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GEOTECHNICAL

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## Basic Assessment Report

L20 021 E



**CONSULTATION BASIC ASSESSMENT REPORT FOR THE  
PROPOSED BENDOR X129 TOWNSHIP ESTABLISHMENT ON  
PORTION 191 OF THE FARM TWEEFONTEIN 915 LS, POLOKWANE,  
CAPRICORN DISTRICT, LIMPOPO PROVINCE**

May 2021

Prepared for: KPD Property Development (Pty) Ltd

Compiled by: JH Botha

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PORTION 191 OF THE FARM TWEEFONTEIN 915LS, POLOKWANE,  
CAPRICORN DISTRICT, LIMPOPO PROVINCE**

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May 2021

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	Registered Interested and Affected Parties

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## RELATED DOCUMENTS

Report no	Date	Name
L20 031 E	21 May 2021	Draft EMPR
	June 2020	Ecological Impact Assessment
	June 2020	Agricultural Soil Potential
	June 2020	Heritage Impact Assessment

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## APPENDIXES TO BE FOUND AFTER THE BASIC ASSESSMENT REPORT

### **Appendix A: Site plans**

- Locality 1:50 000 topographical map
- Locality on Google Earth map
- Site Development Plan

### **Appendix B: Photographs of the site**

### **Appendix D: Specialist Reports**

- Ecological Impact Assessment Report
- Agricultural Soil Potential Assessment Report
- Heritage Impact Assessment
- Geo-technical Report
- Services Report
- Traffic Report

### **Appendix E: Proof of public participation process**

### **Appendix F: Environmental Management Programme**

### **Appendix G: Other information**

- Environmental Screening Report
- CV of EAP

## 1. INTRODUCTION

AGES Limpopo (Pty) Ltd was appointed by KPD Property Development (Pty) Ltd to conduct an Environmental Impact Basic Assessment in order to obtain the necessary environmental authorisation for the proposed township development on P191 of Tweefontein 915 LS, Polokwane Local Municipality, Capricorn District.

### 1.1. PROJECT OBJECTIVE

The project objective is the proposed township development on approximately 13 ha of indigenous vegetation.

### 1.2. BASIC ASSESSMENT REPORT OBJECTIVE

The Environmental Impact Assessment Report was done with the objective to supply the Limpopo Department of Economic Development, Environment and Tourism (LEDET) with the necessary environmental information to make a decision regarding the environmental impact assessment process.

The following listed activities of Regulations 983 and 985 of 4 December 2014 as amended, of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA) will be triggered:

- R983 – Activity 9(i) “The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or stormwater with an internal diameter of 0.36 metre or more.”
- R983 – Activity 10(i) “The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage with an internal diameter of 0.36 metre or more.”
- R983 – Activity 24(ii) “The development of a road wider than 8 metres.”
- R983 - Activity 27 “The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.”
- R985 – Activity 12(e)(ii) “The clearance of an area of 300 square metres or more of indigenous vegetation within critical biodiversity areas identified in bioregional plans.”

This Basic Assessment Report (BAR) is compiled to provide detail of the proposed project as well to reflect the specific impacts that the proposed activity may have on the environment. For each of the potential impacts mitigating and management measures are provided in the BAR as well as in the Environmental Management Programme (EMPR).

## 2. LEGAL AND POLICY REQUIREMENTS

The following is a list of the relevant policy and legal requirements applicable to the undertaking of the proposed orchards:

Title of legislation, policy or guideline:	Administering authority:	Date:
Constitution of South Africa	Office of President	1996
National Environmental Management Act	Environmental Affairs	1998
Environmental Impact Assessment Regulations	Environmental Affairs	2014
Occupational Health and Safety Act	Department of Labour	1993
National Veld and Forest Fires Act	Department of Agriculture, Forestry &	1998



## Consultation Basic Assessment Report - Tweefontein P191 township

	Fisheries	
Conservation of Agricultural Resources Act	Department of Agriculture, Forestry & Fisheries	1983
The Water Resources Act	Department of Water & Sanitation	1991
National Heritage Resources Act	Department of Arts & Culture	1999
NEM: Biodiversity Act	Department of Environmental Affairs	2004

