Consultation Scoping Report

L19 030 E

CONSULTATION SCOPING REPORT FOR THE PROPOSED DEVELOPMENT OF ± 400 HA OF NEW CROPLANDS ON THE REMAINDER OF PORTION 3 OF THE FARM CONISTON 699 MS IN THE WATERPOORT AREA, MAKHADO LOCAL MUNICIPALITY, VHEMBE DISTRICT, LIMPOPO

Project Short Name: Coniston Croplands

August 2022

Prepared for: Koedoespan Boerdery (Pty) Ltd
Compiled by: Anton von Well
Document version 3.0 – Draft

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REPORT DISTRIBUTION LIST

Surname	Organisation	Position/ Property
Landowner		
Mr A van Staden	Koedoespan Boerdery (Pty) Ltd	RE of Ptn 3 of Coniston 699 MS
Neighbouring landowners		
Mr B Schlesinger		RE of Woodlands 701 MS
Mr A van Staden	Sandpan Boerdery (Edms) Bpk	Ptn 2 of Esmefour 697 MS
Mr AS Tshivaula		Ptn 4 of Coniston 699 MS
Mr A Miles		Rochdale 870 MS
Mr Roberts	Fanja Trust	RE of Kliprivier 692 MS
Mr Japie van der Goot		P1 of Sutherland 693 MS
Mr B Lottering	Creosote pole plant	P1 of 700 MS
Other I&AP's		
W van Jaarsveld (CEO)	Agri Limpopo	
A Humphrey Jurgen Miles		Rochdale 870 MS
Mr Prince Leshiba	Waterpoort Directly Affected Families Community Trust (WDAFCT)	
	Waterpoort Community Development Trust (WCDT)	
Mr Enos Mulaudzi	Matahe Communal Property Association	
Authorities		
Ms Hilda Mpho Mudau	Makhado Local Municipality	
Municipal Manager	Vhembe District Municipality	
Mr David Nethengwe	Department of Water & Sanitation (DWS)	
Mr Steven Kgobalale	Department of Agriculture, Land Reform and Rural Development	
Ms Natasha Higgit	South African Heritage Resources Agency (SAHRA)	
Ms Gavhi	Land Claims Commissioner	

DOCUMENT HISTORY

Report No	Date	Version	Status
L19 030 E (12/1/9/2-V87)	November 2020	2.0	Consultation Scoping Report
L19 030 E	August 2022	3.0	Consultation Scoping Report

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LIST OF ACRONYMS AND ABBREVIATIONS

DALRRD	Department of Agriculture, Land Reform and Rural Development
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMPr	Environmental Management Programme
GIS	Geographical Information System
GN	Government Notice
I&APS	Interested and Affected Parties
LEDET	Limpopo Department of Economic Development, Environment and Tourism
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMPA	National Environmental Management: Protected Areas Act (Act 57 of 2003)
NFEPA	National Freshwater Ecosystem Priority Area

1. OBJECTIVE OF THE SCOPING PROCESS

According to Regulation No R 982 of 4 December 2014 (as amended on 7 April 2017), the objective of the scoping process is to, through a consultative process:

a. Identify the relevant policies and legislation relevant to the activity.
b. Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location.
c. Identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks.
d. Identify and confirm the preferred site trough a detailed site selection process which includes an identification of impacts and risks inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focussing on the geographical, physical, biological, social, economic, and cultural aspects of the environment.
e. Identify the key issues to be addressed in the assessment phase.
f. Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required, as well as the extent of further consultation to be undertaken to determine the impacts and risks that the activity will impose on the preferred site through the life of the activity. This must include the nature, significance, consequence, extent, duration, and probability of the impacts to inform the location of the development footprint within the preferred site.
g. Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

2. CONTENT OF THE SCOPING REPORT

2.1 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) WHO PREPARED THE REPORT

Name of EAP: AGES Limpopo (Pty) Ltd – Mr Anton von Well

Contact details of EAP:

Address:	P O Box 2526, Polokwane, 0700
Telephone number:	015 291 1577
Fax number:	087 940 0516

Expertise of EAP: The EAP is registered as an Environmental Assessment Practitioner at EAPASA and has 22 years of experience with management and conducting of EIA's. The Curriculum Vitae of EAP is included in Appendix J.

3. LOCATION OF ACTIVITY

3.1 21-DIGIT SURVEYOR GENERAL CODE OF EACH CADASTRAL LAND PARCEL

T	O	M	S	0	0	0	0	0	0	0	0	0	6	9	9	0	0	0	3

3.2 PHYSICAL ADDRESS AND FARM NAME

The proposed croplands will be located on the Remainder of Portion 3 of the farm Coniston 699 MS in the Waterpoort area in the Limpopo Province (See attached locality map – Appendix 1).

3.3 COORDINATES OF PROPERTY BOUNDARIES

Northern corner: 22°51'42.49"S
29°41'50.46"E

South-eastern corner: 22°53'4.31"S
29°41'59.39"E

Southern corner: 22°53'14.44"S
29°41'21.06"E

South-western corner: 22°53'0.76"S
29°40'42.55"E

Western corner: 22°52'8.62"S
29°40'6.49"E

The proposed vegetation clearance will take place on the Remainder of Portion 3 of Coniston 699 MS, located approximately 30 km northwest of Louis Trichardt, directly north of the R523 connecting the R521 regional road to the N1 national road.

The project site is located on privately owned farmland, previously used for cattle and game farming, and now partially cultivated as tomato croplands.

A locality map indicating the proposed development area as identified by the proponent is included in Appendix A.

3.4 LOCALITY PLAN OF THE PROPOSED ACTIVITY

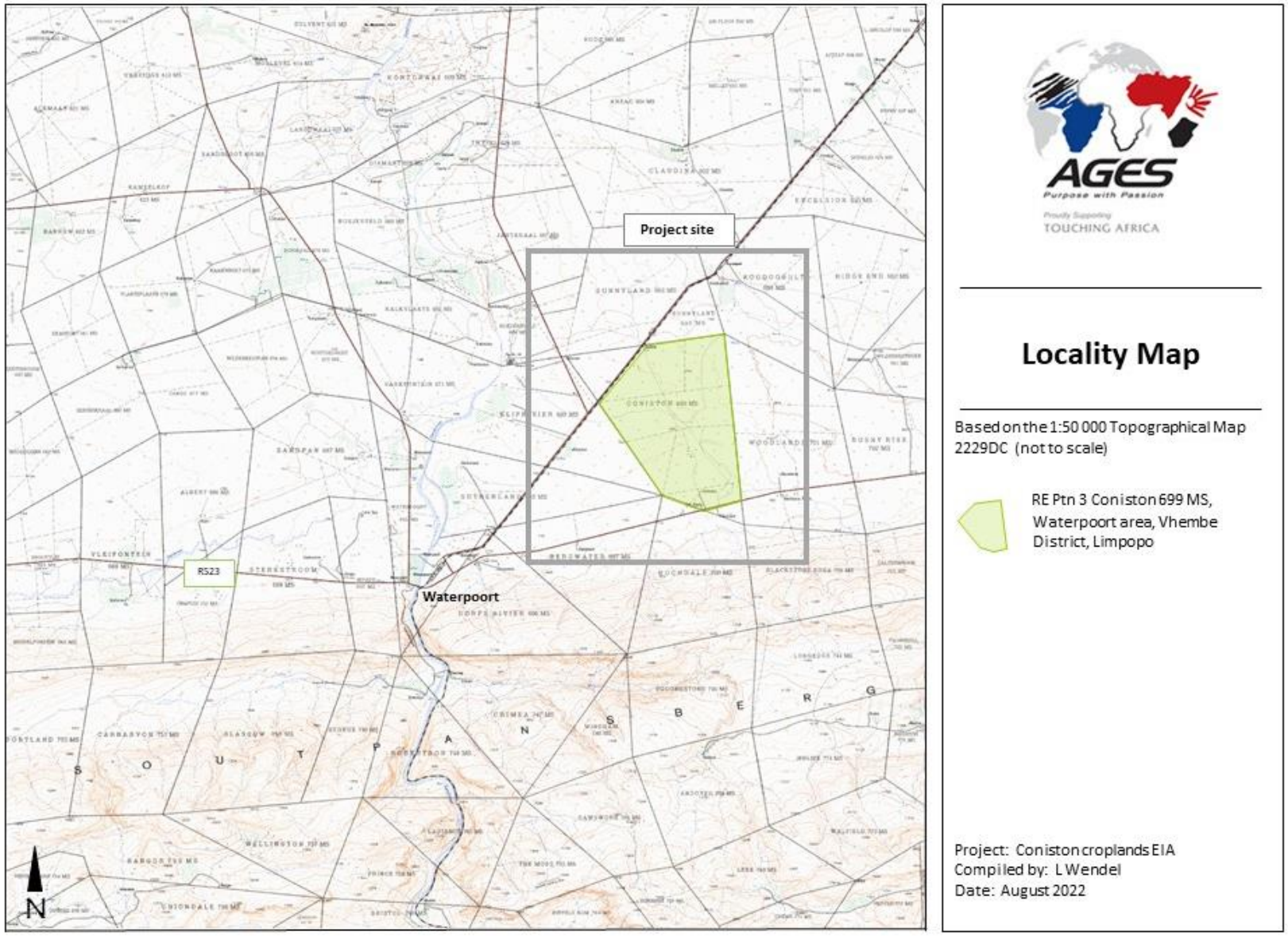

Figure 1. Locality map (topographical map) of Remainder of Ptn 3 of the farm Coniston 699 MS

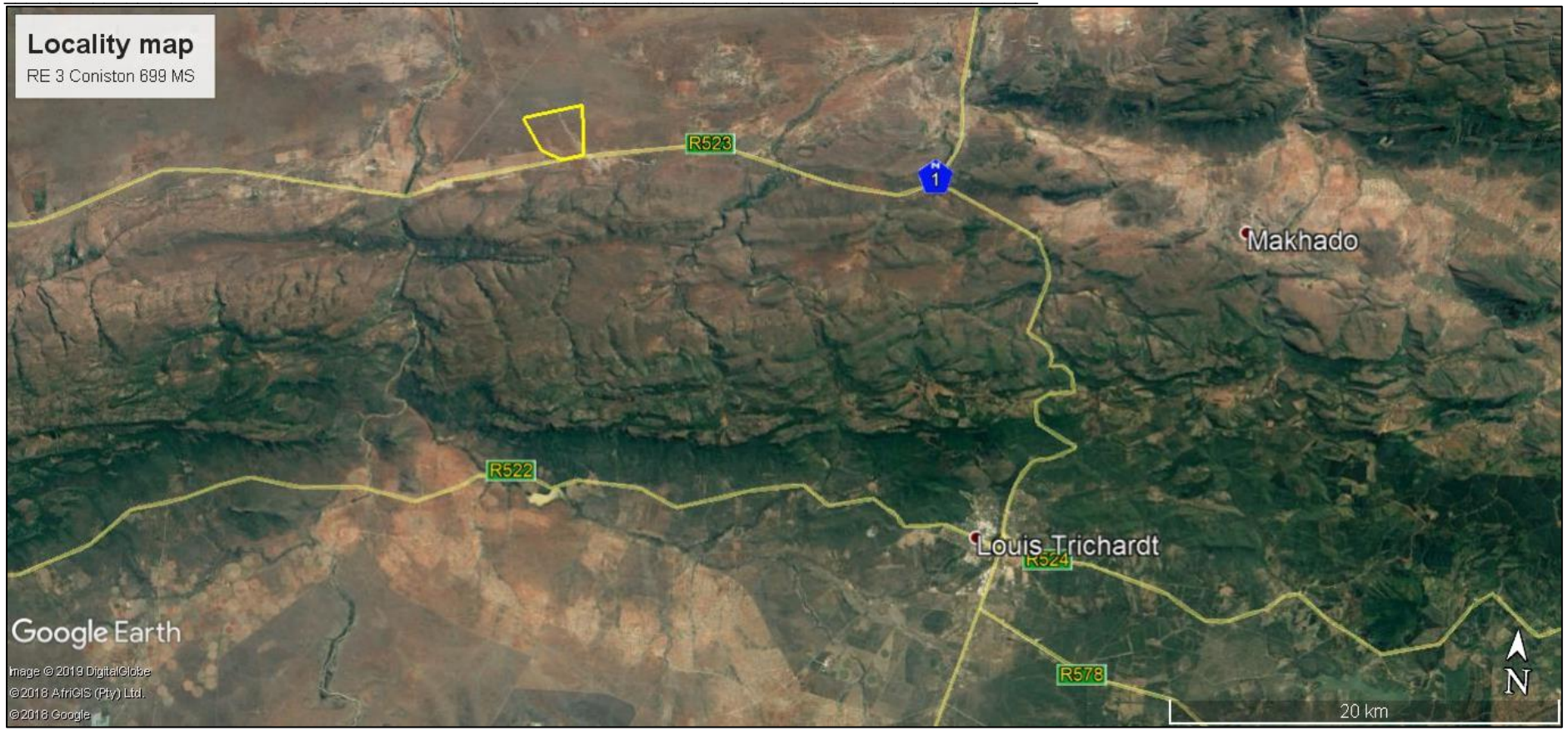

Figure 2. Locality map of Remainder of Ptn 3 of the farm Coniston 699 MS

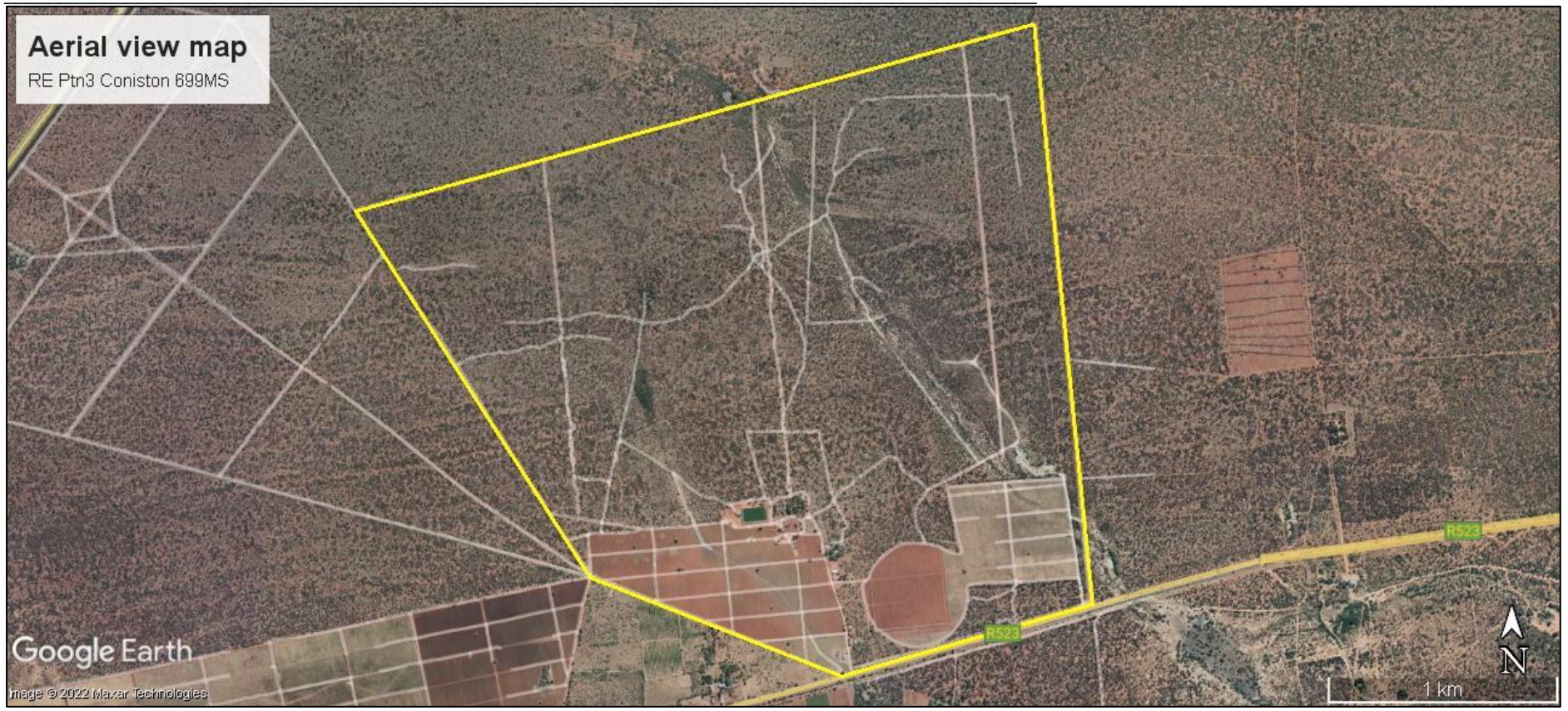

Figure 3. Arial view map of Remainder of Ptn 3 of the farm Coniston 699 MS

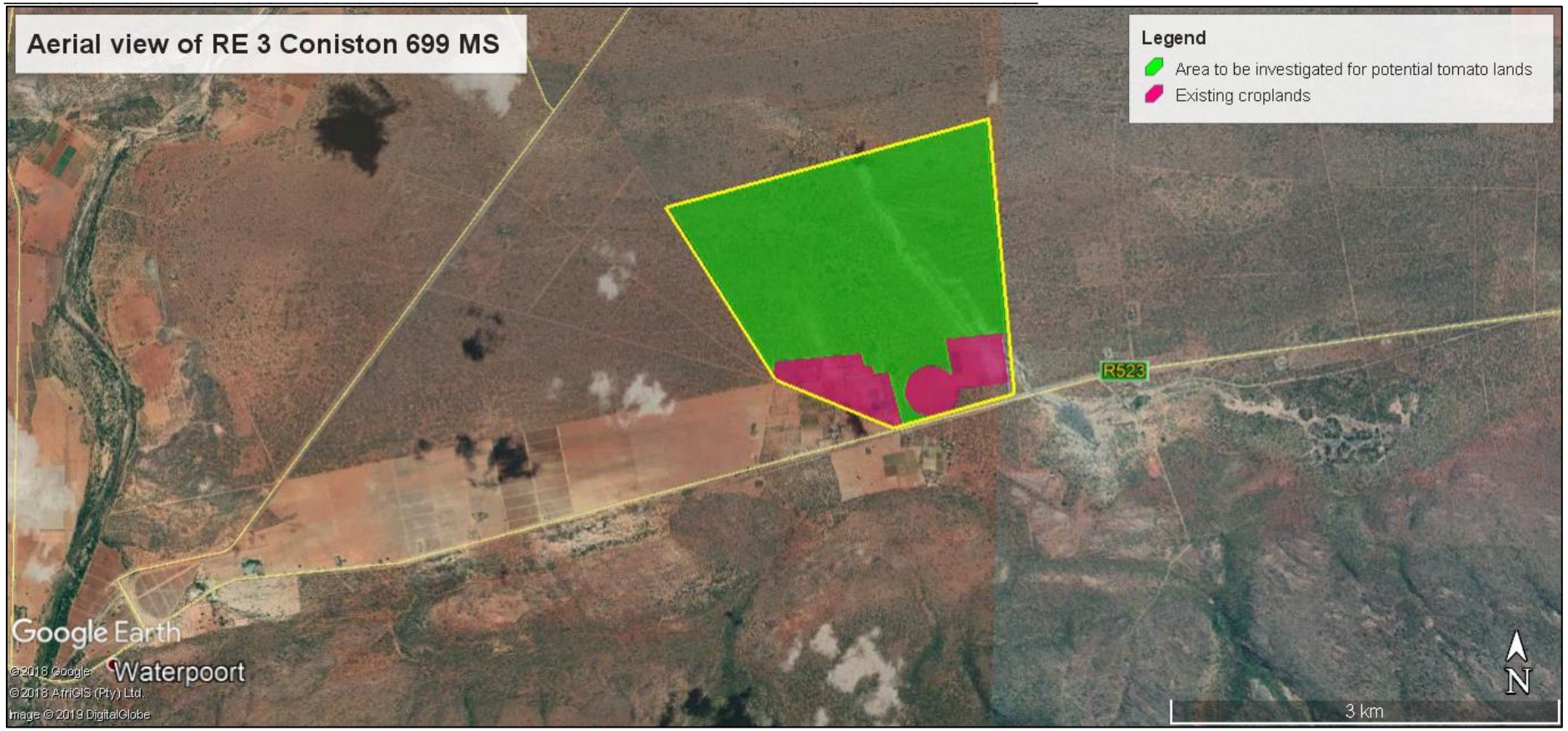

Figure 4. Area to be investigated for croplands development

4. SCOPE OF THE PROPOSED ACTIVITY

4.1 LISTED ACTIVITIES TRIGGERED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) (NEMA)

Relevant notice	Description
GN R.984 *Activity 13* *The physical alteration of virgin soil to agriculture of 100 hectares or more.*	The new croplands and associated infrastructure will be developed and operated on a footprint of approximately 422 ha that will be cleared of vegetation.
GN R.984 *Activity 15* *The clearance of an area of 20 hectares or more of indigenous vegetation.*	The new croplands and associated infrastructure will be developed and operated on a footprint of approximately 422 ha that will be cleared of vegetation.

