



GEOHYDROLOGY

GEOTECHNICAL

ENVIRONMENTAL

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Consultation EIA Report

12/1/9/2-V160
LIM/EIA/0001672/2022



**CONSULTATION EIA 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

March 2023

Prepared for: Koedoevan Boerdery (Pty) Ltd
Compiled by: A von Well
Document version 1.0 – Consultation



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CONSULTATION EIA 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
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March 2023

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| | Adjacent landowners | |
| | Interested and Affected Parties | |

DOCUMENT HISTORY

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|--------------------------|---------------|---------|---|
| 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 |
| L19 030 E | November 2022 | 4.0 | Consultation Scoping Report |
| 12/1/9/2-V160 | January 2023 | 5.0 | Final Scoping Report |
| 12/1/9/2-V160 | March 2023 | 1.0 | Consultation Environmental Impact Assessment Report |

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|---------------|---------------|---------|--|
| L19 030 E | November 2022 | 4.0 | Consultation Scoping Report |
| 12/1/9/2-V160 | January 2023 | 5.0 | Final Scoping Report |
| | 07 June 2019 | 1.0 | Palaeontological Impact Assessment |
| | August 2022 | 1.0 | Grave Management Plan |
| | 04 March 2023 | 2.0 | Archaeological Impact Assessment |
| | August 2022 | 1.0 | Terrestrial Biodiversity Impact Assessment |
| | | 1.0 | Stormwater and erosion management plan |
| | | 1.0 | Pollution control plan |
| 12/1/9/2-V160 | March 2023 | 1.0 | EMPR |

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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 |
| EIAR | Environmental Impact Assessment Report |
| EMF | Environmental Management Framework |
| EMPr | Environmental Management Programme |
| EMZ | Environmental Management Zone |
| NFEPA | National Freshwater Ecosystem Priority Area |
| GIS | Geographical Information System |
| GN | Government Notice |
| I&APS | Interested and Affected Parties |
| LEDET | Limpopo Department of Economic Development, Environment and Tourism |
| MLM | Makhado Local Municipality |
| 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 Areas |
| SEMP | Strategic Environmental Management Plan |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| VBR | Vhembe Biosphere Reserve |

1 OBJECTIVE OF THE EIA PROCESS

According to Regulation No R 982 of 04 December 2014 (as amended), the objective of the EIA process is to, through a process of consultation:

- (a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- (b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report;
- (c) identify the location of the development footprint within the approved site as contemplated in the accepted scoping report based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- (d) determine the—
 - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
 - (ii) degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources, and
 - (cc) can be avoided, managed or mitigated;
- (e) identify the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted scoping report based on the lowest level of environmental sensitivity identified during the assessment;
- (f) identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity;
- (g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- (h) identify residual risks that need to be managed and monitored.

2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

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

Contact details of EAP:

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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 the EAP is included in Appendix N.

3 LOCATION OF ACTIVITY

3.1 Surveyor-General 21-digit code of development area

| FARM NAME AND NUMBER | 21 DIGIT SG CODE |
|-------------------------|-----------------------|
| Ptn 3 of Coniston 699MS | TOMS00000000069900003 |

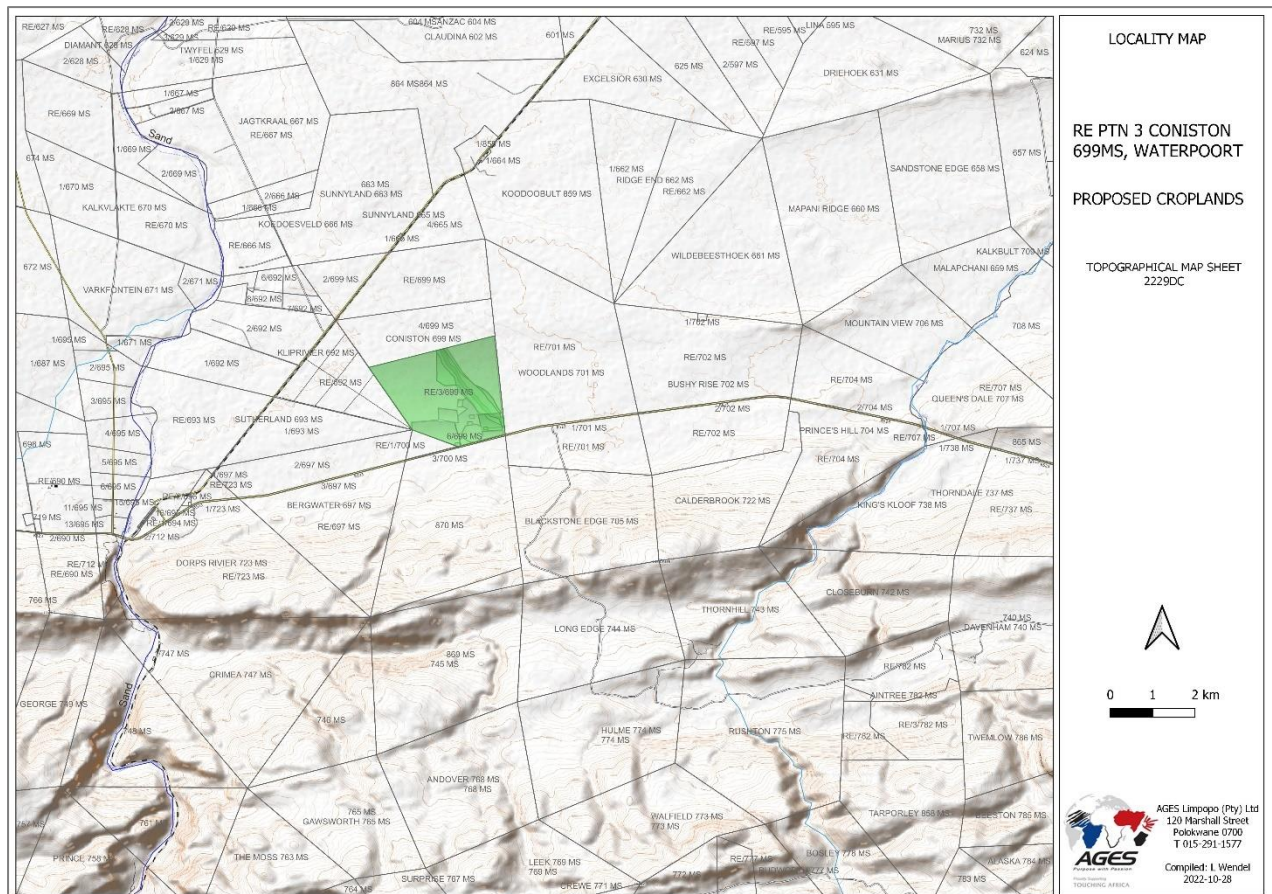


Figure 1. Location of project site

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 A).