### 3. DETAILED DESCRIPTION OF PROPOSED ACTIVITY

#### 3.1. PROJECT LOCALITY

Portion 191 of the farm Tweefontein 915 LS is located southeast of Curro School and 1.6 km east of the Mall of the North at the following coordinates (centre of site):

- **23°52'30.07"S and 29°31'47.64"E**



**Figure 1. Project locality**

P191 is bordered by Bendor Ext 108 on the south west, Bendor Ext 103 to the north and agricultural smallholdings to the north east, south east and south west.

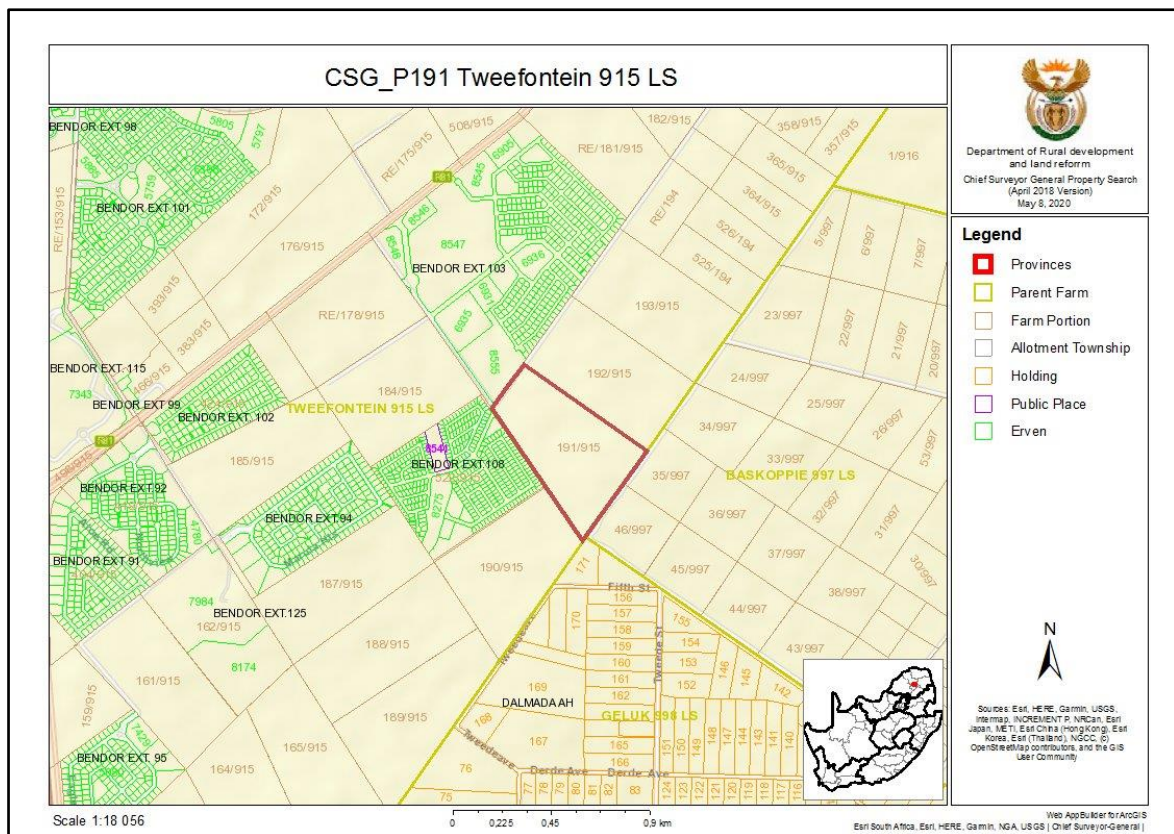


Figure 2. Neighbouring properties and townships

### 3.2. NATURE OF ACTIVITY

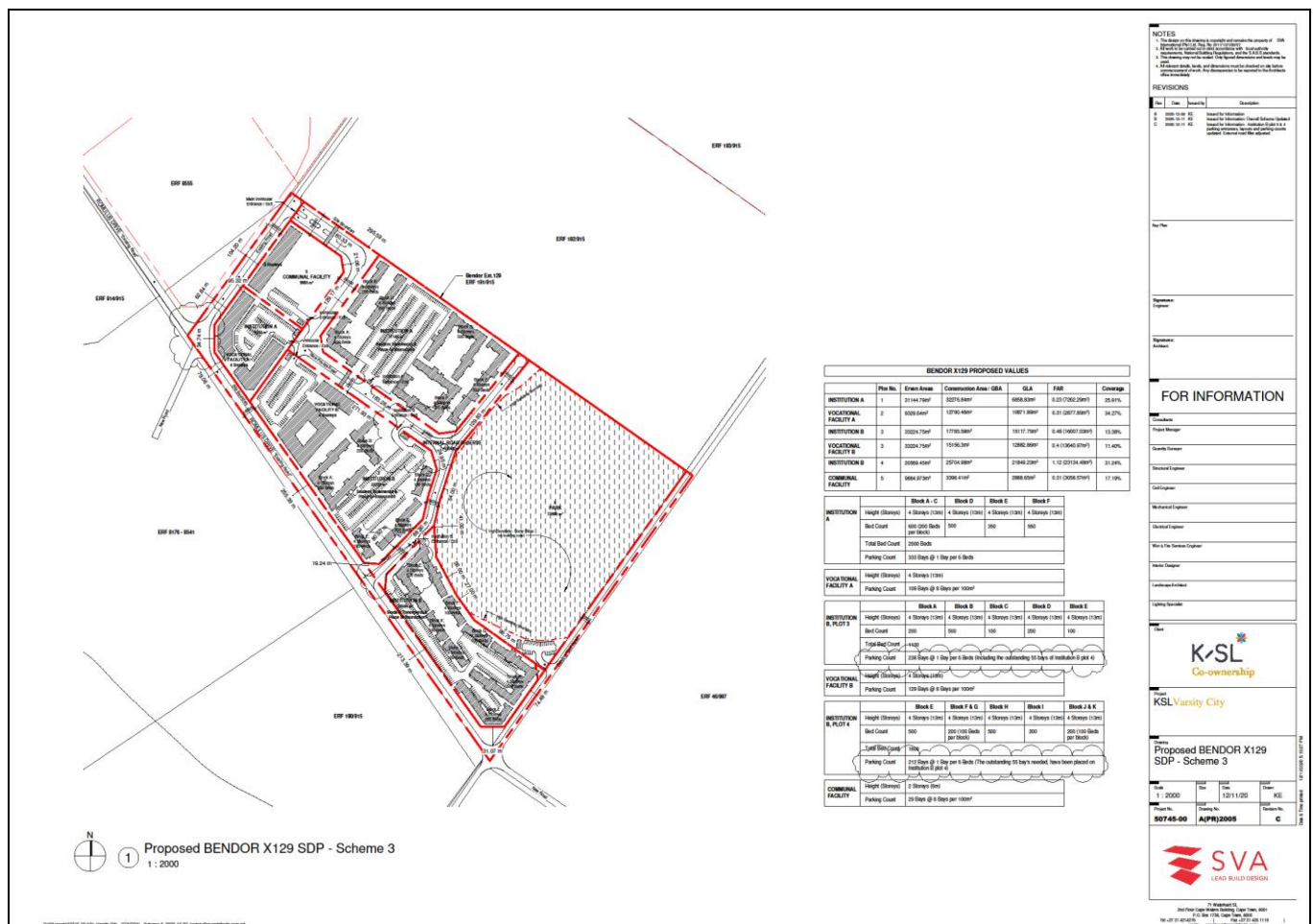
Township establishment for higher education purposes with associated uses and amenities.

