major H.M. Jackson, August 1902)

## 5. Archaeological and Historical Remains

### 5.1 Stone Age Remains

No Stone Age archaeological remains were located within the demarcated study area.

These artefacts are often associated with rocky outcrops or water sources. **Figures 16 – 18** below are examples of stone tools often associated with the Early, Middle and Later Stone Age of southern Africa.

The heritage studies conducted by Küsel (2006), Coetzee (2014) and Roodt & Stegmann (2017) did not locate material pertaining to the Stone Age.



According to Bergh (1999: 5), Bushman Rock Shelter is a prominent Stone Age site just south of Ohrigstad that is characterised by material from the Oakhurst complex.

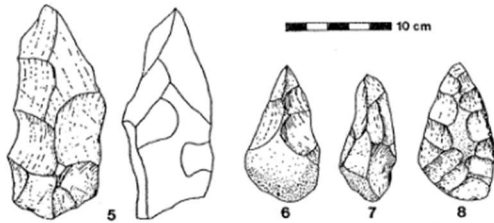


Figure 16: ESA artefacts from Sterkfontein (Volman 1984).

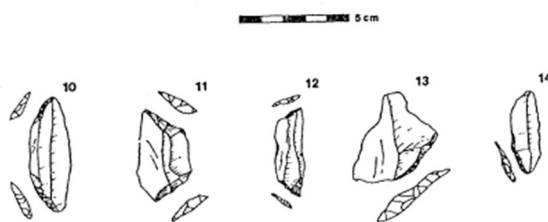


Figure 17: MSA artefacts from Howiesons Poort (Volman 1984).



Figure 18: LSA scrapers (Klein 1984).

## 5.2 Iron Age Farmer Remains

No Iron Age Farmer remains were located within the demarcated study area.

The archaeological study conducted by Küsel (2006) recorded Iron Age stone-walled sites.

## 5.3 Historical Remains

No Historical remains were located within the demarcated study area.

The heritage study conducted by Küsel (2006) recorded buildings, structures and ruins dating to the Historic Period. These include farmsteads, a demolished school and a school building.



## 5.4 Contemporary/Natural Remains

Three (3) sites dating to contemporary times were noted during the site visits (**Table 3**). Two of these sites are located within the demarcated project boundary, while the third is located to the south thereof.

Site B01 is located 16 m southeast of the demarcated study area and consists of a stone-constructed building ruin of approximately 60 m<sup>2</sup> (**Figure 19**). Compared to the photograph that was taken in 2014, the condition of the structure appears to have remained the same (**Figure 20**). Site B01 is not visible on any of the historical aerial images and is not indicated on the historical topographical maps (**Appendix A**). It is possible that the building existed when the topographical maps were published, but were omitted. However, because the building is not visible on any of the historical aerial images, it can be assumed that the building was constructed after 1981 (**Appendix A: Figure 34**). It is unknown when the building fell into disuse.

Site B02 consists of a small stone and cement platform and a borehole (**Figures 21 – 23**) located approximately 42 m north of Site B01 and within the boundary of the demarcated study area. The platform has a diameter of approximately 1 m. Compared to the photograph taken during the 2014 site visit, the condition of the site appears to have remained the same. The site is not visible on any of the historical aerial images and is not indicated on the historical topographical maps, but is assumed to be associated with Site B01. An inscription reading “19/3/92” was noted on the platform, suggesting the possibility that Site B01 was construction at the same time. The possibility also exists that the date reads “19/3/72”, but is unlikely due to the absence of structures on the 1975 aerial image (**Appendix: Figure 33**). The use of the platform is unknown, but it might have served as a stand for a water tank.

Site B03, a dam measuring approximately 200 m<sup>2</sup>, is located directly west of Site B02 and appears to be in the same state as when initially recorded in 2014 (**Figures 25 & 26**). Again this feature is not visible on any of the historical aerial images and is not indicated on any of the historical topographical maps, but is likely to form part of Sites B01 & B02. The possibility also exists that the feature was not used as a dam.

**Table 3:** Contemporary Sites.

Name	Type	Source	Year	Current Status	Surface Indications
B01	Building	Field	Unknown	Ruin	Building ruin
B02	Platform	Field	1992	Intact	Stone structure
B03	Dam	Field	Unknown	Ruin	Depression in soil