The farm 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).

3.3 Coordinates of development area

The following coordinates are at the centre of the proposed croplands:

22°52'25.70"S 29°41'5.00"E

3.4 Nature of the proposed activity

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 is available and will be sourced from the registered legal water use for the adjacent farms, Ptn 2 Bergwater 697MS, Ptn 5 and Ptn 6 Waterpoort 695MS and Sitapo 690MS. A water balance calculation indicating that sufficient water is available from these farms, is included as Table 3. No abstraction of water from boreholes on the farm RE Ptn 3 Coniston will be required, as a sufficient volume of water to sustain the proposed development, is available from the Existing Lawful Uses as stated above.
- A pipeline with a diameter of less than 360 mm from the farms Bergwater/Dorpsrivier will deliver water to the RE Ptn 3 of Coniston 699MS. The pipeline route is indicated in Appendix A 4.
- Tomatoes will be irrigated with drippers, which minimises evaporation, compared to other irrigation methods.



Figure 2. Location of the proposed croplands

4 SCOPE OF THE PROPOSED ACTIVITY

This Consultation Environmental Impact Assessment Report (CEIAR) will discuss the scope of the proposed development, with the purpose of supplying the Limpopo Department of Economic Development, Environment and Tourism (LEDET) as the competent authority herein, with sufficient information to decide on whether to authorise the proposed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and other relevant legislation.

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 <i>The physical alteration of virgin soil to agriculture of 100 hectares or more.</i> | The new croplands and associated infrastructure will be developed and operated on a footprint of approximately 422ha and the required footprint will be cleared of vegetation. |
| GN R.984 Activity 15 <i>The clearance of an area of 20 hectares or more of indigenous vegetation.</i> | The new croplands and associated infrastructure will be developed and operated on a footprint of approximately 422ha and the required footprint will be cleared of vegetation. |

4.2 Specified activities triggered in terms of other legislation

| | |
|--|---|
| <i>Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)</i> | A permit is required and will be applied for, for the cultivation of virgin soil. |
| <i>National Forests Act, 1998 (Act No. 84 of 1998)</i> | Permits are required and will be applied for, for the relocation/removal of any of the protected trees on site |
| <i>Limpopo Environmental Management Act, 2003 (Act No. 7 of 2003)</i> | Permits are required and will be applied for, for the relocation/removal of any of the protected trees on site. |

5 LEGAL AND POLICY REQUIREMENTS

5.1 Legislation applicable to the proposed development

The following is a list of relevant Acts and other legislation, applicable to the proposed project. Legislation is however not limited to this list.

Table 1: Summary of legislation relevant to the EIA application and which is to be considered in the assessment process

| Legislation | Relevance | Compliance requirements |
|--|---|--|
| Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) | Section 24 of this Act recognizes that everyone has a right to an environment that is not harmful to their health or wellbeing, also recognizing the notion of sustainable development and its supporting principles. The proponent must ensure that the proposed development does not contravene the Constitution by ensuring that no pollution or ecological degradation results from the activities undertaken and by undertaking the development in an ecologically sustainable manner. | Compliance to Environmental laws, regulations and guidelines |
| National Environmental Management Act, 1998 (Act 107 of 1998) (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 pollution prevention principles. To comply with the NEMA, the impacts associated with the listed activities will be identified and assessed during this process. | Environmental Authorisation Adherence to EMPr |
| National Environment Management Biodiversity Act, 2004 (Act 10 of 2004) (NEMBA) | The National Environmental Management Biodiversity Act, 2004 (Act 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. The proponent must ensure that the development does not cause further threat to any endangered ecosystems by protecting and promoting biodiversity. Furthermore, the proponent will be required to obtain the necessary permits before removing or causing damage to any protected species and will be responsible for ensuring that appropriate measures are taken to ensure that alien and invasive species are managed appropriately. | Threatened or Protected Species (TOPS) Permit Sensitive areas (CBA) |
| National Environment Management Protected Areas Act, 2003 (Act 57 of 2003) (NEMPAA) | To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; and for matters in connection therewith. | The project site is situated in the Transition zone of the Vhembe Biosphere Reserve, and within the 5km buffer zone of a Nature Reserve. |
| National Forests Act, 1998 (Act 84 of 1998) | In terms of section 15(1) of the National Forests Act, 1998 (Act 84 of 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 license or exemption granted by the Minister of Agriculture, Forestry and Fisheries. | Protected Trees Permit Application |

| Legislation | Relevance | Compliance requirements |
|---|--|---|
| National Heritage Resources Act, 1999 (Act 25 of 1999) (NHRA) | <p>The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources and the implementation of a three-tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources. The Act defines cultural significance, archaeological and paleontological sites and material (Section 35), historical sites and structures (Section 34), graves and burial sites (Section 36) that falls under its jurisdiction. Archaeological sites and material are generally those resources older than a hundred years, while Section 34 also protects structures and cultural landscapes older than 60 years, including gravestones. Procedures for managing grave and burial grounds are clearly set out in Section 36 of the NHRA. Graves older than 100 years are legislated as archaeological sites and must be dealt with accordingly. Section 38 of the NHRA makes provision for developers to apply for a permit before any heritage resource may be damaged or destroyed.</p> | <p>Phase 1 Archaeological & Paleontological Impact Assessment</p> |
| National Water Act, 1998 (Act 36 of 1998) | <p>Section 19 of the National Water Act, 1998 (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 water uses which require a water use license. The Integrated Water Use licensing process (IWULA) is a legal requirement in terms of Section 40 & 41 of the National Water Act, 1998 (Act 36 of 1998) and the Regulations regarding the procedural requirements for Water Use License Applications and Appeals (No. R.267 of 24 March 2017). Water supply to support the proposed development is available and will be provided from the existing lawful use from the adjacent farms owned or managed by the applicant.</p> | <p>Application to DWS for transfer of water</p> |
| Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) (CARA) | <p>This Act regulates the utilization and protection of wetlands, soil conservation and all matters relating thereto; control and prevention of veld fires, control of weeds and invader plants, the prevention of water pollution resulting from farming practices and losses in biodiversity. The proposed development will require the monitoring, control and eradication of invasive species as listed in the CARA regulations. In addition, the applicant will be required to obtain a permit from the Limpopo Department of Agriculture, Land Reform and Rural Development (DALRRD) for the cultivation of virgin soil.</p> | <p>Cultivation of Virgin Soil Permit</p> <p>Control of alien invader plants</p> |
| National Environmental Management: Waste Act, 2008 (Act 59 of 2008) | <p>The proposed development will not trigger any listed waste management activities. However, it remains the responsibility of the proponent to ensure that all reasonable measures are taken to avoid the generation of waste and, where such generation cannot be avoided, minimize the toxicity and amounts of waste that are generated. The development must aim to reduce, re-use, recycle and recover waste and ensure that the waste is treated and/or disposed of in an environmentally sound manner.</p> | <p>None</p> |
| National Veld and Forest Fires Act, 1998 (Act 101 of 1998) | <p>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 veld fires that originates on the owner's property as well as on adjacent properties.</p> | <p>Compulsory firebreaks and emergency preparedness</p> |