The township will consist of the following erven:

- 3 erven for student accommodation providing 4 700 beds
- 2 erven for place of instruction (vocational facilities)
- 1 erf for access and access control and engineering services
- 1 erf for private open space

There will be limited retail for the campuses, canteens, post & copy shop and bookstore.

Services will be provided by Polokwane municipality.



### Figure 3. Site Development Plan

#### 4. DESCRIPTION OF THE ENVIRONMENT

#### 4.1. TOPOGRAPHY

According to the Environmental Potential Atlas of South Africa (ENPAT, 2000) the project area is classified as being “Dissected Plains”. The slopes of the study area are classified as being between 1 and 9 degrees. The project area is characterised by slightly undulating plains, with a rocky outcrop area in the southern section of the site. The topography across the site is slightly undulating with the average elevation of 1540 mamsl.

#### 4.1.1. Climate

Polokwane normally receives about 489 mm of rain per year, with most rainfall occurring mainly during mid-summer. Mean monthly maximum and minimum temperatures for Polokwane are 33.2°C and 0.6°C for October and June, respectively.

#### 4.1.2. Drainage

The project area is situated within the quaternary catchments, A71A (small northern section) and A71B (remainder of the site). The study area is drained mainly by surface run-off (i.e. sheetwash) with



surface water flowing into non-perennial streams outside the study area. This water eventually drains into the Sand River. There are no drainage channels on site – figure 4.