4.2 SPECIFIED ACTIVITIES TRIGGERED IN TERMS OF OTHER LEGISLATION

Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)	A permit is required and will be applied for, for the cultivation of virgin soil.
National Forests Act, 1998 (Act 84 of 1998)	Permits are required and will be applied for, for the relocation/removal of any of the protected trees on site.
Limpopo Environmental Management Act, 2003 (Act 7 of 2003)	Permits are required and will be applied for, for the relocation/removal of any of the protected trees on site.

4.3 DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY, INCLUDING ASSOCIATED STRUCTURES AND INFRASTRUCTURE

The proposed development on RE of Ptn 3 of the farm Coniston 699 MS will comprise:

- Clearance of ± 422ha of indigenous vegetation for new croplands to plant tomatoes.
- The expansion is necessary to provide enough space for future lands and a crop rotation cycle of 4 - 5 years.
- Areas designated for croplands will allow for crop rotation and clearance will be phased with a maximum of 108ha cultivated at any one time.
- Lands already harvested will be left fallow in between crop cycles to allow indigenous grasses to re-establish and restore soil health and protect soil from erosion.
- Water for irrigation is available and will be sourced from the registered legal water use for the adjacent farm, Ptn 2 Bergwater 697 MS, Waterpoort.
- Should a Water Use License be required for future cultivation, an application for abstraction of water from boreholes will be submitted to the Department of Water and Sanitation.
- Tomatoes will be irrigated with drippers.
- Construction of pipelines from the boreholes to the croplands. These pipes will have a diameter of less than 360 mm with routes to be determined and indicated in the EIA reports to follow.

5. POLICY AND LEGISLATIVE CONTEXT WITHIN WHICH THE DEVELOPMENT IS PROPOSED, INCLUDING AN IDENTIFICATION OF ALL LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS AND INSTRUMENTS APPLICABLE TO THIS ACTIVITY AND WHICH ARE TO BE CONSIDERED IN THE ASSESSMENT PROCESS

The legislative and regulatory framework of reference for the cropland's development includes statutory and non-statutory instruments by which National, Provincial and Local authorities exercise concurrent control throughout the development of the same project.

The development and the environmental assessment process of the proposed development involve various authorities dealing with the different issues related to the project (economic, social, cultural, biophysical etc.).

5.1 REGULATORY AUTHORITIES

5.1.1 National Authorities

At national level, the main regulatory authorities and agencies are:

- *National Department of Environment, Forestry and Fisheries (DEFF):* The Department is competent and responsible for all environmental policies and is the controlling authority under the terms of NEMA and EIA Regulations. The DEFF is also the permitting authority in respect of permit application for the removal/relocation of protected trees listed in terms of the National Forests Act, 1998 (Act no. 84 of 1998).
- *South African Heritage Resources Agency (SAHRA):* The Agency is responsible for the protection and the survey, in association with provincial authorities of listed or proclaimed sites, such as urban conservation areas, nature reserves and proclaimed scenic routes under the terms of the National Heritages Resources Act (Act no. 25 of 1999).

5.1.2 Provincial Authorities

- At provincial level, the regulatory and competent authority is the *Limpopo Department of Economic Development, Environment and Tourism (LEDET);* this Department is responsible for environmental policies and is the provincial authority in terms of NEMA and the EIA Regulations. The LEDET is also the permitting authority in respect of permit application for the removal/relocation of protected trees listed in terms of the Limpopo Environmental Management Act, 2003 (Act no. 7 of 2003).

5.1.3 Local Authorities

At a local level, local and municipal authorities are the principal regulatory authorities responsible for planning, land use and the environment. In the Limpopo Province, municipalities and district municipalities are involved in various aspects of planning and the environment related to agricultural development. The local municipality with jurisdiction over the proposed development is the *Makhado Local Municipality* which is part of the *Vhembe District Municipality*.

Subject to the Municipal System Act (Act 32 of 2000), all municipalities are deemed to undergo an Integrated Development Planning (IDP) process to devise a five-year strategic development plan for their area of reference.

The identification of priority areas for conservation and their positioning within a planning framework of core, buffer, and transition areas is the subject of bioregional planning. Priority areas are individuated and defined with reference to visual and scenic resources and their identification and protection is granted through visual guidelines drafted for the area included in bioregional plans.

Local authorities also provide specific by-laws and policies designed to protect visual and aesthetic resources with reference to urban edge lines, scenic drives, special areas, signage, communication masts etc.

5.1.4 Other bodies

Finally, there are various non-statutory bodies and environmental groups involved in the definition of various aspects of planning and the protection of the environment, which may influence or inform the development of the proposed project.

5.2 LEGAL AND POLICY REQUIREMENTS

The following is a broad overview of the relevant policy and legal requirements related to the environment, applicable to the proposed project. Legislation is not limited to this list:

Table 1: Review of relevant legislation applicable to this activity, to be considered in the assessment process

Key Legislation relevant to the application (list is not exhaustive)
Constitution of the Republic of South Africa (Act 108 of 1996)
Conservation of Agricultural Resources Act (Act 43 of 1983) Regulation 02, 04, 05, 06, 12, 15, 16 of GN R. 1048
Occupational Health and Safety Act (Act 85 of 1993)
Municipal Systems Act (Act 32 of 2000)
National Heritage Resources Act (Act 25 of 1999)
National Forests Act (Act 84 of 1998)
National Veld and Forest Fires Act, 1998 (Act 101 of 1998)
National Water Act (Act 36 of 1998) Regulations regarding the procedural requirement for water use license applications and appeals. GN R. 267 of 24 March 2017
National Environmental Management Act (Act 107 of 1998) NEMA EIA Regulations 2014 (GN R. 982, 984, 985 of 04 December 2014) as amended
National Environmental Management: Biodiversity Act (Act 10 of 2004) GN R150: Commencement of Threatened and Protected Species GN R15: Lists of critically endangered, vulnerable, and protected species GN R152: Threatened Protected Species Regulations
National Environmental Management: Protected Areas Act (Act 57 of 2003)
Limpopo Environmental Management Act (Act 7 of 2003)

Constitution of South Africa (Act 108 of 1996)

Section 24 of this Act recognised not only that everyone has a right to an environment that is not harmful to our health or well-being, but it also recognises the notion of sustainable development and its supporting principles.

Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA)
This act provides for the control over the utilization of the natural agricultural resources of the Republic to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants**.**

Occupational Health and Safety Act, 1993 (Act 85 of 1993) (OHSA)
This Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

National Heritage Resources Act (Act 25 of 1999)
The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38.

National Forests Act (Act 84 of 1998)
In terms of section 15(1) of the National Forests Act, 1998, no person may cut, disturb, damage, or destroy any protected tree; or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any product derived from a protected tree, except under a licence or exemption granted by the Minister of Agriculture, Forestry and Fisheries.

National Veld and Forest Fires Act, 1998 (Act 101 of 1998)
This act provides for the control of veld fires. The regulations in terms of this act set certain conditions for the owner of a property for emergency preparedness for the control of veld fires. It also describes the compulsory making of firebreaks to control veldt fires that originates on the owner's property as well as on adjacent properties**.**

National Water Act (Act 36 of 1998) (NWA)
Section 19 of the National Water Act, Act 36 of 1998 requires that all reasonable measures be taken to prevent any water pollution from occurring, continuing, or recurring. The Act further describes a number of water uses and requires that a water use License have to be obtained for such specified water uses.

National Environmental Management Act (Act 107 of 1989) (NEMA)

- This Act defines the concept of sustainability, to ensure that any social or economic development will take place in such a way as to preserve the Environment for present and future generations. This Act also considers the prevention of pollution principles.
- Environmental Impact Assessment Regulations (Act 107 of 1998) – 4 December 2014 (as amended).
- Regulations and guidelines for the implementation of Environmental Impact Assessments**.**

National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA)
The National Environmental Management Biodiversity Act (Act No. 10 of 2004), aims to provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.

National Environmental Management: Protected Areas Act (Act 57 of 2003) (NEMPAA)

This Act intends to provide for the:

- protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes;
- establishment of a national register of all national, provincial, and local protected areas;
- management of those areas in accordance with national norms and standards;
- intergovernmental co-operation and public consultation in matters concerning protected areas; and
- for matters in connection therewith.

Limpopo Environmental Management Act (Act 7 of 2003) (LEMA)

The Limpopo Environmental Management Act, Act 7 of 2003 entails mainly the management and protection of the environment in the province. Ecologically sustainable development and responsible use of natural resources in the province are to be secured. The fundamental rights contained in the Constitution of South Africa are underwritten and the Act aims to realise these rights in the Limpopo Province. The Act also aims to give effect to international agreements effecting environmental management which are binding in the province.

Table 2. Review of relevant policies, plans, guidelines, spatial tools, municipal development frameworks and instruments applicable to this activity, to be considered in the assessment process (list is not exhaustive)

Department of Environment, Forestry and Fisheries	National Screening Tool
Makhado Local Municipality	Final Integrated Development Plan 2022/23-2026/27
South African Government	National Development Plan 2030
South African National Biodiversity Institute	Biodiversity GIS (BGIS)
Vhembe District Municipality	Integrated Development Framework

6. NEED AND DESIRABILITY FOR NEW CROPLANDS AT REMAINDER OF PORTION 3 CONISTON 699 MS

This application is a continuation of the application commenced with in April 2019 with reference number 12/1/9/2-V87.

The need and desirability of the proposed activity within the context of the preferred location alternative can be summarised as follow:

The climate and soils in this region place the site in a favourable position for croplands to produce tomatoes during the winter months. The expansion is necessary to provide enough lands for a crop rotation cycle of 4-5 years. The total area to be planted annually will not be expanded.

The proposed development will enhance the utilisation of this farm where several croplands have already been developed and where infrastructure already exists for the farming of the land. The development will also enhance the economic viability of the farm.

The Waterpoort area is characterised by vast open areas consisting of large farms, remotely situated from the job opportunities usually associated with urban centres (Louis Trichardt being the closest at approximately 50 km away).

- The unemployment rate in the Makhado Municipality area is high, with local people generally being unskilled. The proposed development will employ people from local communities around Waterpoort on a permanent and temporary (seasonal) basis.
- The long-term nature of the proposed development (more than 20 years) will secure many job opportunities, both permanent and temporary (seasonal).
- The proponent has a proven track-record of various social responsibility initiatives while also providing housing, training, skills transfer, and up-skilling to its employees on a continuous basis.
- The proposed croplands are aligned with the **Vhembe District Municipality Integrated Development Framework 2022/2027** development planning policies, *inter alia* the:
  - **Rural Development Framework (RDF)** (Department of Rural Development & Land Reform)
    - Insofar it provides "opportunity for reducing poverty in rural communities through intervention by the private sector''.
  - **New Growth Path** (Department of Economic Development)
    - As it "contributes to the provision of activities/opportunities which maximises the creation of decent work opportunities''.
- Food security is essential to sustaining livelihoods and critical to the social and economic development of a country. The proposed development will contribute to food security by producing tomatoes to local and regional markets for an ever-increasing population.

- The constant growth in demand for tomatoes locally and as exports, earn valuable foreign exchange, a sustainable source of foreign income. This provides strong incentive to the applicant, a well-established, large commercial farmer to commit to substantial capital investment to expand current farming operations.

- A sufficient volume of good quality irrigation water is available from the registered legal water use of the adjacent farm, Ptn 2 Bergwater 697 MS, Waterpoort, from where water for irrigation will be sourced.

- Should a Water Use License (WULA) be required for future cultivation, (abstraction of groundwater for irrigation) application will be submitted to the Department of Water and Sanitation.
- This location alternative is therefor efficient from an economic, logistics and management perspective, offering incentive based upon the principle of economies of scale.

Table 3. Water Balance Calculation

Annual water balance - RE Ptn3 Coniston 699MS, Waterpoort			
Water sources - m^3			**Totals (m^3)**
Groundwater available for abstraction (irrigation) - Ptn2 Bergwater 697MS			1 288 780
Total			**1 288 780**
Water need - m^3	**Ha planted /year**	**Need m^3/ha/year**	**Totals (m^3)**
Bergwater (360ha under crop rotation): Maximum per cycle - 103ha	103	6 000,00	618 000
Coniston: Current croplands - 73ha (authorised)	18	6 000,00	108 000
Coniston: Future croplands - 390ha (to be applied for)	90	6 000,00	540 000
	0	-	-
Totals	211		1 266 000
Surplus / Deficit (-)			**22 780**

7. DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ACTIVITY, SITE AND LOCATION OF THE DEVELOPMENT FOOTPRINT

In the EIA process, the consideration of alternatives is always important, should the proposed site not fit into the parameters of the EIA framework. The alternatives can be categorised as follows.

- Location alternatives
- Process alternatives
- No-Go alternative

7.1 DETAILS OF ALTERNATIVES CONSIDERED

Alternatives may include location/site alternatives, activity alternatives, process or technology alternatives, temporal alternatives, or the no-go alternative. The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives should be compared (DEAT, 2006:2).

7.1.1 Location alternatives

Using the motivation provided in section 6 as background, the selection of the preferred location alternative is further motivated by the information below.

The farm measures 595ha, of which approximately 73ha is already under cultivation (croplands). The entire remainder of the farm was considered for development and assessed as study area to identify and determine areas most suitable as potential development footprint (preferred location alternative) for development of croplands. Following the assessment of the farm and identification of site

sensitivities, the preferred location alternative (only location alternative) within the farm was identified, a total area measuring approximately 422 ha – Figure 5.

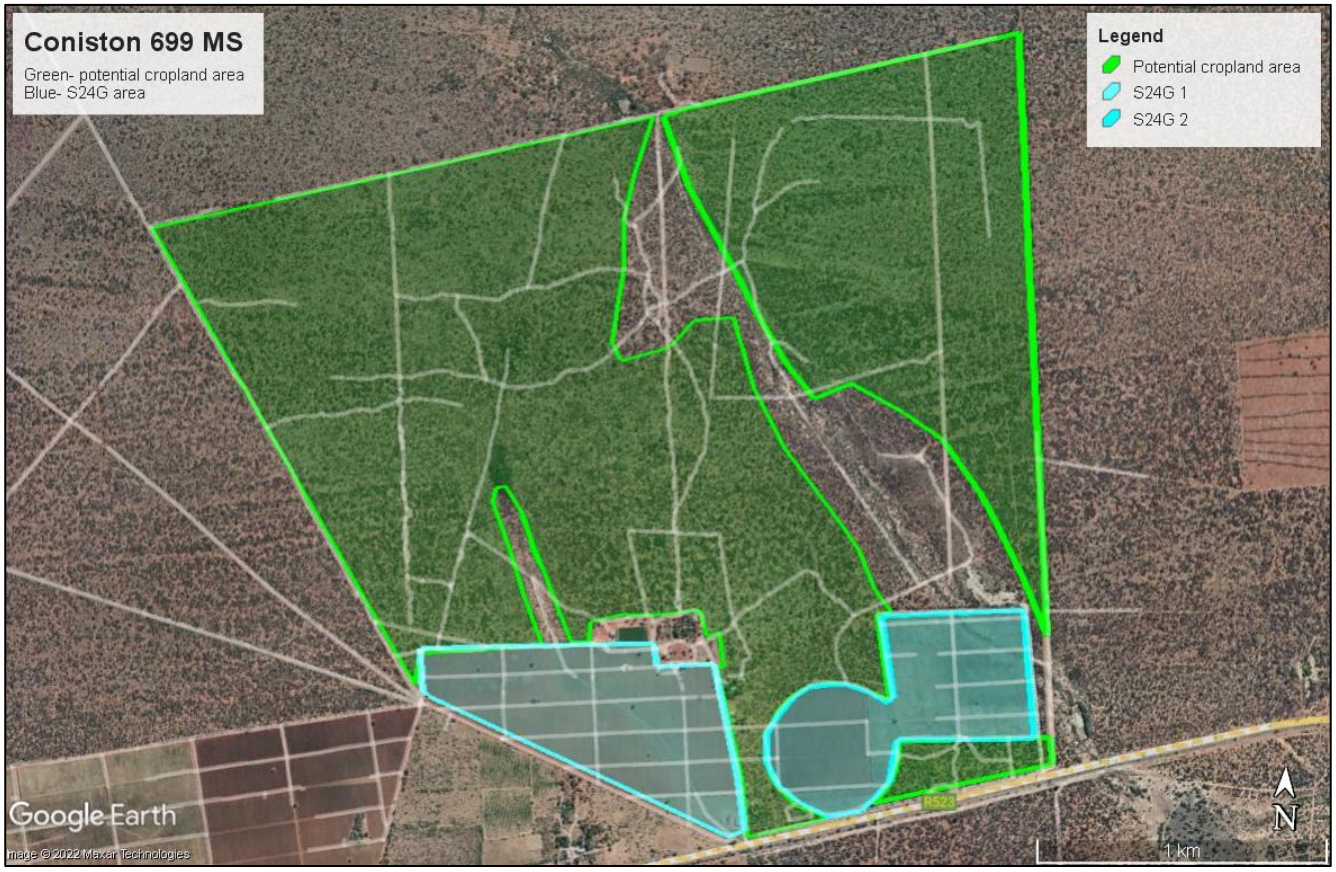

Figure 5. Areas suitable for croplands development, indicated in green

The proposed project entails the establishment of drip irrigated croplands for cultivation of tomatoes over this area of approximately 422 ha.

Cultivation will consist of crop rotation at 4–5-year intervals, at a total area annually of 108ha.

This preferred site was considered due to its:

- suitable soils and climate for tomato cultivation;
- proximity to directly adjacent farming operations, owned/managed by the applicant;
- proximity to existing labour force facilities, infrastructure, and executive functions on the adjacent farms;
- connectivity (central location directly adjacent to the R523 road), providing easy access to labour, management, and markets;
- groundwater potential of the farm;
- proximity to surrounding farms managed by ZZ2 from which irrigation water can be sourced; and
- current status as a commercial/production farm, where the land is available and can be utilised more economically if the land use of the preferred area is changed to irrigated croplands.

Of the initial study area of 520 ha, the selection of the cropland's development footprint (± 422 ha) in terms of location and size has been guided by the principles of sustainable development, informed by the findings from the site assessment by the ecologist, archaeologist, and palaeontologist. On the adjacent farms owned by the proponent, cash crops are produced and as such the proposed new

croplands in its proposed location will fit in with and complement existing farming activities on these farms (Figure 3).

The Terrestrial Biodiversity Impact Assessment, Phase I Archaeological Impact Assessment and Palaeontological Impact Assessment conducted between 2019 and 2022 informed the selection of the footprint (areas suitable for development) while indicating the sensitive areas (no-go areas) which will be excluded from development. Based on the findings in the three specialist reports the areas suitable for development will inform the site layout (croplands, roads and pipelines).

No other location alternatives were considered for this development as the owner of the land has no other available land in such proximity and readily available.

7.1.2 Process Alternative

The following process alternatives, exercised on other ZZ2 farms have proven successful to grow tomatoes.

- The use of effective micro-organisms, organic compost, drip irrigation and good crop rotation cycles (the "*Natuurboerdery*"-philosophy) have resulted in improved production (greater yields) with less fertilizer and insecticides being applied, while preserving soil health
- Regular soil analysis will be conducted to inform sustainable soil management.
- The main aim of the increased area for tomato lands is to facilitate crop rotation every 4-5 years.
- During the resting period endemic and indigenous grasses and herbs will re-grow and restore the soil micro-fauna, organic material and structure.

7.1.3 No-Go Alternative

The no-go alternative will result in the development not proceeding. The no-go alternative was considered but is not considered the best option for utilisation of this parcel of land.

Prior to its purchase by the proponent, the farm was used as a cattle and game farm with some croplands. Since purchase, game was relocated to other farms, while the croplands already under cultivation are providing permanent and seasonal job opportunities to local people. Should the development not go ahead, the undeveloped portion of the farm will remain in its current state, being unutilised. Not developing the croplands will result in lost job opportunities for more than 160 people annually.

The specialist assessments conducted during scoping phase indicated no fatal flaws with regards to the proposed development, provided that the concerns and historically unresolved issues relating to heritage (gravesites and burial grounds on the farm) be addressed and resolved.

8. DETAILS OF PUBLIC PARTICIPATION PROCESS UNDERTAKEN

For this proposed development a public participation process was followed according to Regulation 41 of Chapter 6 of the EIA Regulations 2014 (as amended). Copies of all correspondence, notifications, comments received from I&APs and the respective response thereto by the EAP is included as Appendix C to this CSR.

Public participation commenced in April 2019. However, due to illegal development of croplands by the previous owner, the EIA application was suspended in November 2019 as a Section 24G process commenced to legalise the croplands.

Upon receipt of Environmental Authorisation (12/1/9/S24G-V45) for 59 ha of croplands from LEDET in October 2020, the EIA process resumed. However, in December 2020, during the Final Scoping phase of this EIA application, feedback received following public participation for another project of the applicant in the Waterpoort area, raised awareness regarding unresolved heritage matters, highlighting the need for social consultation. It was decided to suspend the application pending the outcome of the social consultation and public participation processes. Following extended social consultation / public participation since December 2020, the aspects surrounding heritage matters can now be addressed and the formal EIA application process can resume.

8.1 NEWSPAPER ADVERTISEMENT

The proposed project was advertised in the ***Zoutpansberger*** on 26 April 2019 (initial application) and again in the ***Zoutpansberger*** on 30 October 2020 (continuation of application) to inform people about the proposed new croplands and request them to identify environmental issues of concern.

A copy of this notice is attached in Appendix C.