| Legislation | Relevance | Compliance requirements |
|---|---|--|
| Promotion of Access to Information Act, 2000 (Act 2 of 2000) | In terms of this Act any person may approach the courts for relief if such person believes that his right to a clean and healthy environment has been affected. To this effect, such person shall be entitled to the records of the company allegedly causing the pollution | Ensure that record keeping is accurate and that monitoring of all environmental impacts are done |
| Limpopo Environmental Management Act, 2003 (Act 7 of 2003) | 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 project. | Tree permits must be obtained for removal of trees listed under this Act |
| Occupational Health and Safety Act, 1993 (Act 85 of 1993) | 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. | Health and Safety representative |
| Agricultural Pests Act, 1983 (Act 36 of 1983, as amended) | Provides for measures by which agricultural pests may be prevented and combated. | Strict control of substances for control of pests |
| Vhembe District Municipality Spatial Development Framework 2019-2025 | The purpose of a Spatial Development Framework is to provide general direction to guide decision-making and action over a multi-year period, and to create a strategic framework for the formulation of an appropriate land use management system. | Development in areas as demarcated |
| Makhado Local Municipality Final Integrated Development Plan 2022/23 – 2026/27 | The IDP serves as a tool for the facilitation and management of developments within the municipal area of jurisdiction. The intention of the IDP is to link, integrate and co-ordinate development plans for MLM which are aligned with national, provincial and district development plans as well as planning requirements binding on the municipality in terms of legislation. Developmental Planning is “a participatory approach to integrate economic, sectorial, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity, and the empowerment of the poor and the marginalized...”. | None |
| Limpopo Conservation Plan (LCPv2) | The purpose of the LCPv2 is to develop the spatial component of a bioregional plan (i.e., map of Critical Biodiversity Areas and associated land-use guidelines). Bioregional plans are one of a range of tools provided for in the Biodiversity Act that can be used to facilitate biodiversity conservation in priority areas outside the protected area network. The purpose of a bioregional plan is to inform land-use planning, environmental assessment and authorisations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. | Adherence to the requirements of the plan in terms of development in certain areas |

5.2 Policy and legislative context within which the development is located

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)

| | |
|---|---|
| South African Government | National Development Plan 2030 |
| Department of Forestry, Fisheries and the Environment | National Screening Tool |
| South African National Biodiversity Institute | Biodiversity GIS (BGIS) |
| Vhembe District Municipality | Integrated Development Framework 2022/2027 |
| Makhado Local Municipality | Final Integrated Development Plan 2022/23-2026/27 |
| United Nations Education, Scientific and Cultural Organisation (UNESCO) | Man and Biosphere Programme |

The Vhembe Biosphere Reserve (VBR) is part of a network of 714 UNESCO registered Biosphere Reserves across the globe and one of 9 in South Africa, of which three are in Limpopo. As the largest biosphere reserve in South Africa, with a surface area of 30 700 km, it stretches from the Shingwedzi river in the KNP to Crooks Corner in the north, bordering the Limpopo River all the way across to Mapungubwe National Park and the Mogalakwena River in the west, down to the Blouberg-Makgabeng and Soutpansberg mountain range in the south.

The VBR falls within the Greater Mapungubwe and Great Limpopo Transfrontier Conservation Areas, international cross sector agreements involving South Africa, Mozambique, Zimbabwe and Botswana governments. As such, the VBR collaborates with many national and international conservation programmes, such as World Heritage Sites, Transfrontier Conservation Areas (TFCA), Ramsar Sites, Stewardship Programmes and the Southern African Development Community (SADC).

The South African National Strategy for the Biosphere Reserve Programme is aligned with the UNESCO Biosphere Reserve Strategy for 2015-2025 (UNESCO Biosphere Reserve, 2015), but has been adapted to accommodate South Africa's conditions and priorities. The definition of development in the context of a Biosphere is to "foster economic development, which is socio-culturally and ecologically sustainable." All Biospheres therefore accept and encourage development within their areas, encouraging a greater degree of flexibility incorporating within each of the Core, Buffer and Transition Zones, sub-zones that are "critically sensitive, "sensitive" and "non-sensitive."

The three interconnected zones serve complementary and mutually supportive functions, namely conservation, development and logistic support.

- **The Core Area** – an ecosystem that is legally protected for the conservation of biodiversity, contributes to the conservation of ecosystems, species, landscapes and genetic variation and which limits activities beyond conservation to research and education only.
- **The Buffer Zone** – this either surrounds or adjoins the core areas. In it, ecologically sound activities that reinforce scientific research, monitoring, training and education are carried out, i.e. agriculture or tourism.
- **The Transition Area** – denotes an area with a variety of activities (including economic activities from subsistence crop and livestock farming to commercial agriculture, trade, industry, and tourism), where multiple stakeholders cooperate to encourage human and economic development that is sustainable both ecologically and socio-culturally.