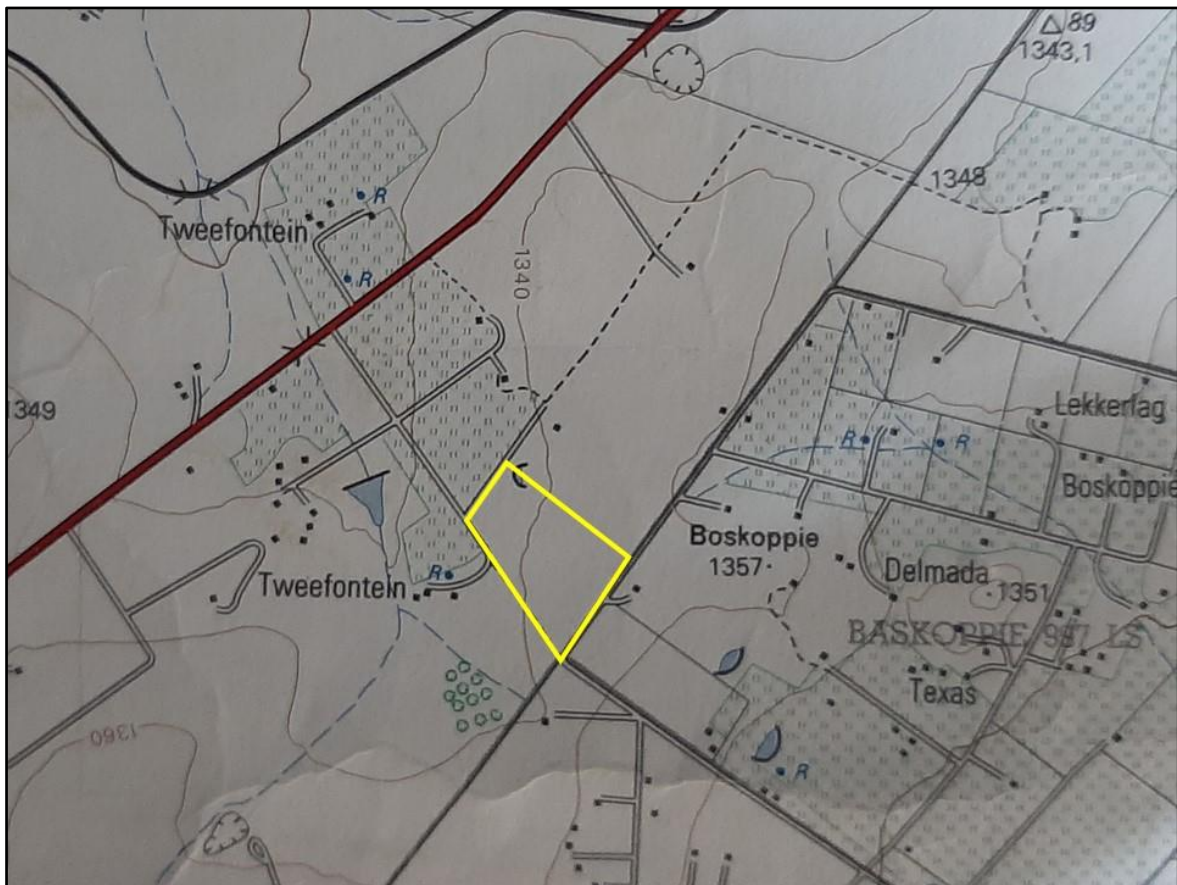


Figure 4. 1:50 000 topographical map indicating no drainage lines on site

#### 4.1.3. Geology & soils

The site is underlain by talc-chlorite schist bedrock belonging to the Mothiba Formation of the Pietersburg Greenstone Belt and gneissic bedrock belonging to the Goudplaats-Houtrivier Gneisses.

The most dominant soils on the development site are deep, red apedal soils of the Hutton soil form on the slightly undulating plains, while the shallower soils in between the deeper soils represent gravelly Glenrosa or very rocky Mispah soils.

#### 4.1.4. Vegetation

The most recent classification of the area by Mucina & Rutherford is Polokwane Plateau Bushveld. The conservation status of the vegetation type is Least Threatened with 9% statutorily conserved. The state of the vegetation of the proposed development site can be considered as slightly degraded. The following vegetation units were documented on site:

- *Vachellia tortilis* – *Dichrostachys cinerea* woodland
- Open *Vachellia tortilis* – *Gymnosporia senegalensis* – *Aloe marlothii* woodland
- *Combretum molle* – *Searsia leptodicta* – *Aloe marlothii* rocky ridge

## 4.2. SPECIALIST RECOMMENDATIONS

### 4.2.1. Ecological Assessment Report Findings

The site survey was conducted in May 2020. The vegetation was in a moderate to good condition and most species could be identified, although some species might have been missed because of the dense vegetation cover. No further surveys were necessary for the project area.

The following was concluded from the site visit and database studies:

- The *Vachellia tortilis* – *Dichrostachys cinerea* woodland and open *Vachellia tortilis* – *Gymnosporia senegalensis* – *Aloe marlothii* woodland have a Medium Sensitivity from a terrestrial biodiversity perspective due to the state of the vegetation and distribution of this vegetation entity through the area. The development in this area is considered suitable from an ecological point of view if mitigation measures are implemented.
- The *Combretum molle* – *Searsia leptodicta* – *Aloe marlothii* rocky ridge is classified as having a High Sensitivity due to the rocky nature of the soils, potential red data species habitat and unique plant species composition as part of the larger landscape. The development should aim to conserve this area as part of the educational facility for hiking trails and environmental awareness excursions.
- No red data species or sensitive species flagged by the screening report were recorded, and the only protected tree species is the marula.
- Three exotic plant species occur on the site.
- The development will influence the natural feeding and movement patterns of the existing fauna in the area, although not to a significant extent because of the large area that will not be developed.

### 4.2.2. Heritage Report Conclusion

A Late Iron Age stone walled site was recorded in the north-eastern corner of the proposed project area. The site consisted of stone walls around and on the slight rise. No other associated materials such as ceramics or grinding stones could be located. This may attest to the possibility that the area was used as a cattle outpost.

The site is severely degraded, with only foundations and some infill of stone walling remaining.

The area in the north-eastern corner should be excluded from development.

The discovery of previously undetected subterranean heritage remains on the terrain must be reported to the Limpopo Heritage Authority or the archaeologist, which may require further mitigation measures.

## 4.3. WATER SITUATION

Water will be supplied by Polokwane Municipality.