**Figure 19:** Building Site B01 (2022).



**Figure 20:** Building Site B01 (2014).







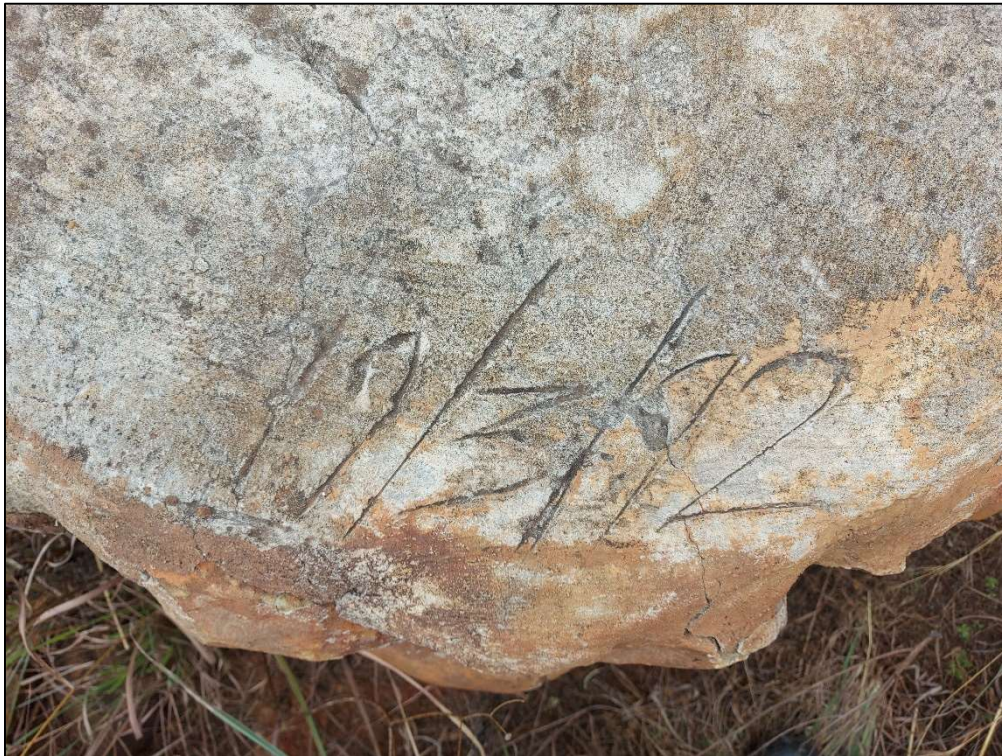
**Figure 21:** Platform at Site B02 (2022).



**Figure 22:** Borehole at Site B02 (2022).







**Figure 23:** Inscription on platform at Site B02 (2022).



**Figure 24:** Platform and borehole at Site B02 (2014).







**Figure 25:** Dam at Site B03 (2022).



**Figure 26:** Dam at Site B03 (2014).





## 5.5 Graves/Burial Sites

One potential grave was identified during the site visit (**Table 4**).

Potential grave B04 is located along the northern boundary of the study area and close to the north-western corner. The site is not fenced-off, consists of a stone cairn measuring approximately 1 m<sup>2</sup> and the lid of a plastic crate was noted on top of the cairn (**Figure 27**). During the 2014 site visit a metal plate with the partial inscriptions “KOO”, “N GR” and “MON” were noted at the stone cairn (**Figure 28**). Compared to the photograph taken during the 2014 site visit, the condition of the potential grave remained the same. No additional grave goods were noted and the potential grave is also not indicated on any of the topographical maps.

The heritage studies done by Roodt & Stegmann (2017) and Küsel (2006) mention the presence of formal and informal graves, cemeteries and potential graves in the form of stone cairns.

**Table 4:** Graves/Burial Sites/Cemeteries.

Name	Type	Source	Year	Current Status	Surface Indications
B04	Potential Grave	Field	Unknown	Intact	Stone cairn



**Figure 27:** Potential grave B04 (2022).





**Figure 28:** Potential grave B04 (2014).

## 6. Evaluation

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 25 of 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

A fundamental aspect in the conservation of a heritage resource relates to whether the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. There are many aspects that must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and if appropriate mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed.





## 6.1 Field Ratings

All sites should include a field rating in order to comply with section 38 of the National Heritage Resources Act (Act No. 25 of 1999). The field rating and classification in this report are prescribed by SAHRA.

**Table 5:** Prescribed Field Ratings.

Rating	Field Rating/Grade	Significance	Recommendation
National	Grade 1		National site
Provincial	Grade 2		Provincial site
Local	Grade 3 A	High	Mitigation not advised
Local	Grade 3 B	High	Part of site should be retained
General protection A	4 A	High/Medium	Mitigate site
General Protection B	4 B	Medium	Record site
General Protection C	4 C	Low	No recording necessary

**Table 6:** Individual site ratings.

Site / Survey Point Name	Type	Rating	Field Rating/Grade	Significance	Recommendation
2530AB-B01	Building Ruin	General Protection C	4 C	Low	No recording necessary
2530AB-B02	Platform	General Protection C	4 C	Low	No recording necessary
2530AB-B03	Dam	General Protection C	4 C	Low	No recording necessary
2530AB-B04	Potential Grave	Local	Grade 3 A	High	Mitigation not advised

\* Ratings are dependent on specific project boundaries and activities.

## 7. Statement of Significance & Recommendations

### 7.1 Statement of Significance

#### The study area: Proposed Lion Valley Truck Stop

Portion 42 of the Farm Rooidraai 34 JT is associated with a section of open veldt, as well as a recently disturbed section. The significance of the demarcated area and the observed sites are discussed here.

The undisturbed section is associated with a combination of contemporary infrastructure and a potential grave. The demarcated study area is located within 500 m of rivers/streams, a zone that is generally associated with a higher heritage site probability (**Figure 29**). The possibility, however, exists that the entire area was disturbed by