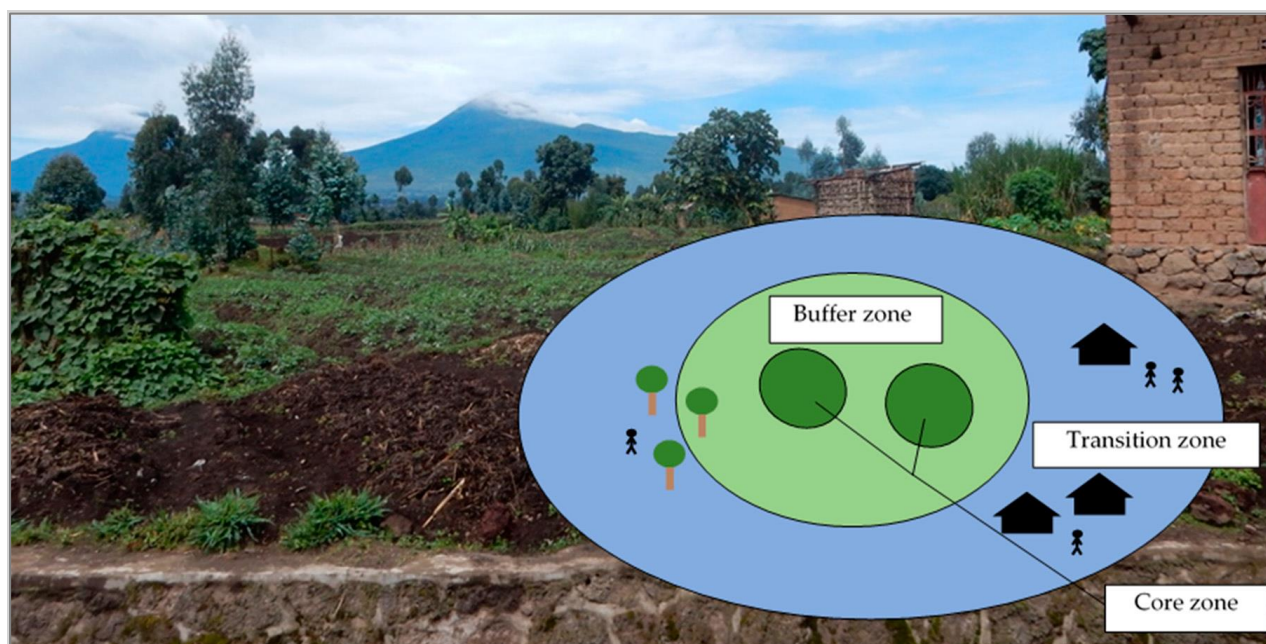


Figure 3. The zonation concept of the United Nations Educational Scientific and Cultural Organisation (UNESCO) Biosphere Reserves (Hedden-Dunkhorst & Schmitt)

Examples across the world show that biosphere reserves have the potential to foster local economic development by generating additional income and employment opportunities associated with different economic sectors. Specifically, the development of new technologies related to the sustainable use of land and water resources and the use of renewable energy or institutional innovations (like smallholder co-operatives or conservation associations) provide the potential to stimulate employment (Hedden-Dunkhorst & Schmitt).

The project site is located within the transition zone of the VBR.

The project site and proposed development footprint is located outside of any designated Protected Areas Network or National Protected Areas Expansion Strategy.

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

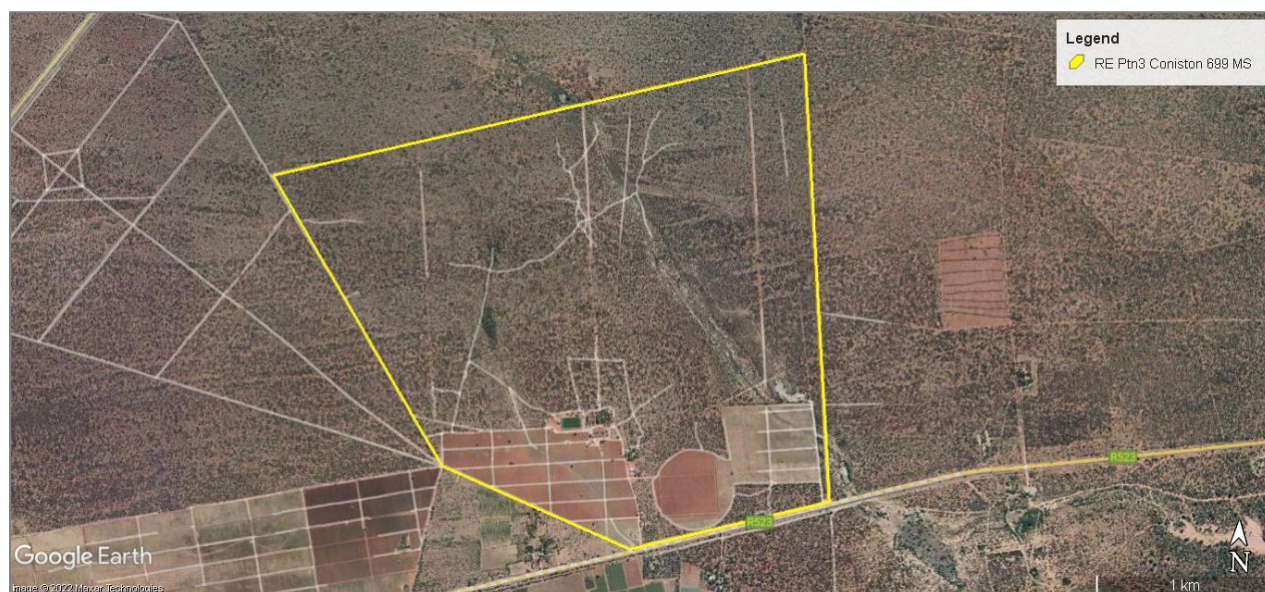


Figure 4. Aerial view map of the study area

6 NEED AND DESIRABILITY FOR PROPOSED CROPLANDS

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 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.
- 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 water to support the proposed development is available from the registered legal water use of the adjacent farms owned or managed by the applicant. Therefor no abstraction of water from boreholes on the farm RE Ptn 3 Coniston will be required to support the proposed development.
- 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 | | | | |
|--|---|--|---------------------------------|-------------------------------------|
| Farm portions | | Sources of water Existing and possible Existing lawful use | | Totals (m ³) / annum |
| | | Boreholes | Sand river | |
| Ptn2 Bergwater 697MS | Existing lawful use: A71J/27018361 | 1 288 780 | - | 1 288 780 |
| Ptn5 Waterpoort 695MS | Existing lawful use: A71J/27018753 | 61 092 | 375 276 | 436 368 |
| Ptn6 Waterpoort 695MS | Possible existing lawful use: A71J/27018986 | 60 498 | 371 624 | 432 122 |
| Sitapo 690MS | Existing lawful use: A71J/27019100 | 1 796 462 | - | 1 796 462 |
| | | - | - | - |
| Total | | | | 3 953 732 |
| Water need - m ³ | | | | Totals (m ³) |
| | | Ha planted per year | Need m ³ /ha/year | |
| 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 - 422ha (clearance of land to be applied for) | | 90 | 6 000,00 | 540 000 |
| Ptn 3,4,5,6,11,12,13,14 Waterpoort 695MS | | 220 | 6 000,00 | 1 320 000 |
| Sandpan 687MS | | 70 | 6 000,00 | 420 000 |
| Sitapo 690MS | | 80 | 6 000,00 | 480 000 |
| Total | | 581 | | 3 486 000 |
| Surplus / Deficit (-) | | | | 467 732 |

7 CONSIDERATION OF ALTERNATIVES

7.1 Site (Location) alternatives

The need and desirability of the proposed activity within the context of the preferred **development footprint** within the approved site can be summarised as follow:

The farm measures 595 ha, of which approximately 73 ha 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 6.