8.2 SITE NOTICE

A site notice in English, providing the location and description of the activity, details of the applicant and details of the EAP was fixed at the entrance to the farm along the R523 on 26 April 2019 and again on 03 November 2020.

A copy of this notice as well as photos of the displayed notice (as of April 2019) is attached in Appendix C.

8.3 BACKGROUND INFORMATION NOTICES

Background Information Documents (BID's) in English, providing the location and description of the activity, details of the applicant and details of the EAP were hand delivered or e-mailed to directly adjacent neighbours (owners, persons in control of, and occupiers of land) of the farm and other potentially Interested and Affected Parties during April 2019.

Background Information Documents were sent via electronic mail to the relevant organs of state with jurisdiction over any aspect of the proposed development:

- Makhado Local Municipality
- Vhembe District Municipality
- Department of Water & Sanitation
- Department of Agriculture, Land Reform and Rural Development: Directorate: Land & Soil Management
- Department of Rural Development and Land Reform: Land Claims Commissioner
- Agri Limpopo

A copy of the Background Information Document as well of proof of the distribution thereof is included in Appendix C.

8.4 PUBLIC/STAKEHOLDER MEETINGS AND SITE VISITS

Following correspondence received during November and December 2020 from the representatives of the Community of Waterpoort, Waterpoort Directly Affected Families Community Trust, Waterpoort Community Foundation, Waterpoort Community Development Trust, Matahe CPA (and others), further correspondence followed, culminating in a public/stakeholder meeting on 29 May 2021 and two site visits (19 February 2022 and 15 April 2022) for the purpose of identification and recording of graves.

A notification in Venda, providing the location and description of the activity, details of the applicant and details of the EAP was sent via electronic mail and WhatsApp to interested & affected parties on 03 March 2022.

Correspondence leading up to these events, sent via electronic mail and Whatsapp, as well as the respective Agendas and Minutes following these events are included in Appendix C.

A copy of the Background Information Document and notification in Venda as well of proof of the distribution thereof is included in Appendix C.

8.5 ISSUES AND RESPONSES

Requests from neighbours and various local community organisations to be registered as Interested and Affected Parties were received. A Comments and Responses Report, summarising correspondence and comments to date is included in Appendix C.

- All the recipients were provided more than 30 days to register as I&APs, and the public participation process, in its entirety, lasted from 26 April 2019 to 29 August 2022. Taking cognisance of correspondence received from local community organisations who approached the EAP in November and December 2020, public participation invited and facilitated the identification and recording of graves on 31 May 2021. Following the conclusion of the on-site grave identification on 15 April 2022, an invitation was extended to the community to notify the EAP of any graves not being pointed out on the day, until 30 April 2022, however no new information regarding the presence of further grave sites were provided to the EAP.

Confirmation of the land claim status of the farm was invited from the Department of Rural Development and Land Reform: Office of the Land Claims Commissioner via electronic mail on 30 May 2019. Confirmation of a restitution land claim, lodged by the Mulambwane Community (KRP10672, lodged prior to 1998) and an existing land claim by the Matahe Community (R/5/123/464/158118, lodged 24/06/2016) was received on 03 June 2019.

8.6 SCOPING REPORT AND PLAN OF STUDY FOR EIA

The Consultation Scoping Report and Plan of Study for EIA will be available for a 30-day review period (01 September 2022 – 05 October 2022) to relevant government departments and registered I&APs.

Upon request from various local community trusts following extensive public participation and social consultation, the complete Heritage Scoping Report will be made available to Interested and Affected Parties.

8.7 SUMMARY OF ISSUES RAISED BY I&APS AND RESPONSE BY EAP

8.7.1 Summary of comments and concerns raised following distribution of the background information document (BID), newspaper notice and site notice (April 2019)

The following parties registered their interest in the project:

Mr Samuel Tshivhula
Visited in-person by EAP as this homestead on 25 April 2019, and submitted the following comments in person, confirmed via electronic mail on 26 April 2019.

- The are 19 family graves on the farm Ptn 3 Coniston 699 MS.
- The previous owners of the farm refused him access to bury his mother. As a result she had to remain in the mortuary for more than 9 months after passing in 2007.
- He has no objection to the development of the farm, however access to their grave sites is requested.
- He has written to the President/Human Rights Commission at the time of his mother's death, yet no action was taken and matters were not resolved.
- He has lodged a claim on the farm as he has no access to enter the farm when the family wish to visit it.

Mr Joe Tshivhula
Telephonic correspondence, followed by electronic correspondence on 26 April 2019.

- Confirmed comments raised by mr Samuel Tshivhula

Department Agriculture, Forestry and Fisheries - Director: Land use and soil management
Electronic correspondence dated 28 June 2019.

- At this stage this Directorate: LUSM has no objections to the approval of the above-mentioned application.
- Regulation 2 of the Conservation of Agricultural Resources Act, 43 of 1983 states that no land user may cultivate any virgin soil without written permission from this office. I emailed Rian the application for the owner to apply.

Department of Water and Sanitation - Director: Institutional establishment
Electronic correspondence dated 29 July 2019.

- In light of the above, your activity is likely to trigger S21 (a) water uses. The department therefor requires you to submit to a complete Water Use Licence Application (WULA) in terms of Section 40 of the National Water Act (Act 36 of 1998) and regulation regarding the procedural requirements for water user licence applications and appeals No. R267 of 24 March 2017.

Mr Andrew-John Miles
Electronic correspondence received 29 May 2019.

- Requested registration as Interested and Affected Party

Mr Andy Miles & Mr Jurgen Miles
Electronic correspondence received 29 May 2019 & 23 July 2019.

- Requested registration as Interested and Affected Party
- Future water usage and impact thereof on my water
- Increase in number of monkeys, baboons and warthogs
- Prevention of spreading of pests and plant diseases

Mr Brink Schlesinger
Electronic correspondence received 02 July 2019.

- Requested registration as Interested and Affected Party

Mr PB Schlesinger
Electronic correspondence received 29 July 2019.

- How is the abstraction of water for this irrigation going to affect the water table and quantity of water on Woodlands?
- What is the long term solution regarding the free movement of small animals and reptiles from the bushveld habitat to open area?
- Will the concerned properly be electrically protected in order to keep out the already overpopulated primates and warthogs, thus leaving the neighbouring farms with the responsibility of dealing with the already escalating problem?
- How will soil erosion in the sandy soil be handled due to windstorms?

Office of the Land Claims Commissioner
Electronic correspondence dated 31 May 2019 & 03 June 2019.

- Confirmation of a restitution land claim, lodged by the Mulambwane Community (KRP10672, lodged prior to 1998).
- Confirmation of an existing land claim by the Matahe Community (R/5/123/464/158118, lodged 24/06/2016).

8.7.2 Comments following the second newspaper notification and distribution of the Consultation Scoping Report (October 2020)

Matahe CPA
Electronic correspondence received 08 & 09 November 2020.

- Rejects the proposed activity.
- Have an existing land claim lodged on the RE Ptn 3 Coniston 699 MS.
- Propose a meeting with the proponent and do not wish indigenous trees to be removed for cropping.
- Views the farm as their heritage and notes that the proponent does not respect their heritage (road and dam constructed over/in close proximity to graves and sends workers to clean graves without prior notification.

NOTE from EAP: The following comments were received during December 2020 in response to the site notice and public participation process commenced with for the proposed clearance of approximately 570 ha of indigenous vegetation for tomato lands on Portions 3, 4 & 5 of Waterpoort 695 MS, Sandpan 687 MS and Sitapo 690 MS ("Waterpoort EIA") in the Waterpoort area.*

However, the EAP was requested at the public/stakeholder meeting held on 29 May 2021 that the graves on the RE Ptn 3 Coniston 699 MS ("Coniston EIA") must be given priority and that issues surrounding these graves be resolved prior to any further public participation taking place, as the Waterpoort community has a shared history. While the applications for development will be submitted separately, the public participation component will include comments from all parties across the three Waterpoort farms applications mentioned here, to provide context, continuity, transparency and facilitate compilation of the Heritage Impact Assessment Reports.

Subsequently, applications for "Waterpoort EIA" and Waterpoort Balancing Dam Basic Assessment and Water Use License Application ("Waterpoort Dam") were suspended pending resolution of the issues raised at the time. The "notice" referred to below pertains to the Waterpoort EIA. As such, these comments will be addressed in the application for "Waterpoort EIA".

****Waterpoort Community Development Trust**
Electronic correspondence received 02 December 2020.

- Rejecting the application as it was not made available for the community as affect party and was placed in the bush.
- Families still residing at Waterpoort will be impacted in the future.
- All three farms are under land claims, already gazetted by the government.
- Grave site at these portions must be protected.

****Board of Trustees: Waterpoort Directly Affected Families Community Trust**
Management Committee: Waterpoort Community Foundation
Board of Directors: The People of Waterpoort Pty (Ltd)
Board of Trustees: Waterpoort Community Development Trust / Waterpoort Development Community Trust
The whole black community of Waterpoort including those who reside outside of Waterpoort

Electronic correspondence received 04 December 2020.

Rejects the Environmental Impact Assessment Process as illegal, unjust, unfair and flawed in application, based upon:

1. The process and the way in which the notice for the participation was handled:

    1.1 Communication
    1.2 Public spaces notification
    1.3 Families in Sitapo and Farms under ZZ2
    1.4 Public participation meeting
    1.5 EIA Draft

2. The impact on the environment and the potential impact on the future of the community in terms of the restitution program:

    2.1 Land restitution program
    2.2 Loss of habitat
    2.3 Increased greenhouse gases
    2.4 Water in the atmosphere
    2.5 Soil erosion and flooding
    2.6 Destruction of homelands
    2.7 Harmful chemicals used for tomatoes

3. The cultural impact on the local community

    3.1 Graves
    3.2 Traditional medicine

4. The legality of the process

    4.1 Neutral citation: Land Access Movement of South Africa and Others v Chairperson of the National Council of Provinces and Others [2016] ZACC 22

The above comments culminated in a public/stakeholder meeting in May 2021, two site visits to the farm RE Ptn 3 Coniston 699 MS (February 2022 and April 2022) followed by a written report from the community regarding the process to date.

Concerns include:

- Graves that were already destroyed, what is the remedy for those.
- The time allocated was not enough as we rushed through the last part at Waterpoort farm, Sitapo farm and Sandpan as some families felt that even though their graves or gravesite is regarded as formal and known same courtesy of visiting all the graves should have being granted; the issue of time constraint is acknowledged but the families wanted the point to be noted.
- The fences at some or all formal graves don't satisfy the 50 metres radius discussed in previous meetings.
- Accessibility of graves for the future in order to put tombstones and also clean or rebuild graves to needs to be made less strenuous.
- Concern for possible lack of space to bury loved ones as the agricultural project will potential erode most of the space currently available, what are the proposed solutions for such eventualities. Space for future graves a big concern for the community.

Community would like to:

- be given a brief as to the stage of the EIA process by Ages Consulting.
- get the draft of the EIA report for comments prior to submissions and final draft by Ages consulting as the issues raised were not only limited to graves but other environmental concerns which the community would like to see how they will be taken care of to ensure social, economic and cultural future of the local population.
- Concerns regarding social economic environment, especially for those staying in the farms; either via social corporate investments or other vehicles.
- Preservation of natural plants and remedies, that would be destroyed during clearing of the farms.

- Ensuring that local homesteads are not left exposed without any tress to shield them from thunderstorms amongst other natural disasters.

For a comprehensive account of all comments and responses leading up to these meetings, and the full written report containing feedback from the community following these meetings, please consult Appendix C.

Mr Andrew Miles obo BMF Packaging cc
Electronic correspondence received 04 December 2020.

- We have noted that our previous correspondence issued in response to the submission of the final scoping report and, which forms part of the Public Participation process commencing April 2019, is not included as part of the final scoping report documents received for commenting.
- As part of a consultation held between Andrew Miles and ZZ2's Mr. Riaan Venter, our concerns listed under the above-mentioned correspondence were discussed, as well as the need for future cooperation.
- To date our request for borehole testing to address future water abstraction have not yet been addressed and thus our concerns as submitted on 29 July 2019 remains in force.
- We have attached a copy of the mail for ease of reference.
- As water users (licence No: 07lA71JlA/9636), and as part of our own water management strategy, borehole drawdowns and recoveries are tested at regular intervals using a water level transmitter to ensure over abstraction does not occur.
- We place on record that since April 2019, water levels of our boreholes were constantly measured at around the 22-meters mark, with these levels rising to up to 16 meters during the subsequent December to March months. The drawdown of water that was measured stabilized at the 37-meter mark during 12-hour pumping intervals at pumping depths of 57 meters. The recovery back to level was measured at 2.5 to 3.5 hours depending on the borehole tested.
- Drawdown levels recorded during 72hour water test were also stable at the 37-meter mark.
- As part of the proposed farming operations on Coniston 699 MS (hereinafter referred to as "the Farm"), it is listed that a water use license application will be submitted for use of existing boreholes on the farm for irrigation. lt is our understanding that other sources of water were used in this years' crop cycle on the farm Coniston 699 MS.
- With no water use licence currently in place on the farm Coniston 699 MS, and with the borehole data and planned water extraction not being available to us, it is impossible for us to determine to which extent our operations are or will be negatively impacted by the cultivation of the additional croplands.
- As pointed out under the draft scoping report point 6 "KEY ENVIRONMENTAL IMPACTS, the over allocation of water could lead to a decrease in water availability and was identified as a possible environmental impact. One thus has to consider the timing of clearing land unnecessarily if additional water abstraction will still be required to sustain the proposed additional croplands.
- ln principle we do not object to the development of the additional croplands for the purposes of crop rotation, and we expect the same courtesy for any of our own future expansion endeavours however, it remains our concern that the abstraction of additional water to the quantities required for the additional 450 hectares of cropland will negatively impact our operations and livelihood.
- ln conclusion we again request that our boreholes be tested and that a legal agreement is entered into addressing any shortfall our farming operations may experience by any additional water abstraction applied in future by ZZ2 on the farm Coniston 699 MS.

Mr Enos Munyadziwa
Electronic correspondence received 04 November 2021.
Mrs I wendel good day. I am Mr Enos Mulaudzi chair of Matahe CPA, which include Coniston farms, ZZ2 farm. We have rejects that proposal of development they have erected dam next to the grave. The grave of a child have been wiped out.

The comments and concerns as stated above are addressed below:

Comments received from:

The Community of Waterpoort
The Waterpoort Directly Affected Families Community Trust
Waterpoort Community Foundation
Waterpoort Community Development Trust
Matahe CPA

Comments as provided in the:

1. ***Graves identification for commercial farming EIA in Waterpoort for ZZ2 represented by Ages Consulting : Summary Report***

STATEMENT 01 - 2022
p.4
As per the previous discussion and standards agreed upon is that every grave or grave site will be given a space of 50 meters in all 4 sides of the grave or gravesite, measuring from the edge of each end of the grave and this will be displayed on the map. We have noticed that most if not all fences at this point don't satisfy this aspect and will be addressed further with ages and other stakeholders, as we believe the identification of graves is not the end of the EIA process but just part of it.

RESPONSE
You are referred to The Burial grounds and graves permitting policy, South African Heritage Resources Agency, September 2021, page 10: "*In-situ preservation":*
The developer, through a qualified and accredited Specialist, must through a Heritage Impact Assessment (HIA) determine/confirm the existence of graves on the property intended for development as per section 38. Once graves have been confirmed, and a case is lodged on our SAHRIS system, the following is recommended in addition to the specialist's recommendations:
• *erection of fence.*
• *a buffer-zone of 100m for mining related activities.*
• *a buffer-zone of 30m for all other activities.*
• *Integrated Heritage Management plan.*

NOTE: a SAHRIS case must still be submitted to obtain a formal SAHRA comment regardless to implementing standard recommendations. This is because SAHRA's comments/ recommendations are based on the merits of each project. They are subject to change" (2021:10).
Comments raised during the May 2021 Waterpoort stakeholder meeting at the Waterpoort Agricultural Hall":

STATEMENT 02

1. *The Heritage Act determines that in certain instances a buffer of 50 metres must be demarcated around graves.*
   The National Heritage Resources Act, Act 25 of 1999 does not make provision for grave buffer zones. It has until present been decided ad lib by individual specialists what the buffer should be, by balancing conservation/preservation and economic development.
   On 6 July 2022 Ms Stegmann spoke to Kim Ngobeni from SAHRA Burial grounds and graves unit to determine what the official protocol is. She mailed Ms Stegmann the presentation as referred to earlier.
   As can be seen it is only at the presentation stage and recommends 30m. This is yet to be promulgated and gazetted but is followed in the 2022 reports.

2. *When did this Act take effect?*
   The NHRA can into effect in 1999, this replaced the National Monuments Act of 1969 which also does not provide for a buffer zone.

3. *There are more graves on the farms than are represented on the map – at least 4 to 5 ruins within the area currently part of the EIA process.*
   This has been resolved as all graves are accounted for as claimed by the community. At the time of the original survey, only Mr Tshivhula had met with Ms Stegmann to show her his family graves.

STATEMENT 03
Why is the 50 meter buffer around gravesites, not being adhered to?

RESPONSE – 29 May 2021
The previous developments were started with in terms of previous legislation.

RESPONSE – August 2022
As per Statement 2, points 1-2 above.

Space for future graves a big concern for the community
There is space for additional graves at the northern grave area that will not be developed on Coniston.

Section 8. Challenges and Concerns
1. Graves that were already destroyed, what is the remedy for those.
The grave that is claimed to be destroyed is within the northern grave area in Coniston that will not be developed. ZZ2 will erect a tombstone on that grave if the community can proof that there is a grave.
Please refer to Appendix F, Grave Management Plan herein.

2. The time allocated was not enough as we rushed through the last part at Waterpoort farm, Sitapo farm and Sandpan as some families felt that even though their graves or gravesite is regarded as formal and known same courtesy of visiting all the graves should have been granted; the issue of time constraint is acknowledged but the families wanted the point to be noted.

The issue of time constraints is noted and acknowledged, however:
You are reminded that the time allocated for the identification of graves stretched from around 31 May 2021 (following the Waterpoort meeting, during which time you were invited to contact ZZ2 for the

purpose of identifying and pointing out further grave sites, registering the grave and arrange for visitation to the farm and grave sites) up to 15 April 2022.

This invitation was communicated to you in person during the meeting on that day, and in numerous and repeated emails and WhatsApp messages thereafter, with the issue of possible time constraints on the day pointed out to you.
You were further reminded numerous times that the 15th of April 2022 is the last day for identification of grave sites.

As per your request during the meeting on 19 February 2022, the time for identification of graves was extended from 31 March 2022 as suggested by the developer, to the day selected by your representatives as 15 April 2022.

In short, the time available for identification and registration of graves commenced on 26 April 2019 to 30 April 2022, a period more than 36 months.
The day selected for identification of graves was to facilitate the identification and recording of graves. Individual visitation to grave sites for the purposes of courtesy and honouring the families falls outside the scope, aims and objectives of the EIA and public participation process.

Excerpt from Waterpoort meeting 29/05/2021 minutes:

Page 3/**PvZ** - We have registered gravesites on Sitapo – 3 to 4 such sites have been registered, and we have more than 20 families who visit the graves and who we have agreements with.
The graves indicated on the map are the graves that we know about. Therefor we are in the process of inviting comments/conducting consultation so that people may register.
I personally invite you to come and register and verify graves and conclude an agreement which is legally binding.

Page 4/**JB** – You are requested to contact Margareth at ZZ2, who manages all these type of issues for ZZ2. Linky will provide contact details of Margareth, so that the WDAFCT may make arrangements for a site visit with her, as representative of ZZ2.
PvZ – your first step will need to be to register the grave so that your interest is registered. You will need to visit our office, indicate to us, and demarcate the gravesite, identify the person linked to that space (gravesite). I am inviting the relevant parties to do the above to ensure that no further damage occur.

Acknowledging that there may be many parties wishing to identify graves, we strived to provide sufficient opportunity to all parties to, at their leisure and time preference, communicate their desire for a site visit to us, after which the arrangements would have been made to visit the farm and identify graves.

You in turn insisted that: *"All families are coming on 15 April 2022 to identify their respective Graves, we not going to do individual family identifications, we all going to come as a community."* (Electronic mail 08 March 2022).

You are further reminded that the purpose of the day was clearly communicated to you well in advance of 15 April 2022, to point out and identify graves, with the understanding that time would not have allowed individual visitation to honour grave sites already known, apart from ensuring that the positions of these sites were provided to the project team for record purposes.

As to the issue of time constraints:
The project team was on site early, however commencement of the proceedings were delayed upon request of the community representatives' and Interested and Affected Parties, as such the proceedings commenced more than an hour later than planned.

The project team requested your representatives to lead the process of deciding which graves to visit and guide them to those sites. At no stage did the project team make any demands in terms of where to go or when to conclude the day's proceedings. If any grave sites were not visited, for whatever reason, the responsibility thereof rests with the representatives of the Trusts, CPA, and the community.

The request and decision to conclude the day's proceedings came from and seemed unanimous within your group of representatives.
You were informed on various occasions that ZZ2 has procedures in place which facilitate grave/s visitation for the purpose of honouring these sites. It would not have served the purpose of the day to deter from this goal.

3. The fences at some or all formal graves don't satisfy the 50 metres radius discussed in previous meetings.
At no point during any meeting with AGES Limpopo (Pty) Ltd was there any discussion, proposal or agreement pertaining to the possibility of instituting or maintaining a 50-meter buffer around any grave and/or heritage site.