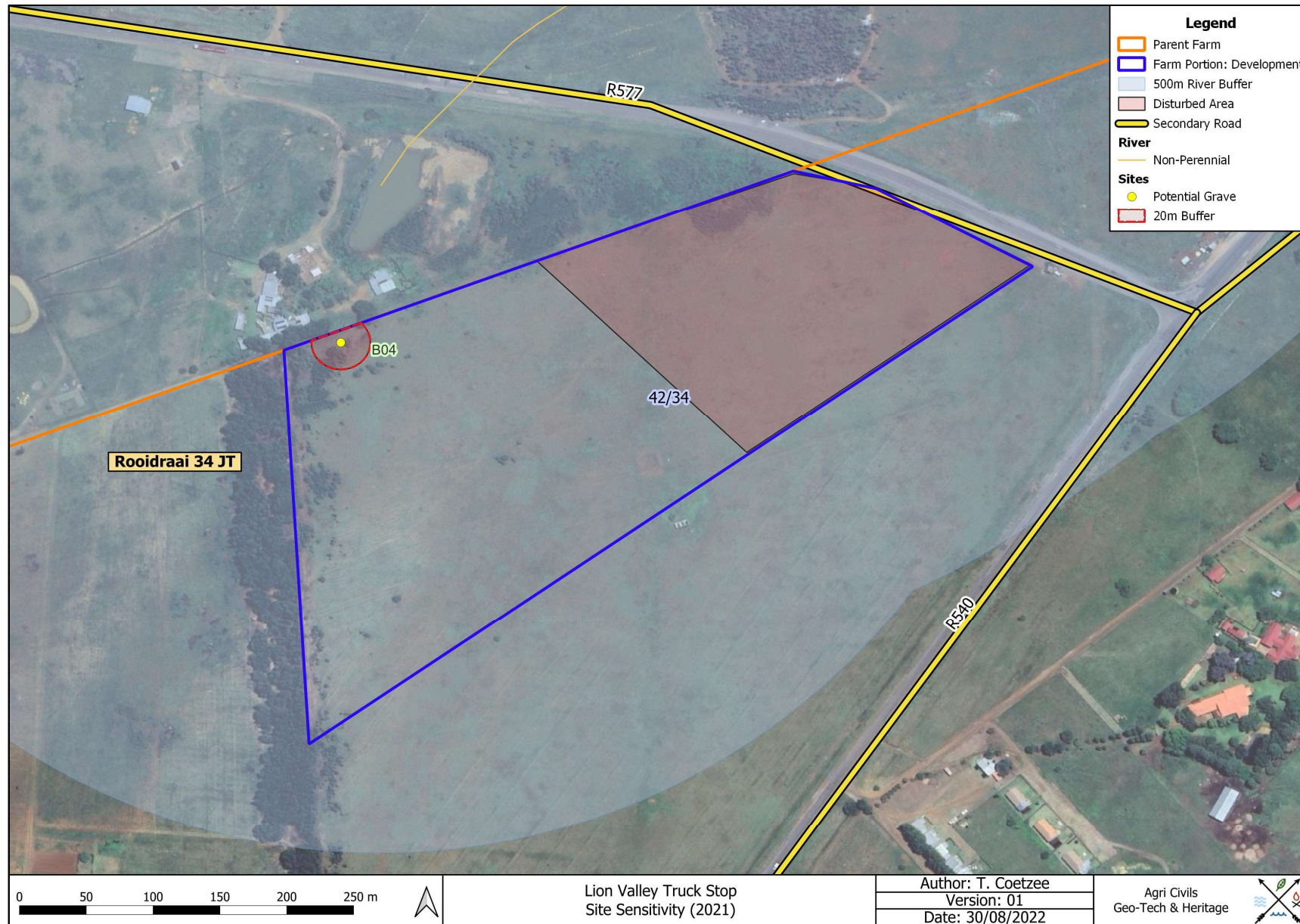


previous agricultural activities that significantly lowers the sensitivity in terms of heritage resources. Except for the potential grave, the demarcated farm portion is not considered to be sensitive from a heritage perspective since no heritage sites of significance were noted on historical aerial images, on historical topographical maps, or during the pedestrian survey. Also, the proposed construction footprint was disturbed by the clearing of vegetation and no artefacts were noted on the disturbed area.

Three of the identified sites (B01, B02, B03) do not exceed 60 years of age and are not considered to be sensitive from a heritage perspective. Also, Site B01 falls outside of the demarcated study area, while Sites B02 and B03 are not located within the proposed construction footprint.

Site B04 is characterised by a stone cairn that may indicate the presence of a grave. The site should therefore be regarded as such and is considered to be sensitive from a heritage perspective as the Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925), as well as the National Heritage Resources Act 25 of 1999 apply. Due to the type of surface dressing and location of the potential grave to the proposed development, impact is unlikely.





**Figure 29:** Study area and potentially sensitive areas portrayed on a 2021 satellite image.





## 7.2 Recommendations

The following recommendations are made in terms with the National Heritage Resources Act 25 of 1999 in order to avoid the destruction of heritage remains associated with the area demarcated for the proposed Lion Valley Truck Stop:

- Sites B01 – B03 consist of contemporary infrastructure that do not exceed 60 years of age. These sites were sufficiently recorded and are not considered to be sensitive or significant from a heritage perspective. No further action is required.
- Potential Grave B04, consisting of a stone cairn, is located near the north-western corner of Portion 42 of the Farm Rooidraai 34 JT and approximately 160 m from the proposed development. The potential grave is considered to be sensitive and significant from a heritage perspective and the Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925), as well as the National Heritage Resources Act 25 of 1999 apply. Impact caused by the proposed development, however, is not foreseen, but it is recommended that a fenced-off conservation buffer of 20 m be erected around the potential grave. Access to the potential grave should also not be refused. Alternatively, the potential grave may be inspected using Ground Penetrating Radar (GPR) to determine the presence of human remains. Such procedure must be conducted by a suitably qualified specialist. Alternatively, the potential grave may be relocated by a qualified graves relocation unit to a premises earmarked by the local municipality, but will set in motion a substantial process as new legislation will be triggered. These processes, however, must be performed in accordance with the involvement of the relatives of the deceased buried at the concerned location.
- Since the recommendations are based on the current layout of the proposed project, it is recommended that should alterations occur, the report be revised and updated to ensure the safeguarding of heritage resources.
- Should additional areas be considered for development, a qualified archaeologist must inspect the identified area and update to report and recommendations accordingly in order to ensure the safeguarding of heritage resources.
- Should uncertainty regarding the presence of heritage remains exist, or if heritage resources are discovered by chance, it is advised that the potential site be avoided and that a qualified archaeologist be contacted as soon as possible.
- Since archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must



be suspended pending further archaeological investigations by a qualified archaeologist. Also, should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority must be contacted (See National Heritage Resources Act, 25 of 1999 section 36 (6)).