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 108 ha.

This preferred site was considered due to its:

- suitable soils and climate for tomato cultivation;
- proximity to directly adjacent farming operations, owned or 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;
- proximity to surrounding farms owned or managed by ZZ2 from which water to support the proposed development, 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 (\pm 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 or managed 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 4).

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.

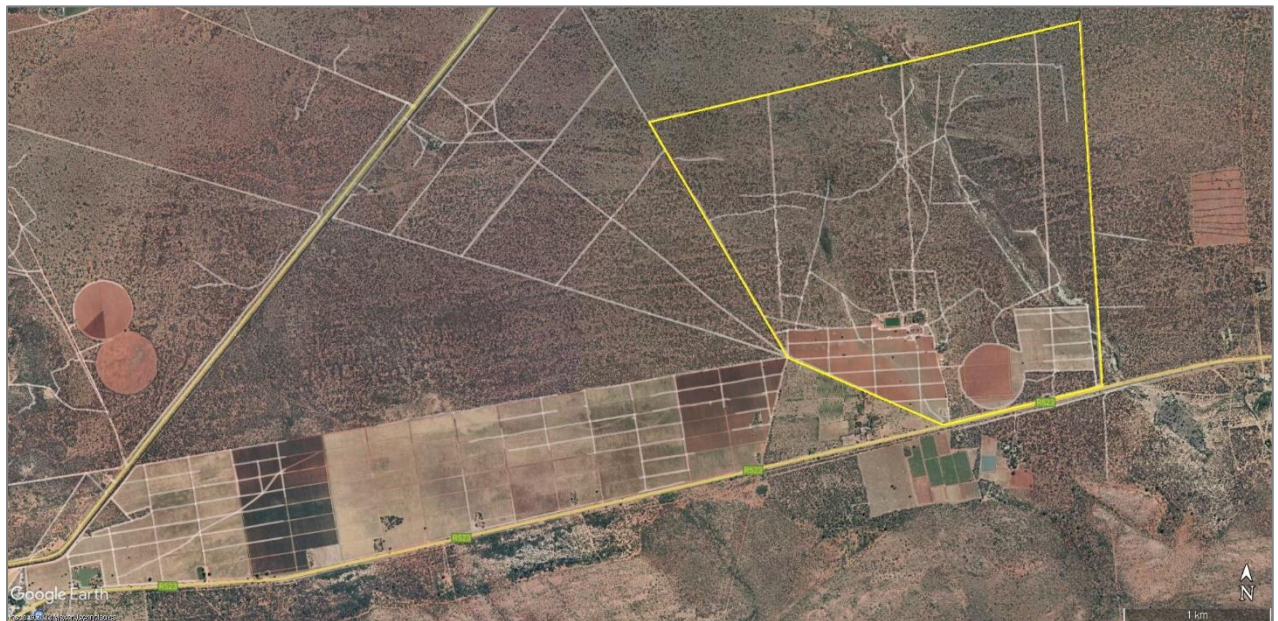


Figure 5. Project site in relation to adjacent tomato croplands to the west, owned and/or managed by the applicant

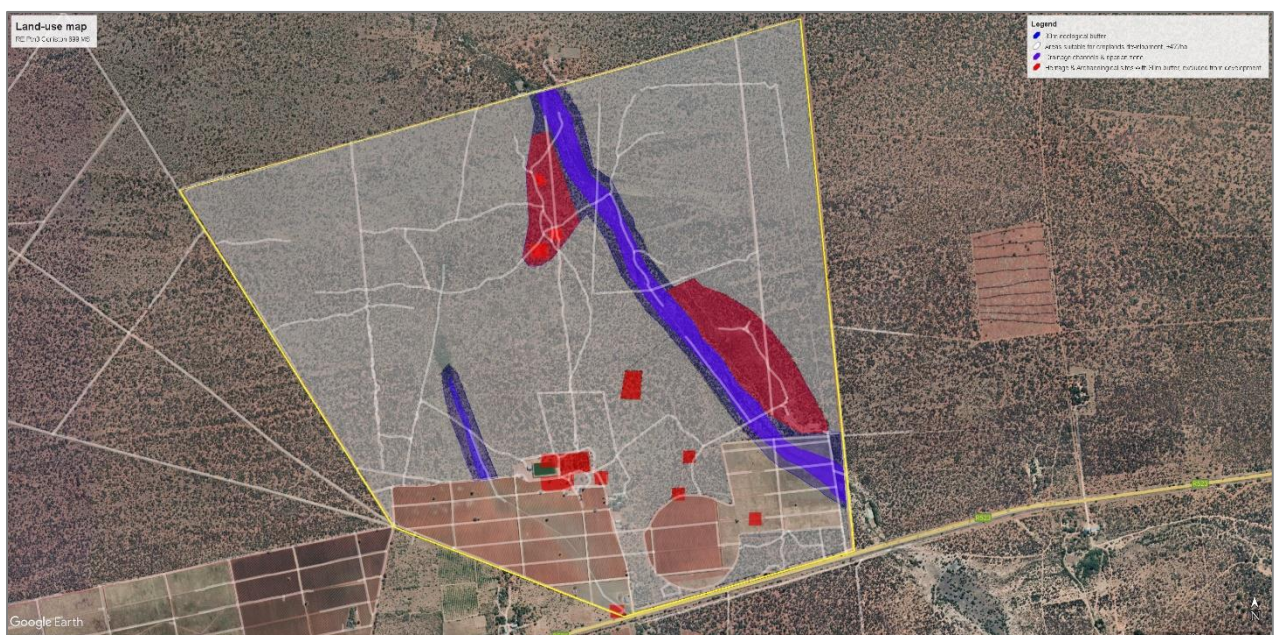


Figure 6. Land use map showing areas suitable for croplands development in white

7.2 Process (technology) alternatives

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

- Representative **soil samples** are taken for analysis regularly, to determine soil nutrient needs, which in turn inform the choice of fertilisers and compost application to ensure sustainable soil management.
- **Integrated Pest Management (IPM)** strategies are continuously employed and adapted by the applicant, which includes minimum application of chemical insecticides and pesticides.
- **Biomass** (plant-waste after harvest) is recovered and re-used as compost on the farms owned by the applicant., used in combination with chemical fertilisers.
- During the **resting period** endemic and indigenous grasses and herbs will re-grow and restore the soil micro-fauna, organic material and structure.

The proposed croplands will make enough land available to allow for a **crop rotation** cycle of 4-5 years, to maintain soil health and produce higher yields with less demand for fertiliser application, both in terms of frequency and quantity of product applied.