4. Accessibility of graves for the future in order to put tombstones and also clean or rebuild graves to needs to be made less strenuous.
ZZ2 has a protocol that must be followed for visits. Please refer to the Waterpoort Minutes 29 May 2021 and liaise with the developer herein.

5. Concern for possible lack of space to bury loved ones as the agricultural project will potential erode most of the space currently available, what are the proposed solutions for such eventualities.
Please refer to the Waterpoort Minutes 29 May 2021 and liaise with the developer herein.

6. Questions regarding the stage of the EIA process and the next step by Ages Group
This report, the Consultation Scoping Report, is the first of four reports to be compiled and distributed, following commencement of the public participation process. All of these reports will be submitted to all interested and affected parties (I&APs), any organ of state with jurisdiction over any aspect of the activity, as well as to the Limpopo Department of Economic Development, Environment and Tourism (LEDET) as the competent authority herein.

You may consult GNR 326 of 7 April 2017 (specifically Chapter 4, Part 3_S&EIR) for a full explanation of the Environmental Impact Assessment Process – a copy of which will be emailed to you, for your records and information.

While the Specialist Studies such as the Heritage Impact Report (HIA) are, in terms of these regulations, distributed only at the third report (Draft Environmental Impact Assessment Report (CEIAR)) stage, in this instance these studies have been provided to you upon your request, at the earliest possible opportunity - with the Consultation Scoping Report and Plan of Study for EIR (CSR). Please be assured that although the HIA (and other specialist studies) are not provided to interested and affected parties and organs of state at this stage, the findings and recommendations by the specialists as contained in their respective reports, are included in the CSR, which is available for scrutiny and comment.

Once this report (CSR) and the Heritage Impact Report has been made available to you, there is a prescribed 30-day commenting period, for you to scrutinise the reports and provide AGES Limpopo (Pty) Ltd with your written (electronic mail) feedback and comments on the report by the due date as indicated. The comments received from you will be recorded and presented in the second report, the Final Scoping Report and Plan of Study for EIR (FSR), which will be submitted to LEDET for acceptance.

Upon acceptance of the Final Scoping Report by LEDET, the Draft Environmental Impact Assessment Report (CEIAR), including all the specialist studies (Heritage, Ecology, Geohydrology etc.) will be provided to all Interested and Affected Parties and organs of state, for comment following 30 days, after which the Final Environmental Impact Assessment Report (FEIAR) will be submitted to LEDET for their Record of Decision (whether to authorise the proposed development or not).

Section 9. Questions regarding the stage of the EIA process and the next step by Ages Group

1. Community would like to be given a brief as to the stage of the EIA process by Ages Consulting.
Please refer to par. 6 above.

2. The Community would also like to get the draft of the EIA report for comments prior to submissions and final draft by Ages consulting as the issues raised were not only limited to graves but other environmental concerns which the community would like to see how they will be taken care of to ensure social, economic and cultural future of the local population.
Please refer to par. 6 above.

Your comments received to date will be discussed and addressed in the Environmental Impact Assessment Report to follow. Any further, specific and detailed concerns/comments relating to the above should be submitted in writing to AGES Limpopo (Pty) Ltd as soon as possible, and no later than the due date for comments as indicated in the CSR, in order for these to be addressed during this EIA process.

3. Concerns regarding social economic environment, especially for those staying in the farms; either via social corporate investments or other vehicles.
To be discussed with the developer, as this falls outside the scope of the Environmental Impact Assessment Process.

4. Preservation of natural plants and remedies, that would be destroyed during clearing of the farms.
Please provide more information to AGES Limpopo (Pty) Ltd as to the nature, position and species of plants and remedies referred to above, which can then be discussed and addressed in the Environmental Impact Assessment Report.

5. Ensuring that local homesteads are not left exposed without any tress to shield them from thunderstorms amongst other natural disasters.
Stormwater management by the applicant, will be discussed and addressed in the Environmental Impact Assessment Report.

Email correspondence dated 02 December 2020.
2.7 The harmful chemicals used for tomatoes:
The tomato farming by ZZ2 (Bertie Van Zyl) found Us residing in the area in which he is farming currently and not the other way around, the chemicals used are causing great health complications for the elderly

and those who stay closer to the tomato fields therefore we cannot support more space for the health compromising chemicals to be used in the area whereas we are struggling currently

ZZ2 is a GlobalG.A.P accredited farming enterprise (https://www.globalgap.org). Only chemical applications which are registered for agricultural use by the National Department of Agriculture, are used. Further, such chemicals are only used for the particular application as per its individual registration certificate.

Strict and detailed records are kept of the application of all chemicals used on all farms, i.e. time of application, method of application, ratio (dilution) of application, pests targeted.

The above is a condition of GlobalG.A.P accreditation, and is audited by both GlobalG.A.P as well as the Department of Agriculture on a regular basis.

The "*Natuurboerdery*"-philosophy implemented and practised by ZZ2 prescribes that the minimum use of chemicals must always be the main aim, while alternative and integrated methods of crop and pest management (such as biological pest control) must be promoted and used.

A large proportion of ZZ2-staff and managers also live on-site and are subject to exactly the same potential exposure to these agricultural chemicals.

The impact of all agricultural practises on its staff and management are carefully and diligently audited, controlled and monitored in terms of its Sustainability Initiative of South Africa (SIZA) accreditation *(*The Sustainability Initiative of South Africa (SIZA) – Sustainable Ethical Trade and Environmental Stewardship *)*.

9. ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE PREFERRED ALTERNATIVE (ONLY OPTION)

9.1 GEOGRAPHICAL ATTRIBUTES AND LAND USE

- The project site, RE Ptn 3 Coniston 699 MS is situated approximately 50km north-west of the town of Louis Trichardt, Vhembe District, Limpopo province and north of the R523 highway between the towns of Waterpoort and Thohoyandou, ± 7 km east north-east of Waterpoort.
- The study area is covered by the 1:50 000 topographical map 2229DC (Figure 1).
- The proposed development area covers an area of ±422 ha.
- The study area is located within the Vhembe Biosphere Reserve.

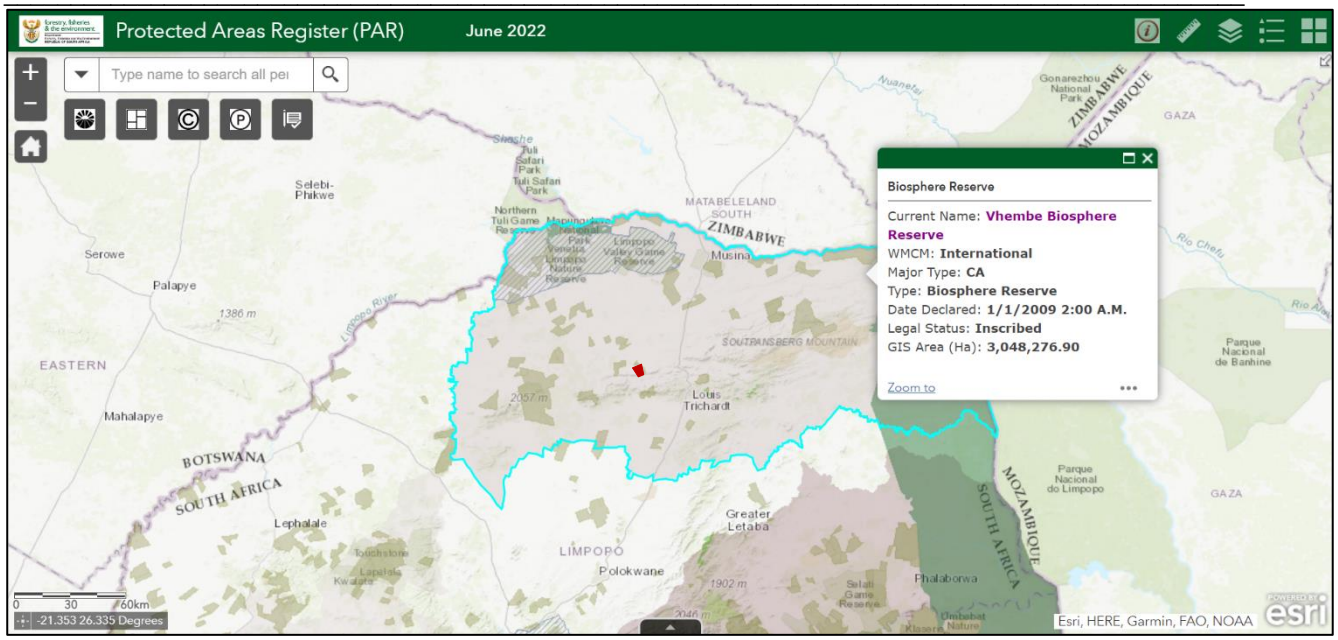

Figure 6. Project site location within the Vhembe Biosphere Reserve (DFFE Protected Areas register)

- The study area borders along its western boundary the Kliprivier Private Nature Reserve that was declared in 1967 as a private nature reserve.
- The Johanna F Uys Private Nature Reserve that was declared in 1965 as a private nature reserve borders the farm on the south.

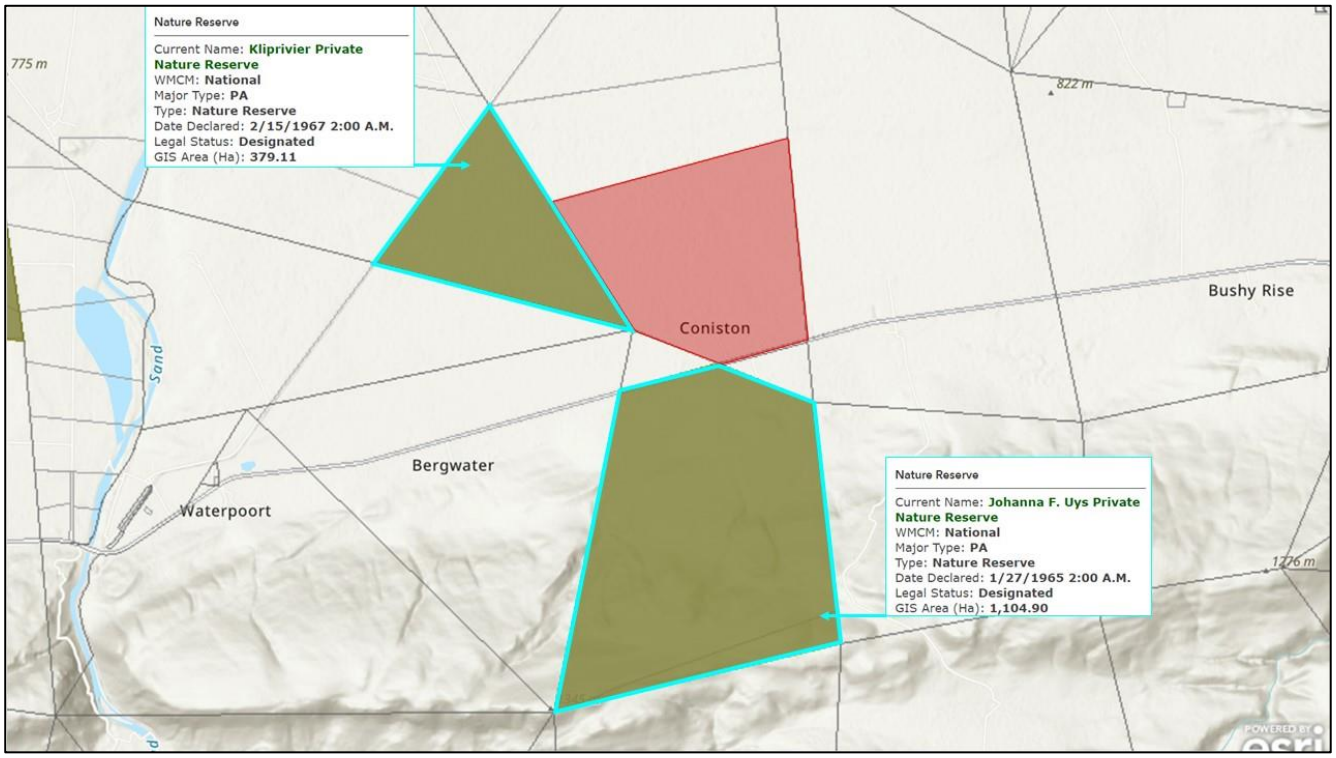

Figure 7. Project site proximity to nearest Protected Areas (DFFE Protected Areas register)

9.2 DESCRIPTION OF THE AFFECTED ENVIRONMENT

9.2.1 Land Use

The farm is zoned as agricultural.

Surrounding land uses are as follow:
- ZZ2 tomato croplands to the south-west.
- Game & cattle farms to the east, north and west.
- Croplands, game, and cattle farm to the south.
- A creosote pole treatment plant to the south-west.

9.2.2 Topography

The proposed cropland development sites occur on a landscape that varies from slightly undulating plains to flat plans bisected by a drainage channel.

9.2.3 Climate

The study area is in the summer rainfall region of South Africa, with precipitation generally occurring as short, heavy, thunder showers mainly in the period between November and April. The mean annual precipitation for the area is approximately 437 mm, as measured at Sandow near Waterpoort (weather station 0765-253; Midgley et al, 1994). Rainfall is very irregular and the high temperatures (mean monthly maximum for January is 30.4°C) result in poor grass growth except when there are some good follow-up rains for 3 – 4 consecutive weeks. This is generally a frost-free area.

9.2.4 Regional Geology

According to the available geological information, the study area is underlain by the sedimentary deposits of the Karoo Supergroup. The study area is underlain by several linear sequential lithological units that are banded together and orientated in an E-W direction. The basic geological composition of the study area is chronological in nature (as mentioned above) with the northern sections being the youngest and the southern sections the oldest.

The Karoo Supergroup consists of the following lithological units (in chronological order), the first located in the northern parts of the study area with the last forming the oldest of the Supergroup:

- Tshipise member of the Clarens Formation consisting of a fine-grained whitish to pinkish sandstone (youngest)
- Red Rocks member of the Clarens Formation consisting of fine-grained, white, and red mottled argillaceous sandstone
- Bosbokpoort Formation consisting of a brick-red to purplish mudstone and siltstone
- Klopperfontein Formation consists mainly of white feldspathic sandstone grit and conglomerate
- Solitude Formation that consists of a multi-coloured siltstone, sandstone, and mudstone
- Fripp Formation that is mainly comprised of white feldspathic sandstone, grit, and conglomerate
- Mikambeni, Madzaringwe & Tshidzi Formation that is comprised of mudstone, shale, carbonaceous shale, sandstone, and conglomerate coal seems with diamictite or conglomerate at the base (oldest).

The sedimentary rocks are deemed to be fractured in nature with a moderate to high (2.0 - 5.0L/s) groundwater potential.

The northern part of the study area is covered by red and yellow, well drained sandy soils with high base status, while the central and southern areas consist of soils with negligible to weak profile development, usually occurring on deep alluvial deposits (LCPV2: **www.bgis.sanbi.org**).

The area surrounding the drainage channel consists of calcareous material not suitable for farming.

9.2.5 Ecology

The most recent classification of the area by Rutherford & Mucina, 2006 shows the site to be part of the Musina Mopane Bushveld although no mopane trees occur on site. The Musina Mopane Bushveld vegetation unit (type) is the most diverse Mopane veld type in South Africa with only 2% statutorily conserved and roughly 3% transformed with a least threatened conservation status.

The following vegetation units occur on the croplands site:

- Mixed *Sclerocarya birrea – Combretum - Terminalia* sandveld
- *Terminalia prunoides – Commiphora pyracanthoides* woodland
- Mixed *Terminalia prunoides – Sclerocarya – Senegalia nigrescens* woodland
- *Senegalia mellifera – Senegalia grandicornouta* shrubveld on calcareous soils
- Secondary old fields
- River with riparian woodland

According to the Limpopo Conservation Plan the proposed development area is in an Other Natural Area (ONA) which can be considered a compatible land-use for cropland development

It is evident from the distribution of biodiversity, presence of threatened species and sites of scientific interest, that the most sensitive areas occur in the direct vicinity of the riparian zone.

Most of the vegetation on the footprint areas of the croplands will be removed; therefore, a licence for the removal of protected trees such as Baobab, Marula, Apple leaf and Shepherd’s tree on site must be obtained from DEFF. The large Baobab trees will be left undisturbed in the lands. Detailed ecological (fauna habitat & flora) surveys have been conducted during May 2019.

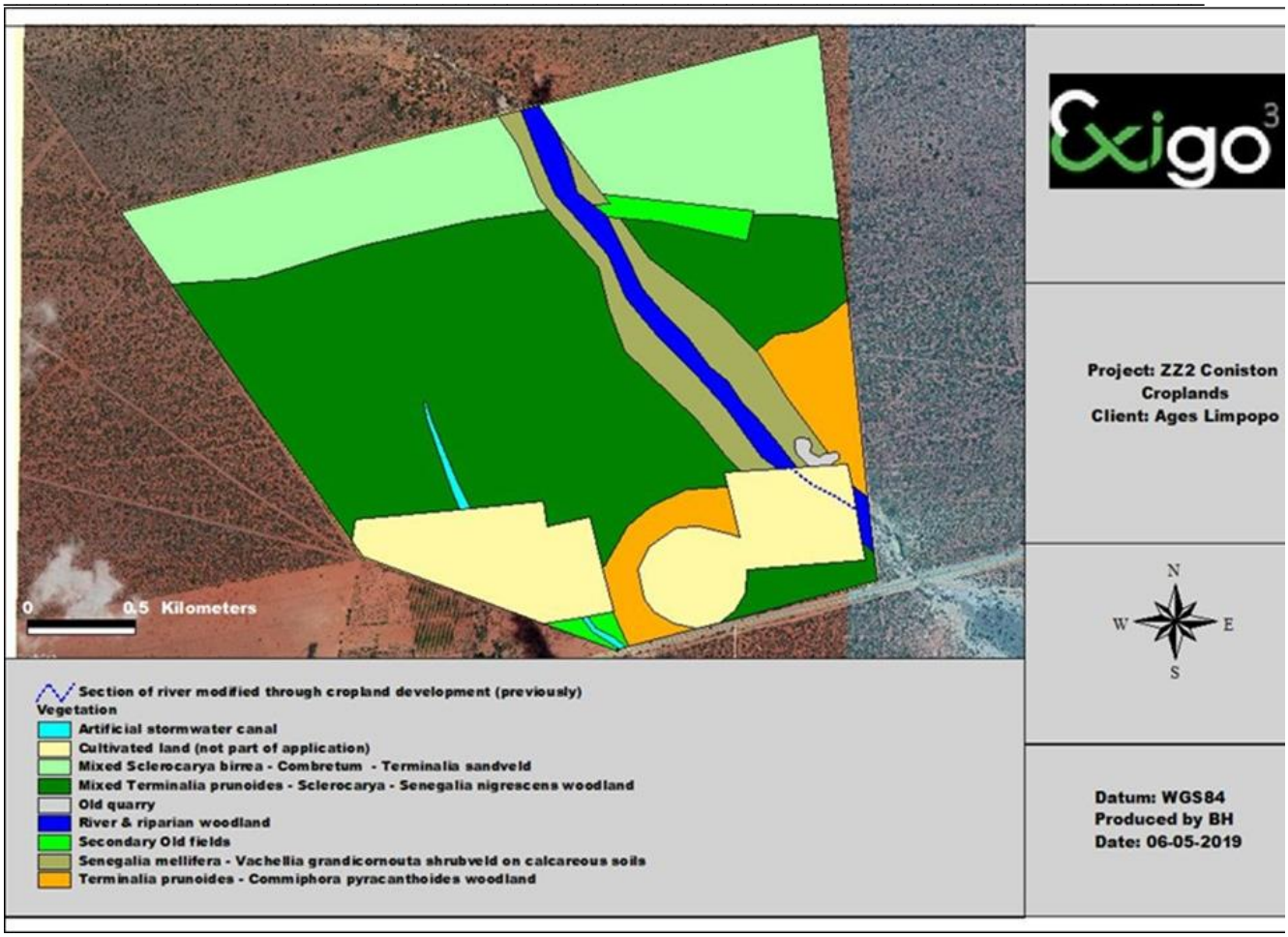

Figure 8. Vegetation map of the proposed croplands development site

9.2.6 Surface Drainage

The study area is in the Limpopo Catchment Management Area (CMA) and falls mainly in Quaternary Catchment Area A71J. The study area is drained mainly by means of surface run-off (sheet-flow) with storm water collecting along roads and footpaths cutting through the area, to drain into the non-perennial streams that cut through the proposed development area. It must be noted that surface flow along these rivers generally only occur in the period directly after precipitation events or a wet rainy season, and that these rivers may exhibit a large base-flow component with groundwater flow occurring within the sandy sediments lining its channel.

9.3 TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT

9.3.1 Fauna habitats of the project area

Two major fauna habitats were observed in the area namely:

- Riparian woodland
- Mixed undulating woodland

Riparian woodland

The riparian woodland along the banks of the riverine systems is important habitat for various birds, mammals and Herpetofauna (reptiles and amphibians).

Mixed woodland associated with plains and valleys

The woodland area of the lower-lying plains and open valleys play an important role as habitat for various generalized fauna species. Birds and arboreal reptiles would utilize the larger trees species (baobab, knobthorn, marula) for breeding, roosting, and foraging.