- From a heritage point of view, development may proceed on the demarcated area, subject to the abovementioned conditions, recommendations, and approval by the South African Heritage Resources Agency.

## 8. Conclusion

The proposed Lion Valley Truck Stop consists of a construction footprint of 3.8 ha, while the remaining 6.07 ha will be used for crop cultivation. Sites B01 – B03 are of contemporary origin and not significant or sensitive from a heritage perspective. Site B04, a potential grave, is located a significant distance from the proposed development footprint and based on the current layout, is not at risk of being impacted.

Should the recommendations made in this study be adhered to and with the approval of the South African Heritage Resources Agency, the proposed construction of the Lion Valley Truck Stop may proceed.

## 9. Addendum: Terminology

### **Archaeology:**

The study of the human past through its material remains.

### **Artefact:**

Any portable object used, modified, or made by humans; e.g. pottery and metal objects.

### **Assemblage:**

A group of artefacts occurring together at a particular time and place, and representing the sum of human activities.

### **Context:**

An artefact's context usually consist of its immediate *matrix* (the material surrounding it e.g. gravel, clay or sand), its *provenience* (horizontal and vertical position within the matrix), and its *association* with other artefacts (occurrence together with other archaeological remains, usually in the same matrix).

### **Cultural Resource Management (CRM):**

The safeguarding of the archaeological heritage through the protection of sites and through salvage archaeology (rescue archaeology), generally within the framework of legislation designed to safeguard the past.



**Excavation:**

The principal method of data acquisition in archaeology, involving the systematic uncovering of archaeological remains through the removal of the deposits of soil and other material covering and accompanying it.

**Feature:**

An irremovable artefact; e.g. hearths or architectural elements.

**Ground Reconnaissance:**

A collective name for a wide variety of methods for identifying individual archaeological sites, including consultation of documentary sources, place-name evidence, local folklore, and legend, but primarily actual fieldwork.

**Matrix:**

The physical material within which artefacts is embedded or supported, i.e. the material surrounding it e.g. gravel, clay or sand.

**Phase 1 Assessments:**

Scoping surveys to establish the presence of and to evaluate heritage resources in a given area.

**Phase 2 Assessments:**

In-depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required.

**Sensitive:**

Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

**Site:**

A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity.

**Surface survey:**

There are two kinds: (1) unsystematic and (2) systematic. The former involves field walking, i.e. scanning the ground along one's path and recording the location of artefacts and surface features. Systematic survey by comparison is less subjective and involves a grid system, such that the survey area is divided into sectors and these are walked ally, thus making the recording of finds more accurate.



## 10. References

- Bergh, J.L. 1999. *Geskiedenisatlas van Suid-Afrika: Die Vier Noordelike Provinsies*. Pretoria: Van Schaik Uitgewers
- Bulpin, T.V. 2002. *Lost Trails of the Transvaal*. Cape Town: Stephan Phillips.
- Climate-Data.org. Lydenburg Climate. <https://en.climate-data.org/africa/south-africa/mpumalanga/lydenburg-26821/>. Accessed 30-08-2022.
- Clarke, R.J. & Kuman, K. 2000. *The Sterkfontein Caves Palaeontological and Archaeological Sites*. Johannesburg: University of the Witwatersrand.
- Coetzee, T. 2014. Phase 1 Archaeological Impact Assessment for Environmental Assurance (Pty) Ltd on Portion 43, a portion of Portion 16 of the Farm Roodraai 34 JT – Mpumalanga. Pretoria
- Collett, D.P. 1979. The Archaeology of the Stone Walled Settlements in the Eastern Transvaal, South Africa. MA dissertation, University of Witwatersrand.
- De Vaal, J.B. 1990. "Die Kommissiepad" en "Die Oude Wagenweg". In: De V. Pienaar, U., Carruthers, E.J., De Vaal, J.B., Eloff, J.H., English, M., Joubert, S.C.J., Liebenberg, M., Minnaar, A., Mockford, H.H., Verhoef, J., Cuénod, P.H. (eds) *Neem Uit die Verlede*: 248-250. South Africa: National Park Service
- Deacon, H. & Deacon, J. 1999. *Human beginnings in South Africa*. Cape Town: David Philip.
- Delius, P. 2007. *Mpumalanga History and Heritage*. Pietermaritzburg: University of KwaZulu-Natal Press.
- Delius, P. & Schoeman, M.H. 2008. Revisiting Bokoni: populating the stone ruins of the Mpumalanga Escarpment. In Swanepoel, N., Esterhuysen, A., Bonner, P. (eds) *Five Hundred Years Rediscovered: Southern African Precedents and Prospect, 500 Years Initiative 2007 Conference Proceedings*: 135-167. Johannesburg: Wits University Press.
- Evers, T.M. 1975. Recent Iron Age Research in the Eastern Transvaal, South Africa. *South African Archaeological Bulletin* 30: 71-83
- Huffman, T.N. 2007. *Handbook to the Iron Age*. Pietermaritzburg: UKZN Press.
- Klein, R. G. (ed.) 1984. *South African prehistory and paleoenvironments*. Rotterdam: Balkema.