The alternative land use option of utilising the land for commercial agriculture (crop production) will be managed sustainably, as is already evident from current, successful farm management practises employed by the applicant. These principles will be extended and again practised at the new croplands. In addition, new technology and information regarding sustainable commercial farming, integrated pest-control strategies and fertiliser regimes are continuously investigated and experimented with as they become available, to ensure the applicant retains its competitive advantage within both the local and international market.

Alternative irrigation methods and operation have been investigated to find the most efficient way of establishing and maintaining the croplands. This is necessary to minimise the impact on the environment and increase efficiency of water use. The following methods have been investigated.

Dry land

The rainfall in the area is not sufficient to support cash crops cultivated by this method.

Furrow irrigation

This usually works well with irrigation of cash crops where furrows are made next to the rows of plants, although evaporation is higher than with drip irrigation. It is usually practised in areas where there are irrigation canal systems in place which is not the case on the project site or surrounding farms.

Drip irrigation

This is a very effective way of deep watering a plant with minimum water loss and no chance of topsoil being washed away by water.

CONCLUSION

The system which would work most effectively in the croplands is dripper irrigation.

Following the selection of irrigation system for the tomato croplands, **water-saving technologies and international best-practise** in the application of water, to minimise the impact on the environment and maximise efficiency of water use will be implemented on the farm and include:

- Soil-probes to determine the quantity of water to be applied, ensuring that no water is wasted.
- The latest technology in irrigation design to ensure efficient application and distribution of water timed at the appropriate frequencies and applied to the root-ball of crops only, to minimise water demand and evaporation.
- The applicant's adherence to international best-practise standards and accreditation with GLOBALG.A.P. is confirmation of sustainable and responsible application of the above agricultural, land and labour management practises – refer Appendix K.
- Bunded areas will be constructed on the farm for the storage and dispensing of chemicals (herbicides, pesticides, fertiliser and diesel).
- Temporary toilets will be provided to workers within the newly developed areas. These units will be placed further than 100m from any drainage line.
- Water is available from the registered legal water use of the adjacent farms owned or managed by the applicant. As such no abstraction of water from boreholes on the farm RE Ptn 3 Coniston will be required to support the proposed development.
- A pipeline with a diameter of less than 360 mm from the farms Bergwater and Dorpsrivier will deliver water to the RE Ptn 3 of Coniston 699MS. The pipeline route is indicated in Figure 8.
- The pipeline will be constructed during the dry season, to ensure the least possible impact on agricultural soils and the surrounding environment and species associated with it.

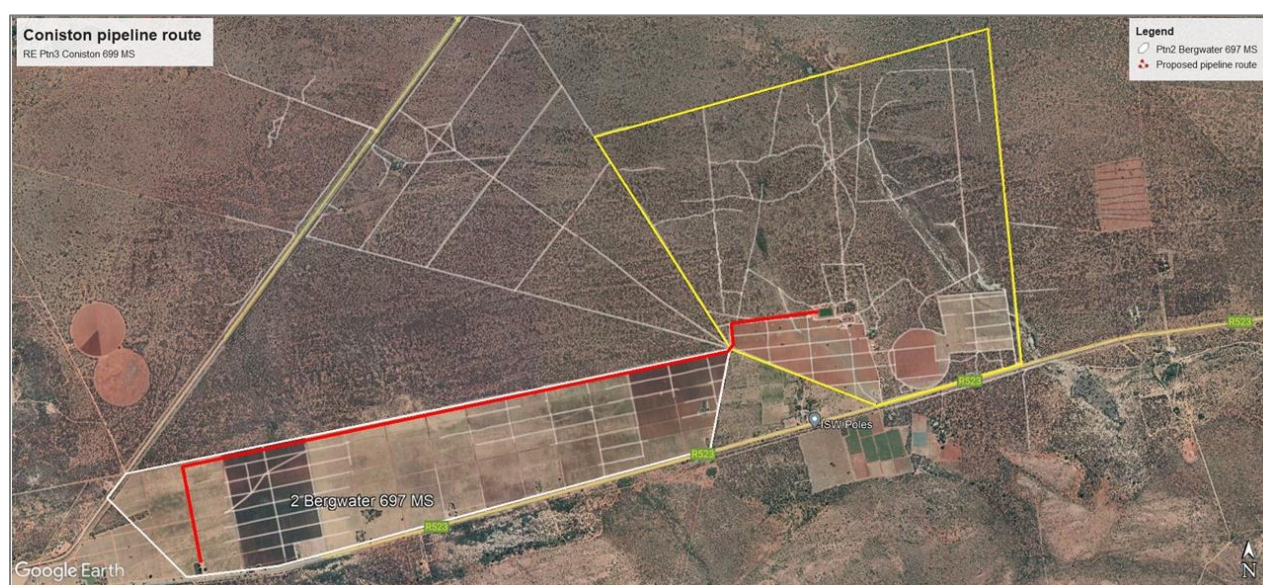


Figure 7. Proposed irrigation pipeline route

7.3 No-go alternative

The no-go alternative will result in the development not proceeding. The no-go alternative was considered but is not viewed 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.

Current successful production of tomatoes by the applicant on adjacent farms and the availability of irrigation water do not favour the no-go option, as:

- the size of this farm and historic rainfall for this area does not present a viable option for game or cattle farming;
- this option will not provide sustainable farming and income from game and cattle for this farm
- this option is not considered the most feasible economic option as it will not contribute to socio-economic growth and food security.

The option not to expand the existing croplands will result in the following:

- No negative impacts on the natural environment.
- More surface water will flow unused to the ocean.
- No increase in crop production.
- No new job opportunities.

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 the 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 notice

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 Document

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 as 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 during a stakeholder meeting held in Waterpoort on 29 May 2021. Following various invitations to stakeholders from local communities and two site-visits (19 February 2022 and 15 April 2022) the on-site grave identification took place on 15 April 2022. The invitation to identify and show further graves was extended to the community until 30 April 2022, however no new information regarding the presence of further grave sites were provided to the EAP, to date.

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

Draft Scoping Report and Plan of Study for EIA_August 2022

- Upon request from various local community trusts following extensive public participation and social consultation, a draft of the Consultation Scoping Report and Plan of Study for EIA_August 2022, together with specialist reports inclusive of the complete Heritage Scoping Report and Grave Management Plan was made available to Interested and Affected Parties for a 30-day commenting period (31 August 2022 – 05 October 2022).

Draft Scoping Report and Plan of Study for EIA_November 2022

- Following receipt of comments, the Consultation Scoping Report and Plan of Study for EIA_November 2022 was available in excess of the 30-day review period (24 November 2022 – 23 January 2023) to relevant government departments and registered I&APs.
- The Limpopo Department of Economic Development, Environment and Tourism acknowledged receipt of the Draft Scoping Report_November 2022 (DSR) on 05 December 2022 and noted that there were no comments on the report – Appendix C.
- No comments were received from any other Interested and Affected Parties, following distribution of the DSR_November 2022.