The proposed areas for the croplands are mostly on mixed woodland variations. A sensitivity analyses was conducted to identify the most suitable sites for the development. From these investigations and ecological surveys, the following main observations were made:

- The natural woodland areas have a have a Medium Sensitivity due to its widespread distribution in the project area. The cropland developments can be supported in these areas, provided that a licence is obtained for the eradication of the protected trees.
- The drainage channel and riparian woodland have a High Sensitivity. These areas play important corridors to rare and endemic fauna found in the area. Where the croplands modified the river channel the area should be rehabilitated.
- The secondary old fields in a state of succession have a Medium-low sensitivity.
- The artificial stormwater canal has a Medium-low sensitivity and still represents a drainage feature with limited functionality.

9.3.2 Protected tree species (DFFE)

Four tree species listed as protected under the national list of declared protected tree species as promulgated by the National Forest Act (NFA), 1998 (No. 84 of 1998) was observed in the project area. The trees species listed in National Forest Act protected tree species list (Table 4) have a wide distribution in Southern Africa, although these trees have an importance in terms of medicinal, cultural and heritage value to local communities. The following protected tree species of concern occur in the area:

Table 4. Protected tree species of concern in the project area

Species	National Conservation status	Status in project area
Adansonia digitata	Protected (NFA)	Widespread
Boscia albitrunca	Protected (NFA)	Widespread
Sclerocarya birrea	Protected (NFA)	Widespread
Vachellia erioloba	Protected (NFA)	Widespread

9.3.3 Protected Plants (LEMA)

Plant species are also protected in the Limpopo Province according to the Limpopo Environmental Management Act. According to this ordinance, no person may pick, import, export, transport, possess, cultivate, or trade in a specimen of a specially protected or protected plant species. The Appendices to the ordinance provide an extensive list of species that are protected, comprising a significant component of the flora expected to occur on site. Communication with Provincial authorities indicates that a permit is required for all these species if they are expected to be affected by the proposed project. After a detailed survey was conducted during May 2019, the following listed protected species in the ordinance was found in the footprint areas of the project area:

- *Adansonia digitata* (baobab)
- *Spirostachys africana* (tamboti) – confined to riparian zones and impact therefore negligible

9.3.4 Invasive alien species (Alien and Invasive Species Regulations GNR 599 of 2014)

After a detailed survey, the following species was documented on the proposed cropland areas.

Table 5. List of AIS documented in the project area

Species	Category
Argemone ochroleuca	1b
Datura stramonium	1b
Opuntia ficus-indica	1b
Opuntia stricta	1b

9.3.5 Riverine Integrity Assessments

The drainage channel on site is non-perennial. The band of trees that occurs along the channel can be classified as riparian vegetation. This vegetation is very important for connectivity with adjacent vegetation as well as a migratory route for riparian animals. The most abundant and most conspicuous trees in the riparian woodland are *Vachellia karroo, Vachellia nilotica, Vachellia grandicornouta* and *Senegalia mellifera* occur on the riverbanks adjacent to the channel. Typical grasses include *Panicum maximum* and *Eragrostis rotifer.*

The artificial canal was developed for stormwater management on the site and considered an artificial drainage feature that can be rehabilitated. The canal should be designed to manage stormwater on site.

The drainage channel and riparian woodland has a Class C PES (Moderately Modified), mainly due to the channel being modified by existing croplands. The riparian woodland plays an important role as corridor for fauna in the area and has only been impacted by upstream agricultural activities and road crossings. Considering the importance as fauna corridor as well as the red data species associated with the riverine woodland, the area has a Moderate EIS.

The importance of rehabilitation and implementation of mitigation processes to prevent any negative impacts on the environment on the areas surrounding the croplands should be considered a high priority.

No red data plant species were found on the site due to the state of the vegetation and physical environment of the larger area mostly not being suitable for any of the red data plant species that may be found in the area.

Several impacts the cropland development might have on the fauna and flora of the site were identified and assessed. A few of these were assessed as having potentially medium or high significance, including the following:

- Destruction or disturbance to sensitive ecosystems leading to reduction in the overall extent of a particular habitat.
- Increased soil erosion.
- Impairment of the movement and/or migration of animal species resulting in genetic and/or ecological impacts.

- Destruction/permanent loss of individuals of rare, endangered, endemic and/or protected species.
- Soil and water pollution through spillages.
- Establishment and spread of declared weeds and alien invader plants.
- Air pollution through dusts and fumes from vehicles.

9.4 SOCIAL AND ECONOMIC ENVIRONMENTAL ATTRIBUTES OF THE MAKHADO LOCAL MUNICIPALITY

- 45% of the economically inactive population are unemployed.
- There is in general a low level of formal education, vocational training, and the development of entrepreneurship. People may be aware of economic opportunities but cannot gain access to capital.
- A large portion of the community does not have the knowledge nor access to the information required for proper personal financial management.
- The formal economy is very dependent on services.
- The gender profile of the municipality indicates a high proportion of females (55%) for Makhado. This situation suggests that a significant number of their male counterparts have migrated elsewhere for opportunities.
- 31% of the population in Makhado is illiterate.
- Approximately 55% of the total population are formally employed in Makhado.
- Most of the population (77%) falls within the economically inactive age categories.

9.5 ACCESS TO AND FROM THE SITE

Access to the proposed development site is from the directly adjacent regional R523 road.

9.6 PALAEONTOLOGICAL ASSESSMENT

Following the 1:250 000 geological map (2228 Alldays) published by the Council for Geosciences (2000), the underlying geology of the entire study area comprises Carboniferous- Jurassic rocks of the Karoo Supergroup in the Tshipise Basin, specifically the Tshidzi, Madzaringwe, Mikambeni, Fripp, Solitude, Klopperfontein, Bosbokpoort and Clarens formations. Most of the affected area is on the Bosbokpoort and Clarens formations (Figure 2). The entire study area is in turn overlain by thick alluvial deposits (Figure 3). Tshidzi, Madzaringwe, Mikambeni formations – only the southernmost portion of the study area is situated on these Carboniferous to Permian aged formations which comprise carbonaceous shale, mudstone, sandstone, and conglomerate. Fripp Formation - comprises white feldspathic sandstone, grit, and conglomerate Klopperfontein Formation –comprises course sandstone and conglomerate Bosbokpoort Formation – comprises red-purplish mudstone and siltstone Clarens Formation – comprises white sandstone.

From a palaeontological perspective, the establishment of the proposed tomato croplands should proceed, but if rock outcrops are exposed during construction activities, the developer must immediately call in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

9.7 ARCHAEOLOGICAL AND HISTORICAL ATTRIBUTES

A Phase 1 Archaeological Impact Assessment (Heritage Impact Assessment) was conducted by Ms Liesl Stegmann/SHASA Heritage Consultants. The report details the results of the AIA study subject to the Environmental Impact Assessment (EIA) process for the proposed croplands. The main purpose of the AIA was to illustrate the potential impacts (direct and indirect as well as short and long-term) of the proposed croplands on the receiving environment. The report includes background information on the area's archaeology, its representation in Southern Africa, and the history of the larger area under investigation, survey methodology and results as well as heritage legislation and conservation policies.

A copy of the report will be supplied to the South African Heritage Resources Agency (SAHRA).

Recommendations by the specialist have been considered in determining the areas suitable for croplands development and indicates sensitive areas that should be avoided.

Following a public consultation process spanning 36 months, the Heritage Report completed in April 2022 will, upon request from the Waterpoort Directly Affected Families Community Trust (WDAFCT), the Waterpoort Community Development Trust (WCDT) the Matahe Communal Property Association (Matahe CPA) and Waterpoort Community Foundation, be distributed in hard and electronic copy.

9.7.1 SUMMARY OF RECORDED HERITAGE RESOURCES AND IMPACTS

				Impact WITH mitigation		
Type	**Number As on map**	**GPS**	**Recorded artefact/feature /grave**	**High**	**Medium**	**Low/ None**
Social	1	S22º 52' 01.6" E29º 41' 06.9"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	2	S22º 52' 04.0" E29º 41' 06.0"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	3	S22º 52' 15.3" E29º 41' 09.9"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	4	S22º 52' 15.9" E29º 41' 07.8"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	5	S22º 52' 16.0" E29º 41' 09.3"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	6	S22º 52' 17.6" E29º 41' 06.7"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	7	S22º 52' 18.8" E29º 41' 05.4"	Traditional residential		Due to community living memory intrinsically linked to land	
Grave	8	S22º 52' 53.7" E29º 41' 11.3"	Grave	X		
Grave	9	S22º 52' 46.2" E29º 41' 07.1"	Graves	X		
Grave	10	S22º 52' 15.4" E29º 41' 09.7"	Grave	X		
Grave	11	S22º 52' 06.6" E29º 41' 07.5"	Cemetery	X		
Archaeological	12	S22º 52' 29.9" E29º 41' 40.6	Ceramics scatter- medium density			X
Archaeological	13	S22º 52' 34.0" E29º 41' 43.0"	Ashy deposit			X

Archaeological	14	S22º 52' 33.7" E29º 41' 44.8"	Ceramic scatter-medium density			X
Archaeological	15	S22º 52' 35.1" E29º 41' 43.6"	Grain bin stand		X	
Archaeological	16	S22º 52' 41.0" E29º 41' 49.0"	Ceramic sherd medium density			X
Archaeological	17	S22º 52' 42.2" E29º 41' 50.3"	Grain bin stand		X	
Archaeological	18	S22º 52' 43.7" E29º 41' 52.1"	Ceramic scatter			X
Grave	22.1	S22º 53' 13.6" E29º 41' 19.9"	Grave	X		
Grave	22.2	S22º 52' 49.9" E29º 41' 33.4"	Grave	X		
Grave	22.3	S22º 52' 55.6" E29º 41' 30.2"	Grave	X		
Grave	22.4	S22º 52' 06.6" E29º 41' 05.9"	Grave	X		
Grave	22.5	S22º 52' 15.6" E29º 41' 05.4"	Grave	X		
Grave	22.6	S22º 52' 18.2" E29º 41' 06.5"	Grave	X		
Grave	22.7	S22º 52' 17.9" E29º 41' 07.0"	Grave	X		
Grave	22.8	S22º 52' 38.1" E29º 41' 22.4"	Cemetery	X		
Grave	22.9	S22º 52' 39.8" E29º 41' 21.6"	Grave	X		
Social	22.10	S22º 52' 51.0" E29º 41' 11.9"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	22.11	S22º 52' 51.1" E29º 41' 13.5"	Traditional residential		Due to community living memory intrinsically linked to land	
Social	22.12	S22º 52' 53.0" E29º 41' 17.2"	Traditional social		Due to community living memory intrinsically linked to land	
Social	22.13	S22º 52' 54.9" E29º 41' 03.2"	Traditional residential		Due to community living memory intrinsically linked to land	
Grave	22.14	S22º 52' 59.5" E29º 40' 43.0"	Grave	X		

9.7.2 Social and/or religious intangible heritage

The following sites of importance were recorded.
7# sites (19.1 – 19.7)
4# sites (22.10 – 22.13)

9.7.3 Historical period and build environment

No remains from the historical period or the built environment were recorded. Where family areas are concerned- these have been recorded under social history point 4.1 above.

9.7.4 Graves

A total of 12 gravesites and 2 cemeteries were recorded.

9.7.5 Iron age/early farming communities remains

Archaeological remains (8 – 12) recorded totalled 7 finds.

9.7.6 Stone age remains

No Stone Age remains were recorded.

9.7.7 Palaeontological Sensitivity

Significance: Low- no further action required (Prof Bruce Rubidge).

9.7.8 Recorded heritage resources and impacts

Traditional residential	10# sites
Traditional social	1# site
Grave/s	12# sites
Cemeteries	2# sites
Archaeological remains	7# sites

9.8 GEOHYDROLOGICAL INVESTIGATION

A Geohydrological investigation was conducted to establish the available, sustainable groundwater potential from the aquifer(s) underlying the study area and to determine the sustainable yield from the existing boreholes and conduct a groundwater resource assessment.

The objective of the investigation was to:

- Conduct a localised hydro-census to identify other water users in the vicinity,
- Determine the status of the boreholes on the farm,
- Calculate the sustainable yield of the boreholes and the groundwater water quality, and
- Compile a geohydrological report detailing the findings.

A total of nine boreholes have been tested with a total sustainable yield recommendation of 74.5 m^3 /annum.

Based on the yield assessment it was determined that:

- No geohydrological boundaries were encountered during the yield test.
- The moderate yielding boreholes indicated that matrix flow is predominant and that no fractures where dewater during the testing process. This supports the proposition that impact from the regional faults have not been encountered in these boreholes.
- The boreholes have a good water quality, indicative of fresh rainfall recharge. The geological setting of the study area is such that a localized aquifer or geohydrological response unit (GRU) can be determined for the study area. This is based on the local structural geological setting, the geohydrological character of the geological formations and the topography. Based on the groundwater balance for the area a total volume of 846 500 m^3/annum is available for abstraction in the specific aquifer.

The sustainable groundwater abstraction recommendations were determined based on evaluation of the yield assessment data.

Table 6. Summary of the recommendations

Item	*Value*
Total Sustainable Yield per annum (m^3/a)	652,620 m^3/a
Total Sustainable Yield (m^3/hr)	74.50 m^3/hr
Total Sustainable Yield (l/s)	20.69 l/s
Average Installation Depth (mbgl)	83.00 m
Total Maximum Daily Abstraction (m^3/day)	1,785.20 m^3/day
Average Dynamic Water Level (mdgl)	58.22 m
Average Critical Water Level (mdgl)	69.78 m
Total Borehole Maximum Yield (m^3/hr)	98.40 m^3/hr

10. IMPACTS AND RISKS WHICH HAVE INFORMED THE IDENTIFICATION OF EACH ALTERNATIVE

An environmental **impact** is defined as a change in the environment, be it the physical/chemical, biological, cultural and or socio-economic environment. Any impact can be related to certain aspects of human activities in this environment and this impact can be either positive or negative. It could also affect the environment directly or indirectly and the effect of it can be cumulative.

An environmental **risk** is defined as the chance of something happening that will have an undesired impact. It may be an event, action, or lack of action. It is measured in term of consequences and likelihood.

10.1 IDENTIFICATION OF IMPACTS AND RISKS

Potential environmental impacts associated with the croplands development of this size may include the following:

- Impact on soils and agricultural resources (mainly in terms of soil erosion).
- Impact on biodiversity (including the potential loss of habitat, plant life and animals and the establishment and spread of alien invader plants).
- Impact on drainage channels.
- Impact on water resources in terms of water quantity and water quality.
- Impact on palaeontology.
- Impact on heritage and archaeological resources, graves, and burial grounds.
- Socio-economic impact.
- Impact on health of nearby residents, resulting from use of chemicals during cultivation.
- Traffic impact.
- Noise and air quality impact.
- Visual impact.

A clear statement will be made, identifying the environmental impacts of the construction (clearance), operation, maintenance, and management of the proposed project. As far as possible, the suite of potential environmental impacts identified in the study will be quantified and the significance of the impacts will be assessed. Each impact will be assessed and rated. The assessment of the data, whereas possible will be based on broadly accepted scientific principles and techniques. In defect, judgements and assessments will be necessarily based on the consultant's professional expertise and experience.

As previously described, construction activities for the establishment of the croplands include:

- Land clearing activities necessary for preparation of the site and access routes;
- excavation and filling activities for pipelines, ridges, stormwater management etc.;
- transportation of various materials; and
- construction of irrigation infrastructure (pipelines etc.).

10.1.1 Construction Phase (land clearance)

Potential impacts identified include:

- **Geological (land), soil and erosion impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site (RE Ptn 3 Coniston 699 MS)
  - Duration: Duration of construction phase (10 years)
  - Probability: Likely
  - Significance: Low-Medium

- **Impact on agricultural potential**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Duration of construction phase (10 years)
  - Probability: Definite
  - Significance: Low

- **Impact on drainage areas and surface water resources**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Project site and adjacent land (A71J Quaternary Catchment)
  - Duration: Duration of construction phase (10 years)
  - Probability: Likely
  - Significance: Low (Mitigation – avoidance, management, and monitoring)

- **Biodiversity impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Duration of construction phase (10 years)
  - Probability: Definite
  - Significance: High

- **Impact on heritage resources**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Duration of construction phase (10 years)
  - Probability: Unlikely
  - Significance: Low (with mitigation i.e., avoidance, management, and monitoring)

- **Socio-economic impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally and regionally
  - Duration: Duration of construction phase (10 years)
  - Probability: High
  - Significance: High – Positive

- **Impact on the road system and traffic**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: R523 road adjacent to the project site

- Duration: Construction Phase (10 years)
- Probability: Definite
- Significance: Low-Medium (temporary impact)

- **Impacts on air quality and potential emissions**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site, adjacent areas, and portions of R523
  - Duration: Construction Phase (10 years)
  - Probability: Unlikely
  - Significance: Low-Medium (temporary impact)

- **Impact on health of residents**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally and regionally
  - Duration: Duration of construction phase (10 years)
  - Probability: High
  - Significance: Low

- **Noise impacts**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Construction Phase (10 years)
  - Probability: Definite
  - Significance: Medium (temporary impact)

- **Visual impacts**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site (users of R523 road)
  - Duration: Construction Phase (10 years)
  - Probability: Definite
  - Significance: Medium (temporary impact)

10.1.2 Operational Phase

Potential impacts identified include:

- **Geological (land), soil and erosion impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site (RE Ptn3 Coniston 699 MS)
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Unlikely
  - Significance: Low

- **Impact on agricultural potential**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Definite
  - Significance: Low

- **Impact on drainage areas**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Project site and adjacent land (A71J Quaternary Catchment)
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Likely
  - Significance: Low (Mitigation – avoidance, management, and monitoring)

- **Biodiversity impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Definite
  - Significance: High

- **Impact on heritage resources**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Unlikely
  - Significance: Low (with mitigation i.e., avoidance, management, and monitoring)

- **Socio-economic impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally and regionally
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: High
  - Significance: High - Positive

- **Impact on the road system and traffic**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: R523 regional road adjacent to the project site
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Definite
  - Significance: Low

- **Impacts on air quality and potential emissions**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site, adjacent areas, and portions of R523
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Likely
  - Significance: Low

- **Impact on health of residents**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally and regionally
  - Duration: Duration of operational phase (20 years+)
  - Probability: High
  - Significance: Low

- **Noise impacts**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Definite
  - Significance: Low

- **Visual impact**
  - Consequence To be weighted, calculated, and indicated in EIAR
  - Extent: Locally at the project site (users of R523 regional road)
  - Duration: Lifecycle of the project (indefinitely)
  - Probability: Definite
  - Significance: Medium

Please note that the statements above about potential impacts are preliminary and the significance of the potential impacts will be determined once all the specialist studies have been completed.

In the section: ***Plan of Study for EIA*** it is outlined which studies are to be conducted to evaluate the identified impacts and to propose mitigation measures.

10.2 DEGREE TO WHICH THESE IMPACTS CAN BE REVERSED

Most of the potential negative impacts can be reversed to a certain extent at the decommissioning phase (removal of the croplands and associated infrastructure) and include the following:

- Soils (structure, quality, and slope) and agricultural grazing potential can be rehabilitated sufficiently after which the area will, after a few years revert to its original state and agricultural grazing potential could be restored. The impact on soil and agricultural grazing potential is reversible.
- Drainage channels: The potential impacts on drainage channels will be minimal because development will be well outside these areas. Impacts on these resources can be reversed successfully.
- Biodiversity: most of these impacts can be reversed at the decommissioning stage. Lands can be rehabilitated and replanted with indigenous and endemic plant species. Most of the animals could return to the project area and the area may revert to its original state in a couple of years. The impact on biodiversity is reversible over a long period.
- Water resources: if water is no longer abstracted for irrigation of the croplands, and no site activities occur which may potentially pollute the water resource, there will be no impact on water quantity and quality of the water resource (groundwater). This impact is therefore reversible. The potential impact the development might have had on the dynamics of the drainage lines of the area is reversible as the drainage lines can be left to return to their natural/original state.
- Heritage resources: Impacts on Heritage resources could be permanent without mitigation. Provided subterranean heritage resources are not accidentally disturbed/damaged during the land clearance phase, there will be no impact. Impacts on surface heritage resources, such as graves and archaeological finds will be prevented by excluding these areas with buffers from development and by following due process to document, preserve or re-locate any such finds, thereby negating the need for reversal of impacts. The dialogue resulting from this EIA process can be seen as a positive impact, as the information provided by the community and the formal documenting and preservation of these heritage sites/artefacts place them in the public domain, making them more accessible to a greater number of people (media, museums, word of mouth, etc.).

- Socio-economic impact: these positive impacts will be reversed at the decommissioning phase and will have a nett negative effect on the area. It is preferable that this impact should not be reversed.
- Traffic: should site activities cease, there will be no need for traffic to and from the site. This impact is entirely reversible.
- Noise and air quality: should site activities cease, there will be no need for further site activities. This impact is entirely reversible.
- Impact on health of workers and residents: these impacts will cease when crop cultivation ceases. However, if adverse health impacts have already occurred, the effect thereof on human health is not reversible, and may persist for years to come.
- Visual impact: this impact will be resident for a long time (25-30 years). It can be partially reversed during decommissioning and rehabilitation of the area. While some of the large trees lost to the development may be replaced by new specimens of similar size within a few decades. No mature Adansonia digitata trees will be removed as this impact can never be reversed in our lifetime.