- Küsel, U. S. Cultural Heritage Resources Impact Assessment of the Proposed Development Area on the Farms Buffelskloof 382 JT, Waterval 385 JT, Roodewalshoek 17 JT, Naauwpoort 11 JT and Belvedere 385 KT Mpumalanga Province. Magalieskruin: African Heritage Consultants cc.
- Maggs, T. 2008. The Mpumalanga Escarpment settlements: some answers, many questions. In Swanepoel, N., Esterhuysen, A., Bonner, P. (eds) Five Hundred Years Rediscovered: Southern African Precedents and Prospect, 500 Years Initiative 2007 Conference Proceedings: 169-181. Johannesburg: Wits University Press.
- Marker, M.E. & Evers T.M. 1976. Iron Age Settlements and Soil Erosion in the Eastern Transvaal, South Africa. *South African Archaeological Bulletin* 31: 153-165.
- Mason, R.J. 1962. *The prehistory of the Transvaal*. Johannesburg: University of Witwatersrand Press.
- Mitchell, P. 2002. *The archaeology of southern Africa*. Cambridge: Cambridge University Press.
- Mucina, L. & Rutherford, M. C. 2006. *The Vegetation of South Africa, Lesotho and Swaziland*. Strelitzia 19. South African National Biodiversity Institute, Pretoria.
- Roodt, F. E. & Stegmann, L. 2017. Phase 1 Heritage Resources Scoping Report. Proposed Establishment of New Orchards on Portions of the Remaining Extent of Portions 2 and 7 of the Farm Olifantshoek 387 KT, near Burgersfort, Mpumalanga. Polokwane: Shasa Heritage Consultants
- Schoeman, M.H. 1997. The Ndzundza Archaeology of the Steelpoort River Valley. Unpublished MA dissertation. Johannesburg: University of the Witwatersrand.
- Toth, N. & Schick, K. 2007. *Handbook of paleoanthropology*. Berlin: Springer.
- Van Hoepen, E.C.N. 1939. A pre-European Bantu culture in the Lydenburg District. *Argeologiese Navorsing van die Nasionale Museum, Bloemfontein* 2: 47-74.
- Volman, T. P. 1984. Early Prehistory of southern Africa. In: Klein, R. G. (ed.) Southern African prehistory and paleoenvironments. Rotterdam: Balkema.

*Human Tissue Act No. 65 of 1983, Government Gazette, Cape Town*

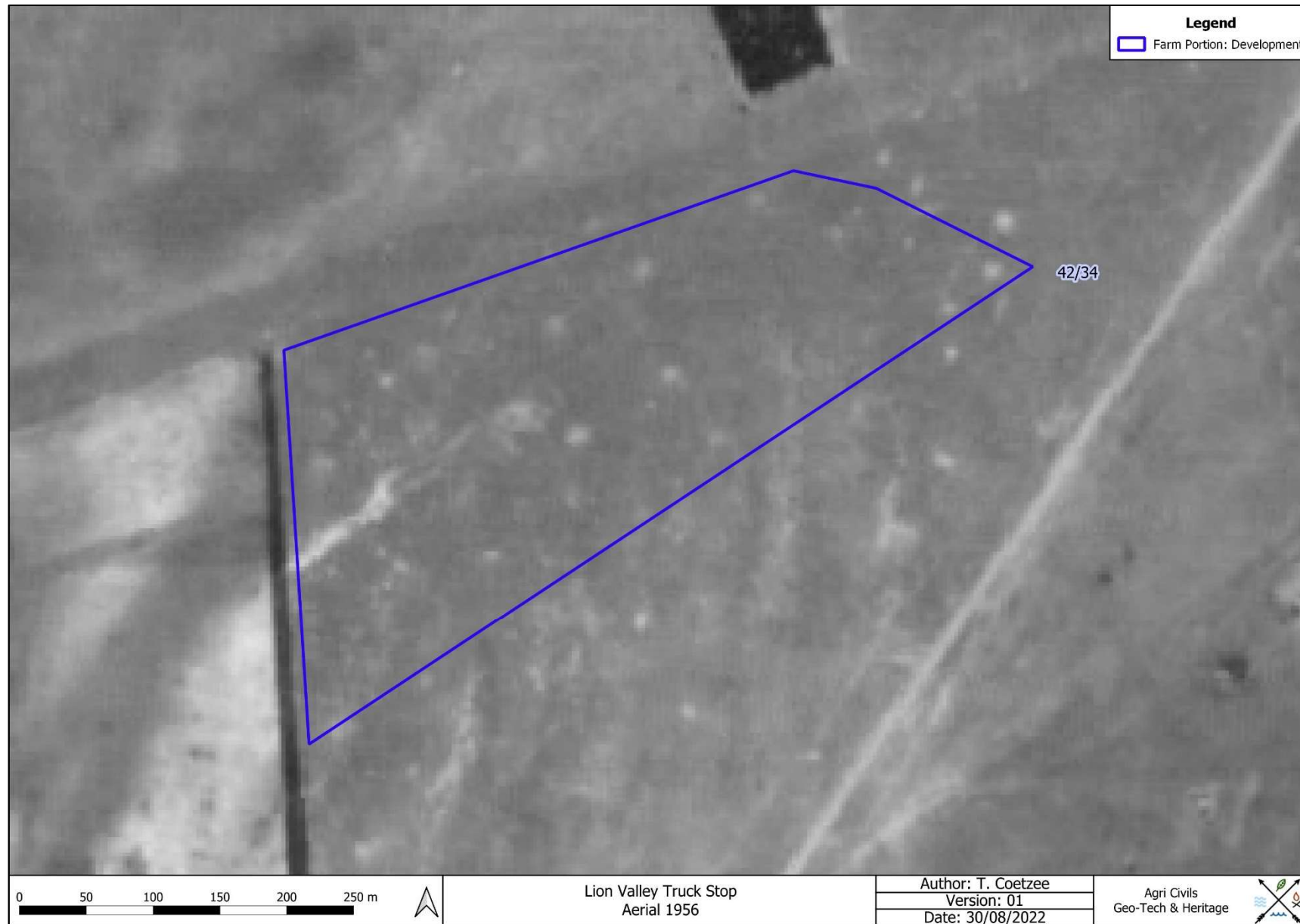
*National Heritage Resource Act No.25 of 1999, Government Gazette, Cape Town*