## 5. SCREENING TOOL ASSESSMENT – APPENDIX G

A Screening Report generated by the National Screening Tool (Department of Environmental Affairs: <https://screening.environment.gov.za> on 18/05/2021) identified the following attributes potentially relevant to the project site and which require consideration:

### 5.1. RELEVANT DEVELOPMENT INCENTIVES, RESTRICTIONS, EXCLUSIONS OR PROHIBITIONS:

The development area falls within the:

- **Limpopo Conservation Plan** – Other Natural Areas with a small portion as Critical Biodiversity 1 (South African Biodiversity Institute)

### 5.2. ENVIRONMENTAL SENSITIVITY IDENTIFIED FOR THE DEVELOPMENT AREA:

- **Agriculture Theme**  
Sensitivity - Medium land capability  
*An Agricultural Soil Potential and land capability specialist report has been conducted – Appendix D.2. The specialist concluded that the potential is moderate to low.*
- **Animal Species Theme**  
Sensitivity - Low  
*An Ecological Impact Assessment Report is attached as Appendix D.1.*
- **Aquatic Biodiversity Theme**  
Sensitivity - Low  
*There are no drainage channels or dams on site.*
- **Plant species Theme**  
Sensitivity - Medium for sensitive species.  
*No red data or sensitive species flagged were identified on site by the specialist. See Appendix D.1.*
- **Terrestrial Biodiversity Theme**  
Sensitivity - Low  
*The project site is situated within Other Natural Areas and has been classified by the specialist as medium sensitivity. The rocky outcrop is classified as high sensitivity and has been excluded from development. See Appendix D.1.*
- **Civil Aviation Theme**  
Sensitivity - High  
*The project site is 6 km from the Polokwane civil aviation aerodrome and 7 km from Gateway airport. The project area is not in any direct approach line of the runways.*
- **Archaeology and Heritage Theme**  
Sensitivity - Low

*A Phase I Scoping Heritage Assessment was conducted and concluded that the Iron Age site should be excluded from development - Appendix D.3.*

- **Palaeontology Theme**

Sensitivity - Medium

*The heritage specialist stated the following: The area lies within the grey zone on SAHRIS map. There is no need for a paleo study as the underlying granites and gneiss formations are not conducive to palaeontological remains – Appendix D.3.*

- **Defence Theme**

Sensitivity - Very High

*The only defence related area or structure is the radar on the hill 3 km south west of the site. The township establishment will have no impact on the radar infrastructure.*

## 6. PUBLIC PARTICIPATION PROCESS

### 6.1. PROCESS FOLLOWED

#### 6.1.1. Newspaper Advertisement

A notice was placed in the Polokwane Observer on 20 May 2021. See attached proof in APPENDIX E.

#### 6.1.2. Site Notice (Environmental Impact Assessment Process)

Site notices were placed at the entrance to the site from the R81 and at the entrance to the site on 17 May 2021. See attached APPENDIX E for proof of placing of these notices.

#### 6.1.3. Consultation Basic Assessment Report (CBAR):

CBAR's were provided to the following government departments:

<b>Name of Authority informed:</b>
<b>Department Agriculture, Rural Development &amp; Land Reform</b>
<b>Department of Water &amp; Sanitation</b>
<b>Capricorn District Municipality</b>
<b>Polokwane Local Municipality</b>
<b>Land Claims Commissioner</b>
<b>Limpopo Department of Agriculture</b>
<b>Limpopo Department of Economic Development, Environment and Tourism (LEDET)</b>

All directly adjoining landowners were notified that the CBAR is available for comment.

Hard copies of the CBAR will be submitted to LEDET, DWS and Polokwane Local Municipality.

Electronic links will be sent to the other government departments as well as all directly adjoining landowners and other interested and affected parties. The CBAR will be available for comments from 21 May – 23 June 2021.

## **7. CONCLUSION**

A Basic Environmental Impact Assessment is required to obtain the necessary environmental authorisation for the proposed project.

The Limpopo Department of Economic Development, Environment and Tourism is kindly requested to provide comments that can be addressed in the FBAR.

## **8. BIBLIOGRAPHY**

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