10.3 DEGREE TO WHICH THESE IMPACTS MAY CAUSE IRREPLACEABLE LOSS OF RESOURCES

The impacts which may cause an irreplaceable loss of resources are:

- Impacts on biodiversity. Loss of/damage to large trees which can never truly be replaced due to their size and age (excluding Adansonia digitata) may occur.
- Heritage resources may be damaged or destroyed. This should not happen as the heritage resources are well surveyed and will be protected from development impacts.

There will be no irreplaceable loss of other resources resulting from any of the potential impacts of the proposed croplands development. A complete impact assessment will be included in the CEIAR, indicating how the significance of the impacts was numerically calculated.

10.4 DEGREE TO WHICH THESE IMPACTS CAN BE AVOIDED, MANAGED OR MITIGATED

Almost all the potential impacts can be avoided, managed, or mitigated, either significantly or entirely.

Impacts on soils, biodiversity, water resources (including drainage lines), heritage resources, the socio-economic environment and visual aspects can all be mitigated. Impacts caused by traffic and site activities resulting in noise can also be mitigated. Full details and site-specific mitigation measures which will address these impacts with a view to avoidance, management and/or mitigation will be provided and discussed in the Environmental Impact Assessment Report (EIAR). Where impacts can be avoided, it will be done and the detail of such measures and actions will also be included in the EIAR.

It is not possible to completely avoid the impacts from the development on the environment. By following the mitigation and management measures detailed in the impact section in this report, most of the impacts and the effects it can have on the environment can be successfully lowered to a lower degree of significance to the environment. This is to a point where the impacts are acceptable and where the benefits of the development are greater than the detriment to the environment.

11. METHODOLOGY USED IN IDENTIFYING AND RANKING THE NATURE, SIGNIFICANCE, CONSEQUENCE, EXTENT, DURATION AND PROBABILITY OF POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS ASSOCIATED WITH THE ALTERNATIVES

To assess the impacts on the environment, the process will be divided into two main phases namely the Construction phase (land clearance and establishment of croplands) and the Operational phase. The activities, products and services present in these two phases will be studied to identify and predict all possible impacts. In any process of identifying and recognising impacts, one must recognise that the determination of impact significance is inherently an anthropocentric concept. Duinker and Beanlands, (1986) in DEAT 2002. Thompson (1988), (1990) in DEAT 2002 stated that the significance of an impact is an expression of the cost or value of an impact to society. However, the tendency is always towards a system of quantifying the significance of the impacts so that it is a true representation of the existing situation on site. This will be done by using wherever possible, legal, and scientific standards which are applicable.

The **significance** of the aspects/impacts of the process will be rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process. These matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

The **consequence** matrix uses parameters like severity, duration, and extent of impact as well as compliance to standards. Values of 1-5 are assigned to the parameters that are added and averaged to determine the overall consequence. The same process is followed with the likelihood that consists of two parameters namely frequency and probability. The overall consequence and the overall likelihood are then multiplied to give values ranging from 1 to 25. These values as shown in the following table are then used to rank the significance. It must be said however that in the end, a subjective judging of an impact can still be done, but the reasons for doing so must be qualified.

The formulas for calculating Consequence, Likelihood and Significance are provided below, where:

- **C**onsequence = **s**everity + **d**uration + **e**xtent + **c**ompliance / 4 (**C = s + d + e + c / 4**)
- **L**ikelihood = **f**requency + **p**robability / 2 (**L = f + p / 2**)
- **S**ignificance = **C**onsequence x **L**ikelihood (**S = C x L**)

Table 7. Description of parameters used in the impact matrices

Consequence		
Severity		
Low	Low cost/high potential to mitigate. Impacts easily reversible, non - harmful insignificant change/deterioration or disturbance to natural environments	1
Low-medium	Low cost to mitigate Small/ potentially harmful Moderate change/deterioration or disturbance to natural environment	2
Medium	Substantial cost to mitigate. Potential to mitigate and potential to reverse impact. Harmful Significant change/ deterioration or disturbance. to natural environment	3
Medium-high	High cost to mitigate. Possible to mitigate Great/Very Harmful Very significant change/deterioration or disturbance to natural environment	4
High	Prohibitive cost to mitigate. Little or no mechanism to mitigate. Irreversible. Extremely Harmful Disastrous change/deterioration or disturbance to natural environment	5
Duration		
Low	Up to one month	1
Low-medium	One month to three months	2
Medium	Three months to one year	3
Medium-high	One to ten years	4
High	Beyond ten years	5
Extent		
Low	Within footprint area of the croplands	1
Low-medium	Within the Remainder of Portion 3 of Coniston 699 MS and directly adjacent farms	2
Medium	Within the Waterpoort area	3
Medium-high	Within Makhado Local Municipal area	4
High	Within Vhembe District Municipality area	5
Compliance		
Low	Best Practise	1
Low-medium	Compliance	2
Medium	Non-compliance/conformance to Policies etc. - Internal	3
Medium-high	Non-compliance/conformance to Legislation etc. - External	4
High	Directive, prosecution of closure or potential for non-renewal of licences or rights	5
Likelihood		
Frequency		
Low	Once/more a year or once/more during operation	1
Low-medium	Once/more in 6 months	2
Medium	Once/more a month	3
Medium-high	Once/more a week	4
High	Daily	5

Probability		
Low	Almost never/almost impossible	1
Low-medium	Very seldom/highly unlikely	2
Medium	Infrequent/unlikely/seldom	3
Medium-high	Often/Regularly/Likely/Possible	4
High	Daily/Highly likely/definitely	5

[(Severity + Duration + Extent + Compliance) / 4] x [(Frequency + Probability) / 2] = Significance

Significance ratings (Plomp 2004)

Significance	Low -	Low-Medium -	Medium -	Medium-High -	High -
Overall Consequence X Overall Likelihood	1-4.9	5-9.9	10-14.9	15-19.9	20-25

Significance	Low +	Low-Medium +	Medium +	Medium-High +	High +
Overall Consequence X Overall Likelihood	1-4.9	5-9.9	10-14.9	15-19.9	20-25

The general approach to this study has been guided by the principles of Integrated Environmental Management (IEM). In accordance with the IEM Guidelines issued by the DEFF (previously DEA), an open approach, which encourages accountable decision-making, was adopted.

The principles of the IEM require:

- informed decision-making;
- accountability for information on which decisions are made;
- a broad interpretation of the term “environment”;
- an open participatory approach in the planning of proposals;
- consultation with I&APs;
- due consideration of alternatives;
- an attempt to mitigate negative impacts and enhance positive impacts of proposals;
- an attempt to ensure that social costs of developments are outweighed by the social benefits;
- democratic regard for individual rights and obligations;
- compliance with these principles during all stages of the planning, implementation, and decommissioning of proposals; and
- the opportunity for public and specialist input in the decision-making process.

12. POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY AND ALTERNATIVES WILL HAVE ON THE ENVIRONMENT AND THE COMMUNITY

The actual impact assessment will be done during the next phase of the EIA process and will be included in the Environmental Impact Assessment Report. All information from the specialists will be used to do the assessment using the method as described above.

- The proposed development will have limited negative impact on soils or agricultural resources as the proposed land use is considered compatible with the current land use classification (agriculture) while soil erosion will be prevented by management and mitigation measures to preserve soil integrity and quality.
- The proposed development should not have a substantial negative impact on biodiversity provided that all the mitigation measures as proposed by the specialist are implemented timeously and are adhered to for the lifecycle of the project.
- The impact on drainage channels should be low, provided the requisite buffer areas are maintained and natural ecological processes are maintained.
- The impact of the proposed development on water resources (water quantity) will be low negative as the applicant will not abstract water volumes in excess of its existing lawful use.
- The supply of potable water and water needed for construction and operation will be discussed in the Consultation EIAR while the impact thereof will be rated in the impact assessment. During construction the bulk of water will be required for construction purposes and dust abatement. During operation most of the water required will be for irrigation of crops while the volume of potable water required will be proportionally smaller. There should be no impact (either positive or negative) on water quality provided the mitigation measures contained in the EIAR are adhered to for the lifecycle of the development.
- The application has facilitated a site assessment and subsequent AIA which resulted in extensive social consultation. Through this process several graves and burial grounds (sites of heritage and archaeological significance) were identified and recorded. The AIA and social consultation processes encouraged and facilitated communication between the current landowner and local communities who felt marginalised due to actions by a previous landowner. Considering the information gained through this process, the appropriate mitigation measures can now be implemented to ensure that these resources are in the public domain, contribute to the existing knowledge base and can be conserved. In this instance the project has had a positive impact on the heritage resource base.
- The socio-economic impact is considered positive as the development site is in an area characterised by very low-income households for a large percentage of the inhabitants and a high unemployment rate for the region and the proposed development will contribute to job creation, skills-development, and agency in this region.
- The potential impact of agricultural chemicals on human health will be discussed and evaluated in the Environmental Impact Assessment Report.
- No negative impact on traffic is foreseen as traffic to and from the farm do not constitute large enough volumes at sufficient frequencies to cause congestion. The only road servicing the farm (R523) is a regional road, not very busy and mostly used by farmers in the area.
- There will be negative impacts resulting from noise during the clearance (construction phase) of the development. However, due to the distance of farming operations from the nearest receptors (adjacent farms, vast in size) this impact is of low significance and of a temporary nature. Air quality may be impacted upon negatively due to dust during land clearance (mostly during dry and windy conditions), while drift of chemicals during application may also be a negative impact. However, mitigation measures to reduce these impacts will be included in the EIAR and EMPr.
- Impacts on the visual environment may be viewed as either positive or negative. The proposed land use is compatible with/an extension of existing land use on the farm and adjacent land use to the west, while it will contrast with the remaining natural environment to the east, south and north. While the visual experience of an environment is a subjective one, the potential negative impact to some observers may be a positive experience/impact to other observers. As such the experience cannot be absolutely quantified in the absence of the observers' individual and unique opinion.

- There will be no negative impact on the visual environment in terms of solid waste as the developer of the croplands will be responsible for general solid waste removal and disposal at a waste disposal site permitted to receive such waste during the construction phase. During the operational phase, only a small volume of waste will be generated while the responsibility for lawful and responsible disposal will rest with the operator of the site. The neat and well-managed farming operations managed by the applicant, west of the project site proves that solid waste is managed responsibly and that it does not cause any nuisance or health-risks.

The following possible key environmental impacts were identified and will be assessed as part of the EIA process:

ENVIRONMENTAL ISSUES	POSSIBLE CAUSE	POTENTIAL IMPACTS
Air pollution and noise		
Dust	During clearing of vegetation	Public nuisance
Smoke	Vehicle emissions and veld fires Burning of removed vegetation	Health problems Air pollution
Noise	Farming activities	Nuisance
Chemicals	During cultivation	Health problems Air pollution
Water quality		
Silt deposition in surface water drainage channels	Erosion risk due to increased run-off from croplands	Siltation of aquatic ecosystem
Pollution by *E.coli*	Poorly planned and managed sanitation facilities	Water pollution & health risk
Water pollution	Use of Pesticides and Fertilizers	Effect on groundwater quality
Water quantity		
Excessive water use	Use of more water than the Sand River and underlying aquifers can deliver	Use of a scarce resource and decrease in water availability
Biodiversity and Land/soil degradation		
Soil contamination	Spillages from tractors & machinery	Effect soil ecology/ground water
Decline in plant species-diversity	Clearing of areas for croplands	Loss of biodiversity
Decline in animal species diversity	Loss of habitat due to croplands establishment	Loss of biodiversity
Soil pollution	Use of Pesticides and Fertilizers	Effect soil characteristics
Soil degradation	Erosion if storm water from croplands is not managed correctly	Loss of topsoil

ENVIRONMENTAL ISSUES	POSSIBLE CAUSE	POTENTIAL IMPACTS
Cultural Heritage		
Impact on heritage sites	Construction vehicles and agricultural activities damaging/obliterating sensitive heritage and archaeological sites	Damage to and possible loss of cultural heritage sites (burial grounds, graveyards, and archaeological sites) during clearing and cultivation of areas. + Social consultation process raised awareness of the presence of heritage sites in the study area, and encouraged dialogue between begrudged community members and new farm owners.
Visual impact		
Visual impact & impact on sense of place	Croplands	± Impact on landscape quality character ± Impact on sense of place
Socio-economic impacts		
Job creation and skills development	Increase in temporary & permanent work opportunities	+ Socio- economic benefit

The process to reach the location alternative has been discussed in section 7 while the process and no-go alternatives have been discussed for the location alternative.

13. POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND LEVEL OF RESIDUAL RISK

The mitigation measures recommended by the specialists and Environmental Assessment Practitioner, and which are to be actioned in respect of each respective impact will be discussed and described in the EIA report and have been summarised in Section 25 of this report. Residual risks (risks which remain after implementation of mitigation measures) will be assessed, weighted, and discussed in the EIAR.

13.1 OUTCOME OF THE SITE SELECTION MATRIX

All the areas not yet cultivated (approximately 520ha) of the Remainder of Ptn 3 Coniston 699 MS was evaluated from an ecological and heritage perspective to determine the area suitable for development of croplands (development footprint).

Following the preliminary site inspection and screening, areas not suitable from an ecological and heritage perspective were excluded from further consideration. The suitable area was considered the

only location alternative from an ecological, heritage and farming/operational perspective, and therefore no site selection matrix is applicable.

The proposed development footprint measures approximately 422ha of the 520ha study area.

13.2 CONSIDERATIONS IN INVESTIGATION OF LOCATION, PROCESS AND NO-GO ALTERNATIVES

13.2.1 Location alternative

The specialist studies conducted between 2019 and 2022 have determined that there are no fatal flaws inherent in this application at the proposed development site. Site attributes and sensitive areas within and adjacent to the site (such as buffer areas) will determine any restrictions, no-go areas, and the final footprint for development, which will in turn inform the site layout plan and placement of associated infrastructure and services. An exact site layout plan detailing all proposed activities on site will be included in the Environmental Impact Assessment Report. The site layout plan will be subject to comment from adjacent landowners, other Interested and Affected Parties as well as applicable organs of state. Based on comments received from I&APs the final site layout plan will be designed and included in the Final EIA Report.

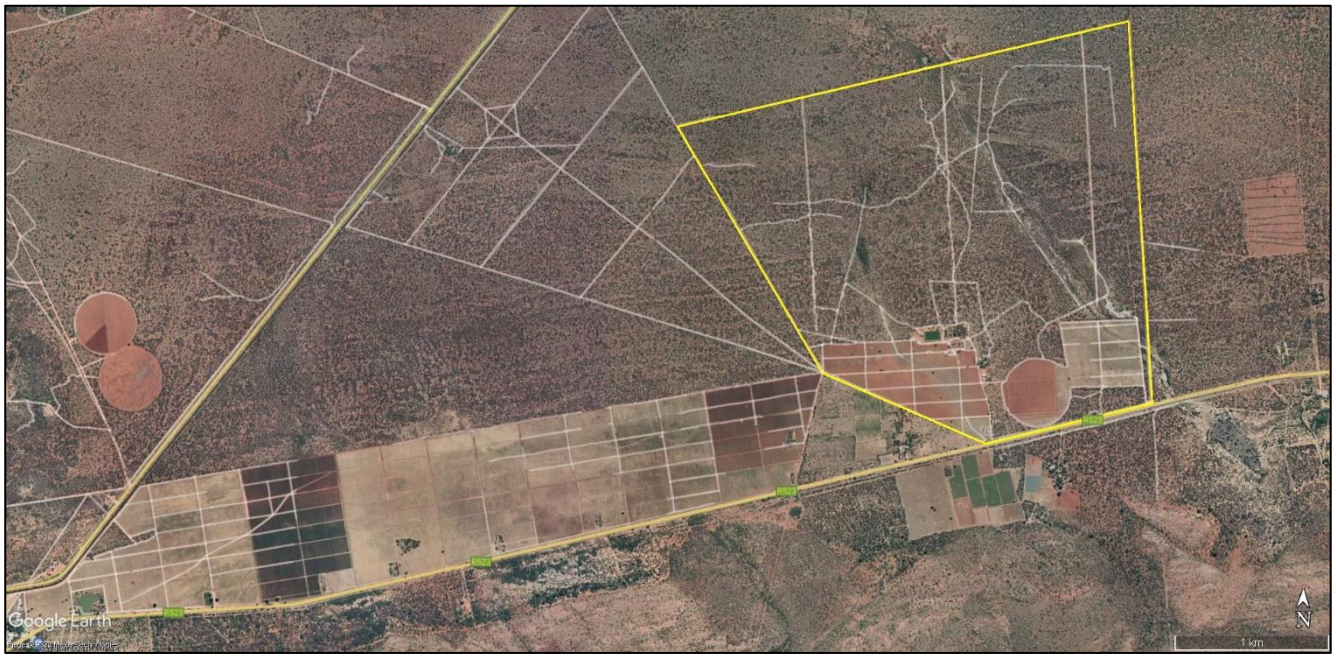

Figure 9. Aerial view map of the Remainder of Ptn 3 Coniston 699 MS in relation to adjacent croplands to the west, owned and managed by the applicant and farming company who will manage the proposed new croplands

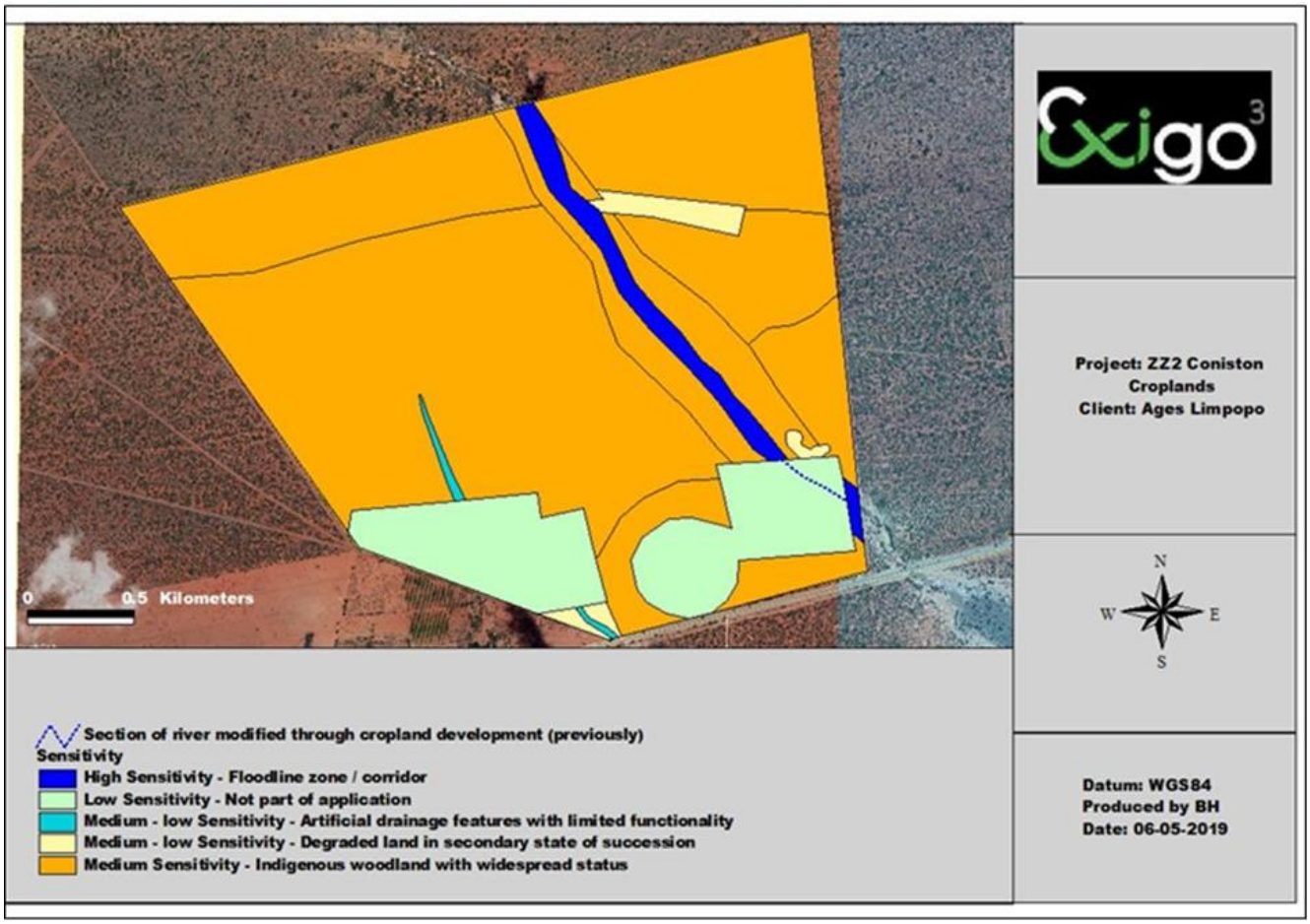

Figure 10. Sensitivity map indicating drainage lines, sensitive areas, and areas suitable for development from an ecological perspective