Final Scoping Report and Plan of Study for EIA (FSR)

- The FSR was available for comment from 25 January 2023 to 06 March 2023 and was accepted by the Limpopo Department of Economic Development, Environment and Tourism (LEDET) on 10 March 2023.
- No comments were received from any other Interested and Affected Parties, following distribution of the FSR.

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 his 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?*

Response by EAP, 08 November 2022

Your email response dated 29 July 2019 refer. Please find the applicant's response thereto, below:

- Water is available and will be sourced from the registered legal water use for the adjacent farms, Ptn 2 Bergwater 697MS, Ptn 5 and Ptn 6 Waterpoort 695MS and Sitapo 690MS. A water balance calculation indicating that sufficient water is available is included as Table 3. No abstraction of water from boreholes on the farm RE Ptn 3 Coniston will be required, as a sufficient volume of water is available from the Existing Lawful Uses as stated above.
- Only the area to be cultivated at any given time, will be temporarily fenced with a "bonnox"-fence. Except for the sections of cropland cultivated within that crop rotation cycle, there will be no internal fences on the farm.
- The boundary fence around the property will remain as is. The cost of temporary electrical fencing is not feasible. Fences will be "bonnox"-type fences, as described above, with only those sections of croplands cultivated during that crop cycle, being fenced. The remainder of the lands will be left unfenced, while indigenous grasses and herbs reclaim the land during the fallow periods.
- At the end of each respective production cycle, after harvest, that area will be sown with a grass-seed mixture selected to limit water and wind erosion. During harvest, temporary windscreens will be erected or planted in between cropland sections to mitigate the impact of wind.

We trust you find the information sufficient to address your concerns. A copy of the Consultation Scoping Report_November 2022 will be forwarded to you in due course, inclusive of the above comments and response.

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 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 trees 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: 07IA71JIA/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. It 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.*
- *In 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.*
- *In 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 trees 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](#)).

Comments received following distribution of the first Draft Scoping Report and Plan of Study for EIA_August 2022:

Comments received from:

Mr Andrew Miles, electronic correspondence received 30 September 2022

We refer the Consultation Scoping Report for the proposed development of approximately 400 ha of croplands on the farm Coniston 699 MS Portion 3, third revision August 2022;

Under the scoping report point 4.3, it is stated that approximately 108h are to be cultivated per annum with tomatoes, with rotation of croplands required every 4-5 years. The clearance of land

required is here stated as 422 ha. It is also stated that "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. "Stated further, "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." Under point 6 , "NEED AND DESIRABILITY FOR NEW CROPLANDS AT REMAINDER OF PORTION 3 CONISTON 699 MS", it was again stressed that "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", and that , "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."

In the latest submission, the results of a Geohydrological Investigation were included in order to substantiate the viability of the project and the proposed groundwater use from the existing boreholes in support of its application. Final draft paper was published on 27 May 2022. The Geohydrological Investigation determined that the local aquifer groundwater balance in the area has a total volume of 846 500 m³ per annum.

Point 4.12 "Groundwater Balance and Availability/ Aquifer Yield", states that the abstraction from existing groundwater users in the area is estimated at 5 l/s for 12 hours per day, and that "no large-scale irrigation" is conducted in the vicinity of the boreholes. Also stated is that the closest existing water user to the site is located 450 m away, therefore evident that the groundwater use will not detrimentally influence any other groundwater users in the area.

Under point 25.4 of The Report, recommendation is made that "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".

We respond as follows; In consideration of the consultant's comments made under the various reports submitted to date, we the initial indication was that ZZ2 does not require any additional water abstraction in order to cultivate the approximated 108h of crop fields per annum, as available water from the Bergwater water use licence, this being 1288780m³ per annum, is sufficient and will be used. This formed the basis for proceeding with the clearance of additional 422 hectares of virgin soil as well as forming the basis for proceeding with operations on previously unlawfully cleared virgin soils. The report does not address the volume of water required to be abstracted from the existing boreholes on the farm Coniston Portion 3, "over and above" the water already available from its current "Bergwater Water use Licence". From comments made under the Geohydrological Investigation, it now seems ZZ2 is planning to abstract additional water from the existing boreholes situated on the farm Coniston Portion 3, to full extent of the water available from the aquifer system as per the Geohydrological Investigation's recommendation. This is a clear intention shift from the initial position of only when water will be required, will additional water be applied for.

This change in position poses the question as to whether enough water is indeed available to proceed with the project of this magnitude, considering ZZ2 is already planning to abstract an additional 652 620m³ per annum from the existing boreholes on the farm Coniston Portion 3, indicating such water might already be required. With reference to the borehole test results as tabled, and to the fact that all these boreholes have been tested during the November 2018 month, except Coniston BH9 which seems to have an "typo", all tests conducted falls within the Soutpansberg rainfall season with borehole recoveries being more favourable during this period. Our planting season ends before the November period due to this time being too hot for any

profitable cultivation of crops. One can therefore assume borehole levels will be at its highest during November months. Our planting season would commence February months peaking from March to October months and during this time abstraction would be at its highest. One would consider that this period to be much more appropriate to conduct an analysis of suitable water abstraction to the extent required by ZZ2. Furthermore, we also note the borehole tests done November 2019 were conducted by ZZ2 personnel, qualification of test person is not stated. One would expect for a project of this scale and importance that an independent analyst be better suited to conduct such tests.

Under the Geohydrological Investigation, it was determined that no large-scale irrigation is conducted in the vicinity of the boreholes, and that all the farms situated within the vicinity of these boreholes together extract approximately 216m³ per day or, 78840 m³ of water per annum. It is a concern that we have addressed our water use licence under previous correspondence, which seems not to have been considered. We therefore question the Geohydrological Investigation findings on the basis that our current water use, which is in excess of 106 000 m³ per annum is already more than the estimated 78 840 m³ of total estimated water extracted from all surrounding farms situated on the local aquifer in question. We also advise that 70 hectares per annum of irrigation farming are currently being conducted just south of the Coniston Portion 3 project, with some of our abstraction points being 250 to 340 m from Coniston BH 4, 5 and 6.

We object to the consultant's remarks that no large-scale irrigation farming is being conducted in the area and conclude that by proceeding with this project on the scale intended, especially considering the large amounts of water currently planned for extraction from the Coniston boreholes, our operation and livelihood will likely be negatively affected and we therefore object to the continuation of this project in the current form. The local aquifer groundwater balance for extraction was calculated at 846 500 m³/annum. This aquifer serves several farms with some being solely dependent on this local aquifer for its water.