## Appendix A: Historical Aerial Imagery & Topographical Maps





**Figure 30:** Study area superimposed on a 1956 aerial image.





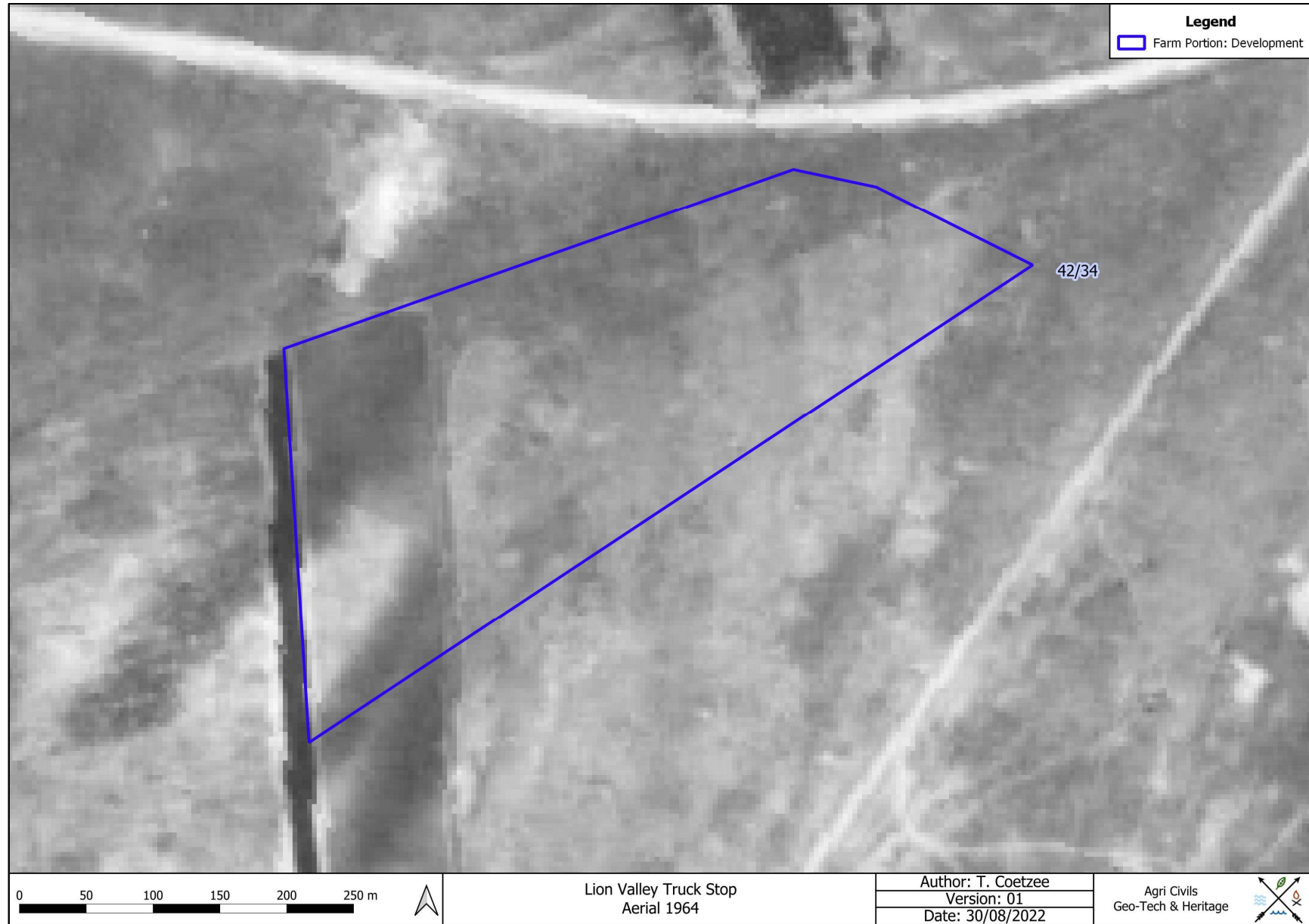
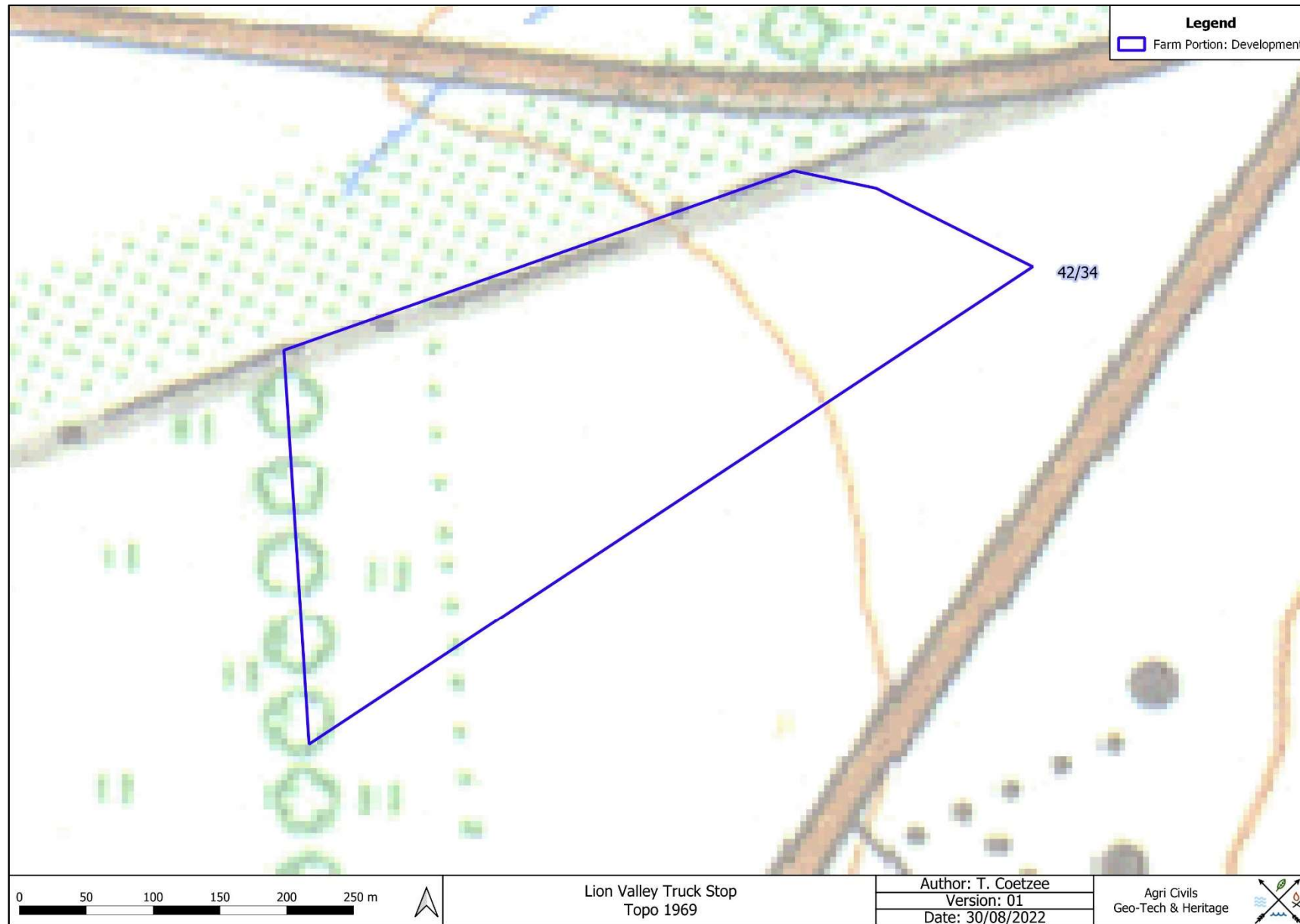