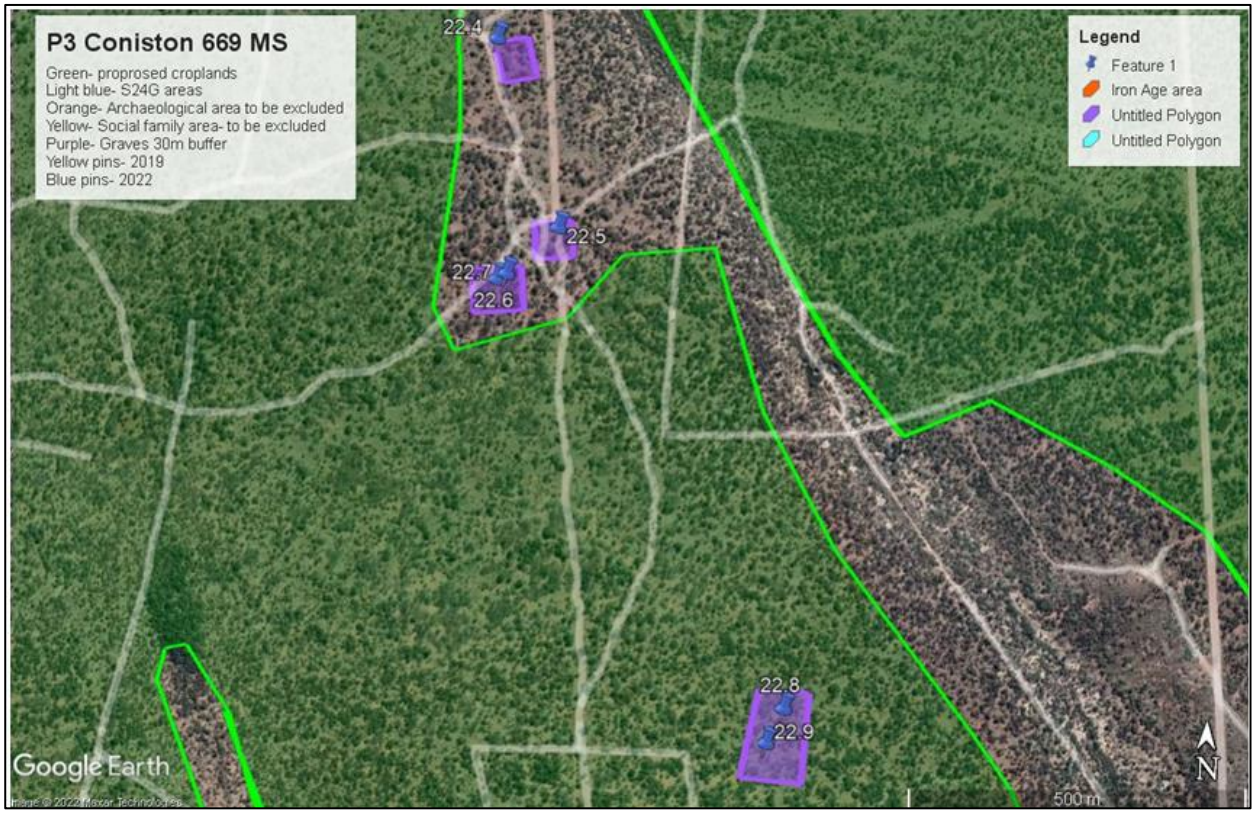

Figure 11. Sensitivity map indicating archaeological finds and buffer areas to be avoided and excluded from development (Map 3 from the Heritage Impact Assessment Report, 2022)

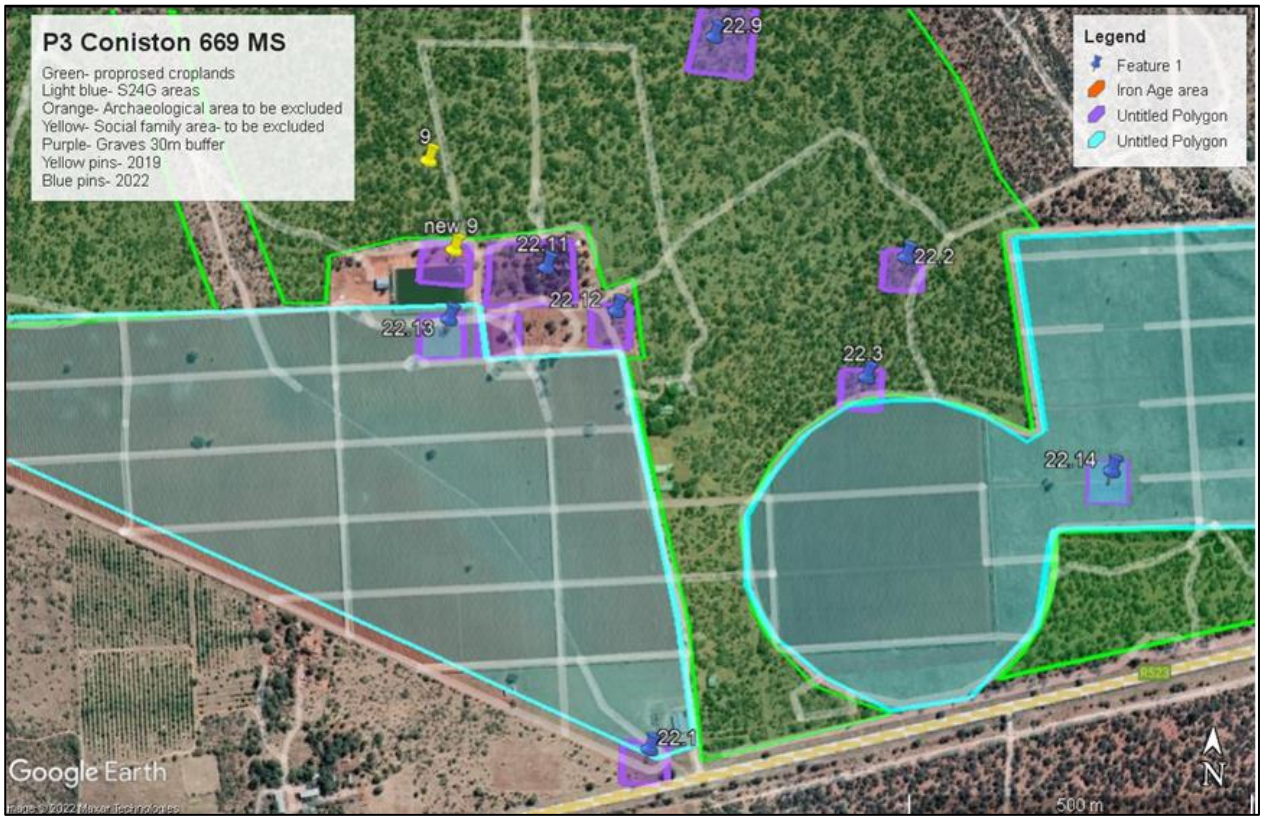

Figure 12. Sensitivity map indicating archaeological finds and buffer areas to be avoided and excluded from development (Map 4 from the Heritage Impact Assessment Report, 2022)

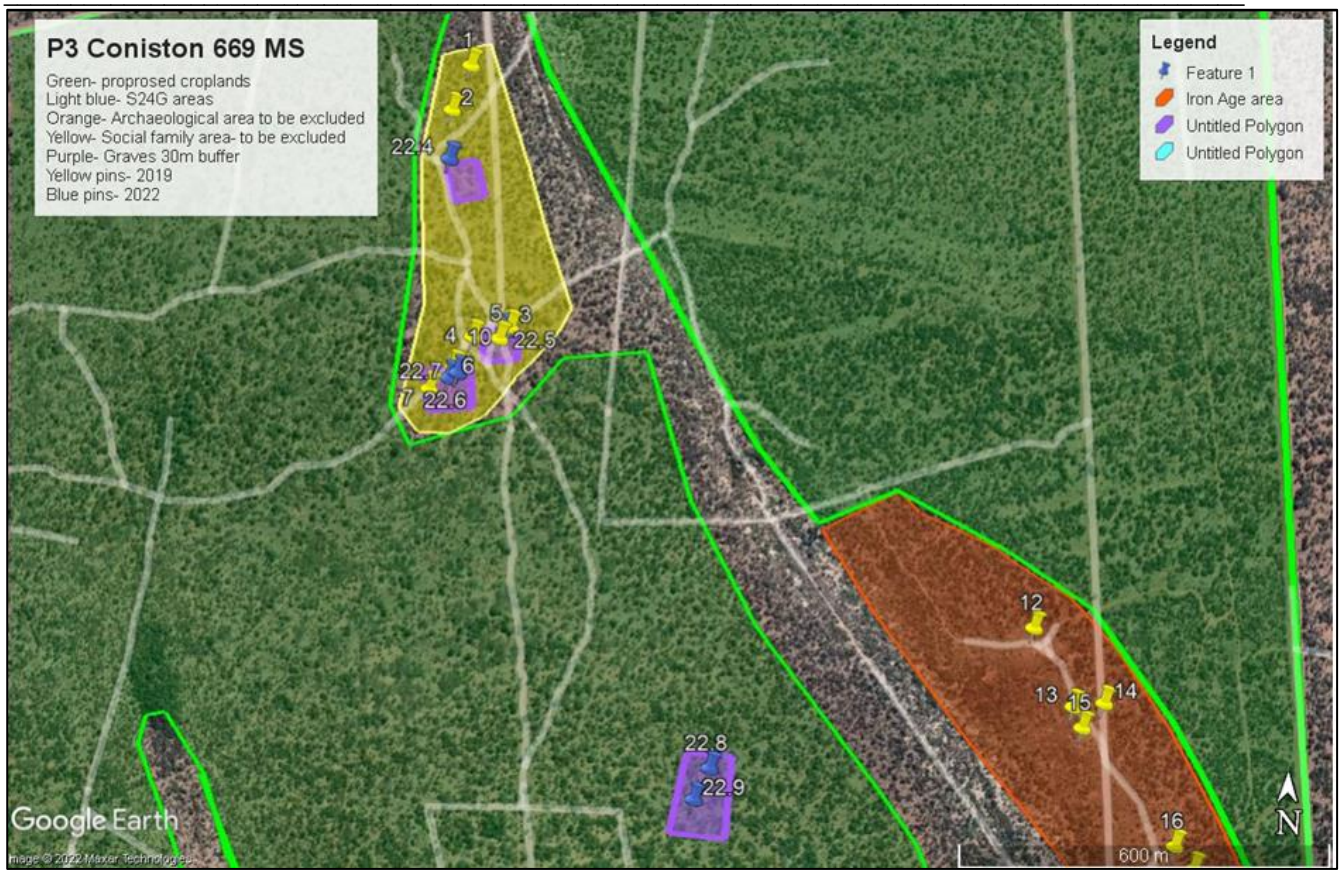

Figure 13. Sensitivity map indicating archaeological finds and buffer areas to be avoided and excluded from development (Map 5 from the Heritage Impact Assessment Report, 2022)

13.2.2 Process Alternatives

Process alternatives for the croplands already exist as successful management procedures of existing croplands owned and/or managed by the applicant, both on this and adjacent farms. These successful farm management practises will be extended/duplicated and practised at the new croplands. In addition, new technology and information regarding sustainable commercial farming, integrated pest-control strategies and fertiliser regimes will be investigated and experimented with as they become available.

13.2.3 No-Go Alternative

The option of the no-go alternative was investigated. As the current land-use of the farm is not considered the most feasible economic option and does not contribute to socio-economic growth and food security, this option is the least-preferred.

14. CONCLUDING STATEMENT INDICATING THE PREFERRED ALTERNATIVE AND LOCATION OF THE ACTIVITY

The location of the preferred alternative (single feasible location option) at Remainder of Ptn 3 Coniston 699 MS, Waterpoort, Makhado Local Municipality, is based on the location of the farm in relation to the directly adjacent farms owned/managed by the applicant. Should the proposed development in this location not be approved by the Limpopo Department of Economic Development, Environment and Tourism (LEDET), this project may no longer be viable to the applicant for the immediate future, as no alternative site near its current farming operations and centre of control is readily available at present.

The purpose of this report is to provide the relevant authority with sufficient information regarding the potential impacts and scope of the development to make an informed decision regarding the approval of the Plan of Study for Environmental Impact Assessment as well as providing comments that will aid in the compilation of a Scoping Report which will be approved by the Limpopo Department of Economic Development, Environment and Tourism (LEDET).

The Department is therefore respectfully requested to evaluate and consider this Scoping report, as part of an application that has been lodged in terms of section 20(b) of the National Environmental Management Act, 1998 (Act 107 of 1998), in respect of the listed activities listed in section 4.1 of this report.

15. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The environmental impact assessment process will be based on the actions and findings of the scoping phase. It was of crucial importance to conduct most of the specialist studies during the scoping phase to determine project feasibility from an environmental, ecological, heritage and socio-economic perspective early in the process.

16. DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED AND ASSESSED WITHIN THE PREFERRED SITE, INCLUDING THE OPTION OF NOT PROCEEDING WITH THE ACTIVITY

The proposed development area (preferred location alternative and only development option) will be demarcated while ensuring that buffer zones adjacent to drainage lines and other sensitive environmental and archaeological features are implemented.

The exact footprint and size of the various areas to be developed within the study area will be subject to the findings of the specialist assessments. As such, these findings will determine the layout plan for the proposed development.

17. DESCRIPTION OF ASPECTS TO BE ASSESSED AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Due to the nature of the project, several specialist studies are required in the EIA process to investigate the potential environmental impacts associated with the proposed development. Initial studies on potentially significant impacts were carried out to address any potential impacts throughout the EIA process. The initial site investigation and public participation process provided valuable information in the identification of issues requiring further and specific investigation throughout the EIA process.

Based on the national web-based Screening Tool (NST) selected activity classification:

"Transformation of land / Agriculture_Forestry_Fisheries | Crop Production" and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified by the NST for inclusion in the EIAR.

- Agricultural Impact Assessment
- Landscape/Visual Impact Assessment
- Archaeological & Cultural Heritage Impact Assessment
- Palaeontology Impact Assessment
- Terrestrial Biodiversity Impact Assessment
- Aquatic Biodiversity Impact Assessment
- Hydrology Assessment
- Socio-economic Assessment
- Plant Species Assessment
- Animal Species Assessment

18. ASPECTS TO BE ASSESSED BY SPECIALISTS

The specialist assessments listed in section 19.1 will be provided as indicated and will address the environmental aspects to be considered and will be compiled in accordance with the EIA Regulations 2014, Appendix 2, section 2(2)(2) and in accordance with the National Environmental Management Act, 1998 (Act 107 of 1998) GN R. 320 of 20 March 2020 and GN R. 1150 of 30 October 2020.

The findings and recommendations from these reports will inform and guide the EIA process.

The specialist reports will be included (as indicated) in the Consultation Environmental Impact Assessment Report (EIAR) and in the final EIAR to be submitted to all organs of state with jurisdiction over any aspect of the proposed activity as well as to Interested and Affected Parties.

19. DESCRIPTION OF THE PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS, INCLUDING ASPECTS TO BE ASSESSED BY SPECIALISTS

An environmental impact is defined as a change in the environment, be it the physical/chemical, biological, heritage and cultural or socio-economic environment. Any impact can be related to certain aspects of human activities in this environment and this impact can be either positive or negative. It could also affect the environment directly or indirectly and the effect of it can be cumulative.

Detailed studies on potentially significant impacts were and will be conducted to aid in the description of the environment as well as in the identification and rating of impacts and will address these aspects throughout the EIA process.

19.1 SPECIALIST ASSESSMENTS LISTED IN THE NATIONAL WEB-BASED SCREENING TOOL FOR INCLUSION IN THE APPLICATION:

- Agricultural Impact Assessment
  Will not be conducted. Agricultural sensitivity is rated High and Medium by the Screening Tool Report, the land is considered suited to agricultural development by the proponent, as such the proposed land use will remain as Agriculture.

- Landscape/Visual Impact Assessment
  Will not be will not be provided, as the visual impact from the proposed croplands is rated Low. Tomato croplands already exist along the entire boundary of the farm and the R523 road, while the proposed croplands will be situated further north and beyond the existing cultivated lands. A buffer of natural vegetation will remain to reduce the visual impact of the proposed croplands on the surrounding environment.

  No sensitive receptors have been identified on or adjacent to the site, following consultation with electronic resources, various site visits, and following feedback received from interested and affected parties.

- Archaeological & Cultural Heritage Impact Assessment Will be provided

- Palaeontology Impact Assessment Will be provided

- Aquatic Biodiversity Impact Assessment
  Will not be provided, due to the reasons below:
  Sensitivity is rated Low according to the National Screening Tool report.
  The study area is drained mainly by means of surface run-off (sheet flow) with storm water collecting along roads and footpaths cutting through the area, to drain into the non-perennial streams that cut through the proposed development area. It must be noted that surface flow along these rivers generally only occurs in the period directly after precipitation events or a wet rainy season, and that these rivers may exhibit a large base-flow component with groundwater flow occurring within the sandy sediments lining its channel.

  One non-perennial river bisects the proposed development site and have been modified partially when croplands were developed previously. The second drainage channel is an artificial canal, developed for stormwater management on the site and considered an artificial drainage feature that can be rehabilitated.

  No perennial drainage channels are present on site and as such, no Aquatic Biodiversity Impact Assessment is deemed necessary by the EAP. A Riparian Delineation and sensitivity map has been included in the Terrestrial Biodiversity Impact Assessment.

- Hydrology Assessment
  Will not be provided, due to the reasons below:
  The development footprint will be situated outside the regulated area of any watercourse (as defined in General Notice 509, Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998) as):
    - *The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake, or dam;*

- *In the absence of a determined 1 in 100-year flood line or riparian area the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or*
- *A 500 m radius from the delineated boundary (extent) of any wetland or pan".*

However, a stormwater management plan (SMP) will be compiled for management of stormwater within the croplands footprint and will be included in the EIAR.

- Socio-economic Assessment
  Will not be provided, as the socio-economic environment and impact of the proposed development hereon is discussed in the Heritage Impact Assessment and will be discussed in the Environmental Impact Assessment Report to follow..

- Plant Species Assessment and Animal Species Assessment
  Will be provided as an Ecological Riparian Impact Assessment.

In addition:

- A Geohydrological Report will be provided detailing the geohydrology and impact of the proposed development on the water resource, following comments received from Interested and Affected Parties.

The above specialist reports to be provided as indicated, will be included in the EIAR, except for the Heritage Impact Assessment Report, which will upon request from the Community of Waterpoort, Waterpoort Directly Affected Families Community Trust, Waterpoort Community Foundation, Waterpoort Community Development Trust, Matahe CPA (and others) be provided to them together with this Consultation Scoping Report.

20. TERMS OF REFERENCE FOR SPECIALIST ASSESSMENTS

20.1 PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT – SHASA HERITAGE CONSULTANTS

A Phase I Archaeological Impact Assessment (Heritage Assessment) was conducted on the project site. Comments will be obtained from SAHRA. A permit needs to be obtained from SAHRA to move or destroy graves or significant archaeological sites.

The Phase 1 Archaeological Impact Assessment (Heritage Assessment) functions subject to the following terms of reference:

- Provide a description of archaeological artefacts and structures (including graves and burial grounds) which may be expected/do occur within the project area.
- Provide a cultural context and provenience for archaeological artefacts and structures (including graves and burial grounds) in the project area and in the surrounding landscape by means of a detailed desktop background study.
- Assess the nature and degree of significance of such resources within the area.
- Establish heritage informants/constraints through establishing thresholds of impact significance.
- Assess any possible developmental impacts, present and future, on the archaeological and historical remains within the larger landscape.
- Propose heritage management measures for subsequent phases of heritage mitigation and

management.

- Liaise and consult with the relevant Heritage Resources authority with regards to the site investigation.

Methodology

- Sources of Information.
- Data from detailed desktop, aerial and field studies will be employed in order to sample surface areas systematically and to ensure a high probability of heritage site recording.
- Desktop study.
- A desktop study was prepared in order to contextualize the proposed project within a larger historical milieu. Numerous academic papers and research articles supplied a historical context for the proposed project and archival sources, aerial photographs, historical maps and local histories were used to create a baseline of the landscape's heritage. In addition, the study drew on available unpublished Heritage Assessment reports to give a comprehensive representation of known sites in the study area.
- Field survey.
- Archaeological surveys were conducted on foot in 2019, 2020 and 2022. The process encompassed both random field surveys in accordance with standard archaeological practice by which heritage resources are observed and documented, as well as surveys accompanied by community members/descendants of deceased persons, to pinpoint the location of grave sites . As the project area is densely vegetated, particular focus was placed on GPS reference points identified during the aerial and mapping survey. Where possible, random spot checks were made and potentially sensitive heritage areas were investigated. A Google Earth search was conducted prior to fieldwork in case anything was noticed. As most archaeological material occurs in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion. Locations of heritage remains were recorded by means of Google maps pin location technology, correct to 3 meters. A Garmin Etrex handheld GPS was used in 2019, which may account for some differences in position. To circumvent this limitation, where possible a photograph showing the wider area should accompany the GPS as a tree or fence can assist in finding the position at a later date. Heritage material and the general conditions on the terrain were photographed with a Samsung S9.

20.2 PALAEONTOLOGY IMPACT ASSESSMENT – PROFESSOR BRUCE RUBIDGE

A Phase 1 Palaeontological Impact Assessment will include the following:

- Desktop assessment
  - Background information on the project.
  - Background to palaeontology of the area.
  - Description of the property of affected environment with details of the study area.
  - Description of the geological setting.