Figure 31: Study area superimposed on a 1964 aerial image.





**Figure 32:** Study area superimposed on a 1969 topographical map.





**Figure 33:** Study area superimposed on a 1975 aerial image.

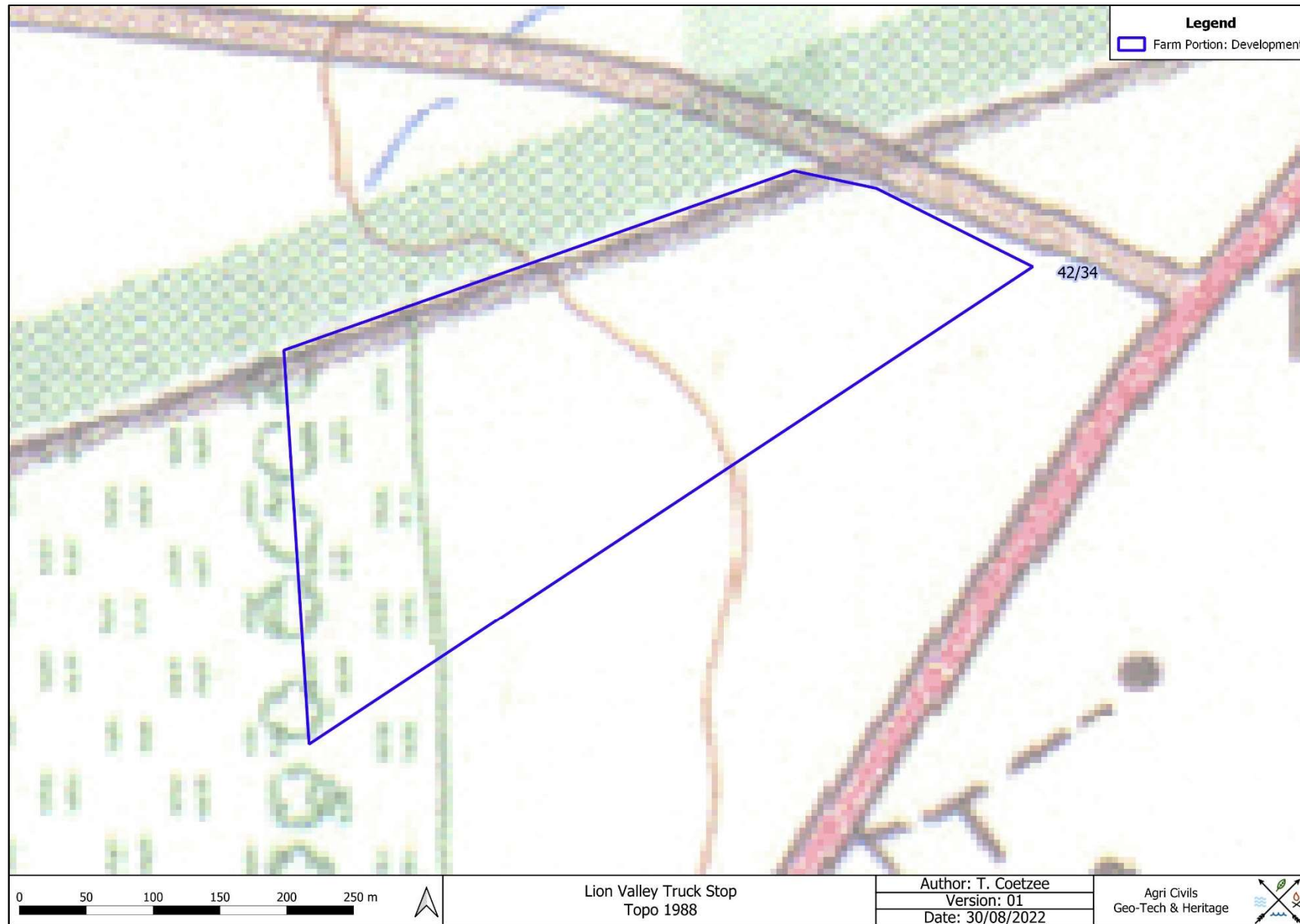