- Reporting & Mitigation measures:
  - A written assessment of the work done.
  - Conclusion and recommendations.

Methodology

- Although the study area is underlain by Carboniferous – Jurassic rocks of the Karoo Supergroup, which is of high palaeontological sensitivity, careful study of Google Earth images show that the entire study area, which is only 450 hectares, is covered by vegetation and alluvium and no rocks are exposed. As a site visit would thus not reveal fossils, a desktop Palaeontological Impact Assessment was undertaken to identify possible sensitive fossil occurrences, assess the significance of possible fossil occurrences, comment on the impact of the proposed development, and to make mitigating recommendations.

20.3 ECOLOCIAL IMPACT ASSESSMENT – DR BJ HENNING

Scope of work

- Conduct a field study to determine the state of the vegetation on site:
  - After studying the aerial photographs determine the current state of the vegetation on site.
  - Conduct a site visit and list the plant species (trees, shrubs, grasses, succulents, and other herbaceous species of special interest) present for plant communities.
  - Identify potential red data plant species, possible encroacher species, medicinal plants of value and exotic plant species.
- Determine the ecological impact the development will have on the fauna and flora of the site and conduct an impact rating assessment.
- Fauna scoping
  - List the potential fauna (mammal species, red data birds, reptiles, amphibians, invertebrates) present linked to the specific potential habitats that occur as identified in the vegetation survey.
  - Analyse the data and identify potential red data fauna species, as well as other endemic or protected species of importance.
  - Indicate species mitigation measures and management measures to be implemented to prevent any negative impacts on the fauna of the area.
- General
  - Identify and describe ecologically sensitive areas. Create a sensitivity map to indicate specific sensitive areas based on various environmental parameters such as natural vegetation in a good condition, rockiness, slopes, flood lines etc.
  - Identify problem areas in need of special treatment or management, e.g., bush encroachment, erosion, degraded areas, reclamation areas.
  - Make recommendations, impact ratings and risk assessments for each specific impact.

Methodology

- Conduct a vegetation and plant species survey (trees, shrubs, grasses, forbs, geophytes, and succulents) by means of line transects to record plant species present. Search for rare and threatened plant species and any botanically sensitive sites or habitats in the various vegetation units.
- Map, describe and list plant communities as ecological units by means of the Braun-Blanquet survey technique.
- Site surveys were conducted on the 2nd, and 3rd of November 2020. The relevance of the season (early summer months) had NO impact on the outcome of the assessment.
- Classify vegetation data to identify, describe and map vegetation types. Descriptions of the vegetation units include the tree, shrub, and herbaceous layers.

- Assess conservation priority of each vegetation unit by evaluating the plant species composition in terms of the present knowledge of the vegetation of the Limpopo Province, as well as the vegetation type.
- Conduct a fauna habitat and animal species survey to identify potential habitats after identifying the vegetation units.
- Conduct a scoping survey by comparing the habitat types identified with the preferred habitats of species occurring in the area.
- Obtain a species list of the red data species of the different faunal classes.
- Compare habitats (vegetation units) on the project site to the preferred habitats of the faunal species. In addition to species observed on the site, lists of the potential mammal, bird, reptile, amphibian, and insect species were compiled and mitigating measures recommended if needed.

A detailed terrestrial biodiversity (ecological) assessment and sensitivity analysis was conducted on the study area to anticipate and identify significant environmental issues and impacts of the development on the environment (flora & fauna), potential wetlands and general ecology of the site. The site survey confirmed the presence of drainage lines on site, which had to be studied and considered in terms of land available for the proposed development as well as the consideration of alternative sites and/or lay out plans. The specialist confirmed there are no wetlands present on site. Mitigation measures will be proposed.

The Terrestrial Biodiversity Impact Assessment Report will be included in the Environmental Impact Assessment Report.

20.3.1 RIPARIAN AND DRAINAGE CHANNELS DELINEATION – DR BJ HENNING

The delineation of drainage channels will be conducted. The following methodology will be followed:

- Obtain relevant information of soil types related to drainage channels. This includes information on the riparian areas and indicator plant species associated with these areas. Information obtained and criteria followed for wetland delineation will be obtained from "*A practical field procedure for identification and delineation of wetlands and riparian areas*" (Department of Water Affairs and Forestry, South Africa).
- Identify and delineate the different wetland zones (drainage channels and riparian areas) on the sites according to the soil and vegetation indicators. The soil and vegetation indicators will be used to delineate the drainage channels.
- Conduct a functionality assessment of the drainage channels including a Present Ecological State (PES),
- Ecological Importance & Sensitivity (EIS) and Wet-Health Assessment.
- Potential impacts of the croplands on the drainage channels will be assessed.
- Management and mitigating measures to be implemented to limit impacts on the drainage channels or to manage the drainage channels accordingly will be provided.

20.4 GEOHYDROLOGICAL REPORT – DR S PRETORIUS

The following actions were performed during the geohydrological study:

- Study of available geological and geohydrological information (1:250 000 3122 Pretoria).
- Review of existing reports for the local and regional area.
- Evaluation of aerial imagery and topography data of the study area.

- Review the existing geohydrological and other pertinent information regarding the development and use of boreholes in the vicinity.
- Compile base maps illustrating the known geological- and geohydrological information.
- Evaluation of the study area to determine if any possible aquifer pollution sources may be present, to establish the current practices on site and to review the general geological setting of the study area.
- A hydro-census was conducted in the study area. This includes borehole positions, use, status, water level and borehole depth (where possible).
- Testing of existing boreholes.
- Sampling of boreholes for chemical evaluation.
- Groundwater recharge calculations.
- Groundwater balance.
- Aquifer classification.

21. DESCRIPTION OF THE PROPOSED METHOD OF ASSESSING DURATION AND SIGNIFICANCE

To assess the impacts on the environment, the process will be divided into two main phases namely the Construction phase and the Operational phase. The authorisation applied for is applicable only to the construction phase, according to the description of the listed activity as per the EIA Regulations 2014, Listing Notices, while monitoring of the operational phase is not required in terms of the EIA Regulations 2014. However, given the potential impact of the proposed development on the culturally significant landscape as well as the ecology of the area, monitoring for the lifecycle of the proposed development will be discussed and included in the EMPr, to be included with the EIAR.

The activities, products and services present in these two phases will be studied to identify and predict potential impacts on the environment to formulate mitigation measures to be implemented for the lifecycle of the project.

22. STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED

The competent Authority will be consulted at the following stages:

- Submission of application and Consultation Scoping Report
- Submission of Final Scoping Report
- Submission of Consultation EIA Report
- Submission of Final EIA Report
- Site visit by the competent authority

23. PARTICULARS OF THE PUBLIC PARTICIPATION PROCESS THAT WILL BE CONDUCTED DURING THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The Consultation Scoping Report and Plan of Study for EIA will be:

- Distributed in electronic and hard copy to the Makhado Local Municipality, the Department of Water and Sanitation and the Limpopo Department of Economic Development, Environment and Tourism, as well as to any other party upon request thereof.

- Distributed in electronic copy (we-transfer link via electronic mail or via CD or USB upon request) to the relevant organs of state with jurisdiction over any aspect of the proposed development, as well as to directly adjacent neighbours and other registered and potential Interested and Affected Parties.
- The Consultation Scoping Report and Plan of Study for EIA will be made available for comment for a period of 30 days.
- Any party wishing to register as Interested and Affected Party will be added to the I&AP register and database and will receive a copy of the CSR and Plan of Study for EIA.
- Following the 30-day comment period, a Final Scoping Report and Plan of Study for EIA will be compiled and submitted for comment to organs of state with jurisdiction over any aspect of the proposed development, as well as to directly adjacent neighbours and other registered and potential Interested and Affected Parties.
- The FSR and Plan of Study for EIA will be submitted for comment and approval to the competent authority, the Limpopo Department of Economic Development, Environment and Tourism (LEDET).
- Upon acceptance of the FSR and Plan of Study for EIA, a Consultation Environmental Impact Assessment Report which will incorporate and address all comments received on the CSR and Plan of Study for EIA, will be compiled, and submitted for comment to organs of state with jurisdiction over any aspect of the proposed development, as well as to directly adjacent neighbours and other registered and potential Interested and Affected Parties.
- Comments received on the CEIAR will be incorporated and addressed in the Final Environmental Impact Assessment Report which will be submitted to LEDET for approval and Environmental Authorisation.

24. DESCRIPTION OF THE TASKS THAT WILL BE UNDERTAKEN AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Tasks to be undertaken, the findings of which will be presented and discussed and be made available for comment in the EIAR include, but are not limited to:

- The impacts of the proposed development on the geographical, physical, biological, social, economic, heritage and cultural aspects that were identified during the scoping process will be addressed in detail in the Environmental Impact Assessment Report (EIAR).
- The findings and recommendations from the specialist reports will be used in the identification and rating of identified impacts according to the methodology in Section 20 of this report.

The findings, recommendations and mitigation measures contained in the Specialist Reports will be included in the Consultation Environmental Impact Assessment report (CEIAR). The CEIAR will furthermore discuss and address the comments received from Interested and Affected Parties, to date.

25. SUITABLE MEASURES TO AVOID, REVERSE, MITIGATE OR MANAGE IDENTIFIED IMPACTS AND TO DETERMINE THE EXTENT OF THE RESIDUAL RISKS THAT NEED TO BE MANAGED AND MONITORED

Measures to avoid, reverse, mitigate or manage identified impacts will be included in the Environmental Impact Assessment Report.

Especially mitigation measures will be investigated and are subject to and dependent on the findings of the specialists. While specialist studies have been conducted and the reports received, these reports will be reviewed.

Monitoring is essential to ensure that the applicant is environmentally responsible in terms of the National Environmental Management Act, 1998 (Act no. 107 of 1998) (NEMA). This responsibility rests upon the applicant for the lifecycle of the development (construction, operation, and decommissioning phases). Mitigation measures for the respective phases of the development will be discussed and included in the Environmental Impact Report as well as in the EMPr.

Mitigation measures from the specialist reports conducted to date are summarised below.

25.1 HERITAGE IMPACT ASSESSMENT

The following is recommended:

- The areas where archaeological materials were recorded be excluded from development and cordoned off to prevent farm machinery accidently impacting archaeological resources. KMZ files can be provided to the developer so that they know where to cordon off. Fencing the area would be appropriate. This will result in the site/s still being available if future research on this understudied region is required.
- The areas where social/family areas were recorded be excluded from development and cordoned off to prevent farm machinery accidently impacting social resources and possibly graves.
- The family cemeteries: Access to the graves needs to be provided to the descendants as the ancestors still play a role in the lives of the living family.
- All grave areas indicated that fall inside or outside the excluded area- should be fenced off, with access for families allowed.
- A buffer zone of 30m has been provided for the graves. Grouped together these areas should be included in the excluded area.
- The centre strip along the calcareous drainage lines has already been excluded due to ecological and environmental reasons. In terms of heritage this area has been extended to include archaeological, grave, and social areas.
- Monitoring should take place when ground works begin. Although the community has stated that they know of no further graves, there remains a possibility that other graves, especially those of children and babies, may still be found during ploughing and general ground works, vigilance therefore needs to be maintained.
- Should palaeontological materials be uncovered during construction, a qualified palaeontologist is to be contacted to conduct rescue operations. The discovery of previously undetected subterranean heritage remains on the terrain must be reported to the Limpopo Heritage Authority or the archaeologist and may require further mitigation measures. Provided that community graves are respected and fenced and that other mitigation measures are observed, then we do not have an objection to the development.

25.2 PALAEONTOLOGY IMPACT ASSESSMENT

It is considered that, from a palaeontological perspective, the establishment of the proposed tomato croplands should proceed, but if rock outcrops are exposed during construction activities, the developer immediately calls in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

Depending on the nature of the fossils discovered this could entail excavation and removal to a registered palaeontological museum collection. A list of professional palaeontologists is available from South African Heritage Resources Agency (SAHRA).

25.3 ECOLOGICAL AND RIPARIAN IMPACT ASSESSMENT REPORT

Some potential rare fauna may also occur in the area, and specific mitigation measures need to be implemented to ensure that the impact of the development on the species' habitat will be low. Specific mitigation relating to red data fauna includes the following:

- Disturbances in close vicinity of the development (periphery) should be limited to the smallest possible area to protect species habitat.
- Corridors such as the riverine woodland are important to allow fauna to move freely between the areas of disturbance and a 30-meter buffer should be implemented around these areas.
- The removal of vegetation should be confined to the footprints of the croplands and access roads for construction. Peripheral impacts on the larger area should be avoided.
- Where trenches pose a risk to animal safety, they should be adequately cordoned off to prevent animals falling in and getting trapped and/or injured. This could be prevented by the constant excavating and backfilling of trenches during construction process.
- No animals may be poached during any constructional processes of any kind. Many animals are protected by law and poaching, or other interference could result in a fine or jail term.
- Do not feed any wild animals on the proposed cropland construction site.
- Poisons for the control of problem animals should rather be avoided since the wrong use thereof can have disastrous consequences for the vulture species as well as other birds of prey occurring in the area. The use of poisons for the control of rats, mice or other vermin should only be used after approval from an ecologist.
- Waste bins and foodstuffs should be made scavenger proof.

MITIGATION MEASURES TO MINIMISE HABITAT DESTRUCTION

- The removal of the indigenous trees and shrubs should only occur on the footprint area of the croplands. No vegetation should be cleared on adjacent areas. The protected trees could be preserved where possible. The eradication of protected trees would need a licence being obtained from DEFF, although the larger baobab trees will be protected.
- Conduct flora species search and rescue efforts before ground clearing of land for development of croplands to reduce negative impacts on species of concern.
- The ECO should advise the development team in all relevant matters to ensure minimum destruction and damage to the environment. The ECO should enforce any measures that he/she deem necessary. Regular environmental training should be provided to workers to ensure the protection of the habitat, fauna and flora and their sensitivity to conservation.
- Limit pesticide use to non-persistent, immobile pesticides and apply in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.
- Poisons for the control of problem animals should rather be avoided since the wrong use thereof can have disastrous consequences for the raptors occurring in the area. The use of poisons for the control of rats, mice or other vermin should only be used after approval from an ecologist.

MITIGATION MEASURES TO MINIMISE HABITAT FRAGMENTATION

- Use existing facilities (e.g., access roads, degraded areas) to the extent possible to minimize the amount of new disturbance.
- Ensure protection of important resources by establishing protective buffers to exclude unintentional disturbance. All possible efforts must be made to ensure as little disturbance as possible to the sensitive habitats on site during development.
- During development, sensitive habitats must be avoided by vehicles and equipment, wherever possible, to reduce potential impacts. Only necessary damage must be caused and, for example, unnecessary driving around in the veld or bulldozing natural habitat must not take place.
- Development activities must remain within defined croplands and the road servitudes. No disturbance will occur outside these areas.

MITIGATION MEASURES TO MINIMISE SOIL EROSION AND SEDIMENTATION

- Cover disturbed soils as completely as possible, using vegetation or other materials.
- Minimize the amount of land disturbance and develop and implement stringent erosion and dust control practices.
- Repair all erosion damage as soon as possible to allow for sufficient rehabilitation growth.
- Gravel roads must be well drained to limit soil erosion.

MITIGATION MEASURES TO MINIMISE SOIL AND WATER POLLUTION

- Any excess or waste material or chemicals should be removed from the development sites and discarded in an environmentally friendly way.
- Spill kits should be on-hand to deal with spills immediately.
- All vehicles should be inspected for oil and fuel leaks on a regular basis. Vehicle maintenance yards on site should make provision for drip trays that will be used to capture any spills. Drip trays should be emptied into a holding tank and returned to the supplier.

MITIGATION MEASURES TO MINIMISE HABITAT DEGRADATION DUE TO DUST

- Implement standard dust control measures on access roads to the croplands.
- A speed limit should be enforced on dirt roads (preferably 30km/h).

MITIGATION MEASURES TO MINIMISE SPREAD AND ESTABLISHMENT OF ALIEN INVASIVE SPECIES

- Control involves killing the plants present, killing the seedlings which emerge, and establishing and managing an alternative plant cover to limit re-growth and re-invasion. Weeds and invader plants will be controlled in the manner prescribed for that category by the CARA or in terms of Working for Water guidelines.
- Koedoespan Boerdery will be responsible for the control of weeds and invader plants within the development site for the duration of the development phase. Alien invasive tree species listed by the CARA regulations should be eradicated.
- Rehabilitate disturbed areas as quickly as possible to reduce the area where invasive species would be at a strong advantage and most easily able to establish.
- Institute a monitoring programme to detect alien invasive species early, before they become established and, in the case of weeds, before the release of seeds. Once detected, an

eradication/control programme should be implemented to ensure that the species' do not spread to surrounding natural ecosystems.

MITIGATION MEASURES TO MINIMISE FAUNA ROAD MORTILITIES

- Monitoring of impacts is recommended during all stages of the project lifecycle, to assess the effectiveness of the mitigation measures proposed, as well as determine the extent of residual risks which need to be managed and monitored.

25.4 GEOHYDROLOGICAL INVESTIGATION

It will be important that the water user implements the recommended mitigation and management guidelines presented in this report:

- Installation of borehole pumps must be compliant to the guidelines in the report.
- Water level monitoring tubes must be installed into each production borehole.
- Sampling taps must be installed at all the boreholes to aid groundwater sampling.
- A flow meter must be installed at each of the boreholes to monitor groundwater use.
- The boreholes and pumps must be serviced regularly to ensure optimal operation.
- Since the current groundwater application is limited to the aquifer associated with the rainfall runoff from the Soutpansberg and not related to deep aquifer fault systems (Karoo faults), future development related to deep/ regional structures could be viable and additional groundwater may be available for development in such aquifer environments.

The following mitigation measures must be implemented to ensure the sustainability of the groundwater resource:

- The borehole yields must be adhered to, and the boreholes must not be over pumped.
- Abstraction volumes must be monitored and adjusted based on installed yield.
- Adequate top structuring must be installed at all the boreholes to prevent the ingress of surface water/ mud/ debris into the borehole.
- Stormwater management must be pursued on the farm to maximize groundwater infiltration and to prevent the ingress of stormwater into the boreholes.
- Fertilizers should not be stored near any of the boreholes.
- The recommended monitoring plan must be implemented and evaluated.

26. UNDERTAKING UNDER OATH OR AFFIRMATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) IN RELATION TO:

26.1 CORRECTNESS OF INFORMATION PROVIDED IN THE REPORT

The Environmental Assessment Practitioner (EAP) undertakes to ensure that all information contained in this Consultation Scoping Report is factually correct and that no available information or facts have been withheld from the report. It is in the best interest of both the proponent/applicant and EAP to adhere to an honest, transparent, and factually correct application process.

26.2 INCLUSION OF COMMENTS AND INPUTS FROM STAKEHOLDERS AND INTERESTED AND AFFECTED PARTIES (I&APS)

The Environmental Assessment Practitioner undertakes to ensure that all comments and inputs received from I&AP's as well as respective responses thereto from the EAP, are included in all reports.

26.3 INFORMATION PROVIDED BY THE EAP TO I&APS AND ANY RESPONSES BY THE EAP TO COMMENTS OR INPUTS MADE BY I&APS

The Environmental Assessment Practitioner undertakes to ensure that all the answers and reaction from the EAP to comments and inputs from I&APs are included in all reports to be submitted. The EAP will endeavour to keep communication and correspondence with all I&APs open, honest, and transparent.

26.4 THE LEVEL OF AGREEMENT BETWEEN THE EAP AND I&APS ON THE PLAN OF STUDY FOR UNDERTAKING THE ENVIRONMENTAL IMPACT ASSESSMENT

The Environmental Assessment Practitioner undertakes to ensure that the plan of study for EIA agrees with the requirements of the Environmental Impact Assessment Regulations 2014 (as amended) and in agreement with issues and concerns raised by registered Interested and Affected Parties.

BIBLIOGRAPHY

DEAT, 1998. *Guideline Document on the EIA Regulations implementation of sections 21, 22 and 26 of the Environment Act*, Government Printer, Pretoria.

DEAT, 1999. *Environmental Management Framework for the Northern Province.* University of Pretoria, Pretoria.

DEAT, 2002. *Impact Significance, Integrated Environmental Management, Information Series 5, Department of Environmental Affairs and Tourism,* Pretoria

DEAT, 2004. *Development of a Core Set of Environmental Performance Indicators*. Prepared by Palmer Development Group for DEAT. Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT, 2006. *Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series*, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DUINKER, P.N. and BEANLANDS, G.E. 1986. The significance of environmental impacts: and exploration of the concept, *Journal of Environmental Management*, 10(1), 1-10 in DEAT, (2002).

MAKHADO LOCAL MUNICIPALITY, 2022. Makhado Local Municipality Integrated Development Plan 2022/23-2026/27.

PLOMP, H. 2004. *A process for assessing and evaluating environmental management risk and significance in a gold mining company.* Conference Papers-Annual National Conference of the International Association for Impact Assessment: South African Affiliate.

THOMPSON, M.A., 1988. *The determination of Impact Significance in Environmental Impact Assessment*, Unpublished Master of Science Thesis, University of Manchester, UK.

THOMPSON, M.A., 1990. Determining Impact significance in EIA: a review of 24 methodologies, *Journal of Environmental Management*, 30, 235-250.