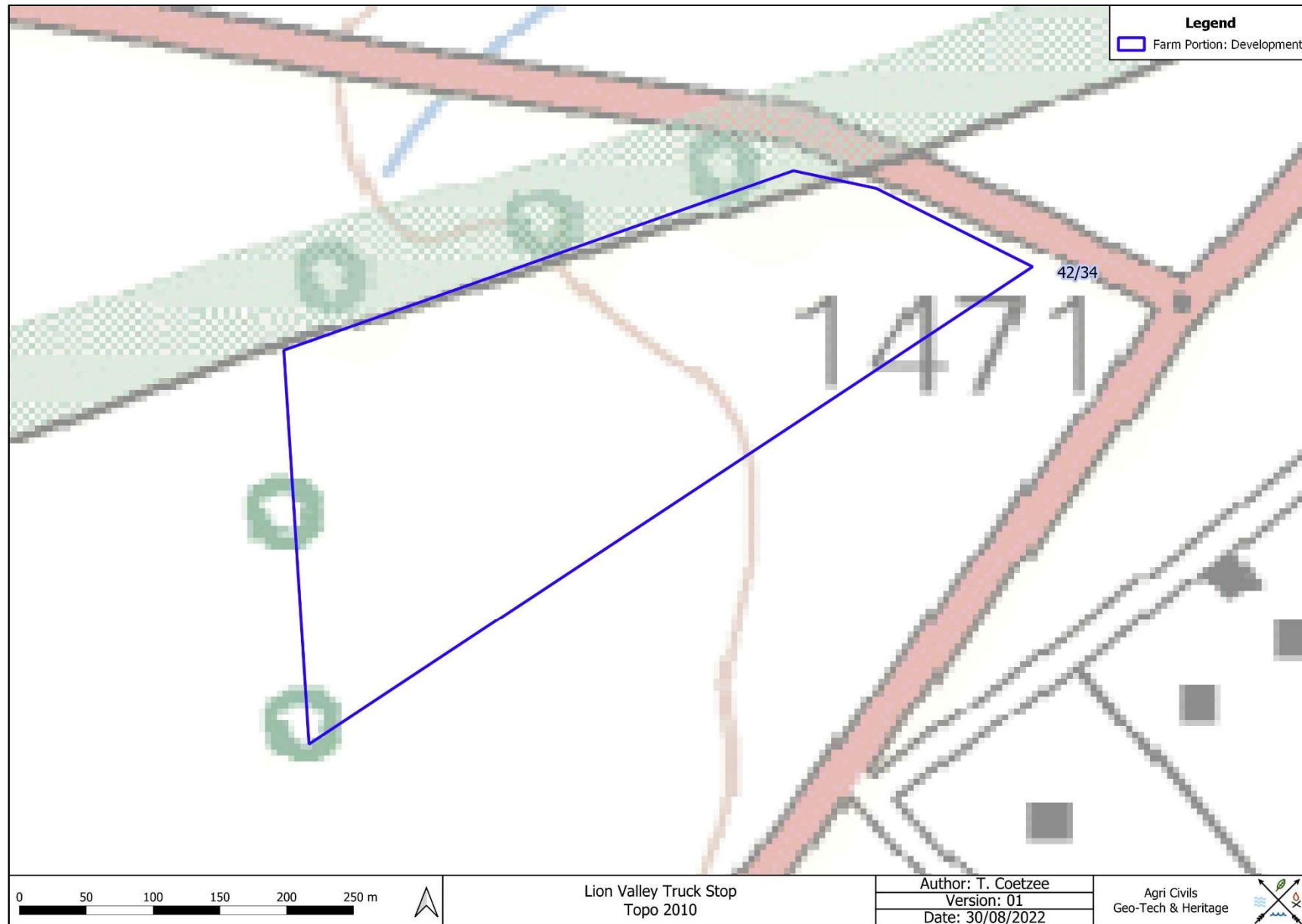
**Figure 34:** Study area superimposed on a 1981 aerial image.





**Figure 35:** Study area superimposed on a 1988 topographical map.





**Figure 36:** Study area superimposed on a 2010 topographical map.