ZZ2 plans to extract 652 620 m³ of water per annum, which equated to 77.01 % of the available water from the aquifer, the total available water being 846 500 m³/annum. Considering that the consultant has already concluded that enough water is available from its Bergwater water use licence to conduct this project, we object to the notion that only one user should be able to extract 77% of the available water from the local aquifer system, which currently serves several farms and registered water users as mentioned.

Conclusion:

The current planned abstraction from the Conistone boreholes for the cultivation of approximately 108ha, will be an over extraction from the local aquifer system by only one user. This over extraction by ZZ2 will be to the extent of 77.01% of the total water available for extraction per annum from the local aquifer, and it should be considered that alternative water sources are currently available to ZZ2, with additional possibilities that can also be explored as recommended in the consultation scoping report. The proposed over extraction by ZZ2 does not consider other present water users, nor does it leave room for current or future water use applicants from surrounding farms served by this local aquifer.

We have also taken note of the planned construction of a 270 000m³ water storage facility at Van Coller's Pass area, farms Waterpoort 695MS and Sitapo 690MS. This should further add to the economic availability of additional water to the Conistone project site, considering ZZ2 already has the established infrastructure and water use licences in place to enable its use, further negating the requirement for the extraction of water from the local aquifer to the extent currently proposed.

With ZZZ also having the option and means to explore the deep aquifer fault systems (Karoo faults) to the north of the local aquifer, and with ZZZ proposing to abstract 77% of available water from the local aquifer (which serves several farms and users), we object to the continuation of the project to the extent currently proposed under the scoping report. A reduction in project size, or alternative water resources must be explored by ZZZ, together with a considerable reduction in dependence of water required from the local aquifer, before continuation of this project. We trust the earnest of our concerns are appreciated.

Response by EAP

Electronic correspondence sent 28 October 2022

Your comments received 30 September 2022 regarding the proposed water use on RE Ptn3 Coniston 699MS refer.

Following discussions, the applicant has advised that, for the Coniston EIA application, no Water Use License application for the abstraction of water from boreholes will be lodged, and that no abstraction of water from boreholes on the farm Coniston will take place, as the proposed development is not dependant thereon.

The applicant has a sufficient volume of irrigation water available from the Existing Lawful Uses from the farms Bergwater, Waterpoort and Sitapo, to support this development.

- A Water Balance Calculation (revised since the Consultation Scoping Report _August 2022 version) is attached to substantiate available water.
- This information will be included in the next Scoping Report, together with copies of the Existing Lawful Use documentation, to be distributed shortly.

A pipeline from the farms Bergwater/Dorpsrivier will deliver the water to the RE Ptn3 of Coniston 699MS for the purpose of irrigating the existing and proposed croplands.

We trust the above information address your concerns.

Comments received from:

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

Electronic correspondence received 05 October 2022.

Item 1: Introduction

The proposed project of clearing 440ha of land will have a serious impact on the area of Coniston as the area is largely sand like and more deforestation of the area will just make the place more vulnerable for erosion amongst other climate challenges. The community is not in favor of further deforestation of the Mathahe (Coniston area). The Mathahe CPA is also worried about the inhabitability of the area after all the trees are removed.

The area applied for clearance is 422ha. Appendix G, p. 28 – 37 and Figure 7 describes the characteristics of the various vegetation units comprising the project study area. The vegetation units no. 1 – 3 (remaining natural woodland types) (p.29) were all found to be in a slightly degraded state, of medium conservation priority with medium sensitivity and with no Red data species observed. The ecologist has noted that development of croplands in these habitats is considered suitable, provided the necessary permits for removal of protected tree species are obtained. It is further recommended that, where possible, larger trees such as baobab be incorporated as part of the croplands development.

The continued destructions of graves in the farm are big concern and different families are gravely concerned about that phenomenon.

The above statement “continued destructions of graves” is incorrect, misleading and not a true representation of recent events.

As the applicant has indicated that all **known graves** will be protected and fenced, this statement should be qualified and motivated by recent evidence of alleged damage since the invitation to point out and identify graves during the stakeholder meeting held in May 2021 and subsequent site visit and grave identification during the first half of 2022. The applicant has, since being made aware of the presence and position of (**previously unmarked**) graves and the damage which occurred, committed to the preservation of all identified and marked graves, and the implementation of mitigation measures and a grave management plan as per the Heritage specialist’s recommendations.

Item 2: Proposed development/Community response:

1. *Deforestation: Deforestation is the clearing, destroying, or otherwise removal of trees through deliberate, natural, or accidental means. The loss of trees and other vegetation can cause climate change, desertification, soil erosion, fewer crops, flooding, increased*

greenhouse gases in the atmosphere, and a host of problems for indigenous people. Deforestation occurs for a number of reasons, including farming, with 80% of deforestation resulting from extensive cattle ranching, and logging for materials and development. It has been happening for thousands of years, arguably since man began converting from hunter/gatherer to agriculturally based societies, and required larger, unobstructed tracks of land to accommodate cattle, crops, and housing. It was only after the onset of the modern era that it became an epidemic. Coniston has a very fragile soil structure which will make erosion prevalent.

2. *Loss of habitat: One of the most dangerous and unsettling effects of deforestation is the loss of animal and plant species due to their loss of habitat. 70% of land animals and plant species live in forests. Not only does deforestation threaten species known to us, but also those unknown. The trees of the rainforest that provide shelter for some species also provide the canopy that regulates the temperature. Deforestation results in a more drastic temperature variation from day to night, much like a desert, which could prove fatal for many inhabitants. Coniston have animals like Kudus, warthogs amongst others that will be displaced due to this clearance.*

Please refer to the response in item 1 above. The Ecological and Riparian Impact Assessment/Appendix G presents the findings from the ecologist herein, while the field survey concluded that no Red data faunal species or endemic species of conservation concern occur in the project area (Table 12, p.41). This report further provides a detailed assessment (p.28 – 51) of the biodiversity status of the project area. Potential impacts and mitigation measures to address these are contained on p. 52 – 57 while Section 6 (p. 58 – 67) provides a sensitivity analysis and further mitigation.

3. *Disruption of the water cycle: Trees play a critical role in facilitating the continuity of the water cycle which aids to maintain a balance between the water in the atmosphere and the water on land. But when deforestation takes place, the water balance goes away, resulting in changes in water cycle. The direct outcome is alteration of habitats that depend on particular precipitation pattern, river flow or water availability from adjacent water sources. Species losses may occur whenever the water cycle is disrupted. The Coniston is dry and by further deforestation water sources will be lost and further damage to biodiversity.*
4. *Water in the atmosphere: The trees also help control the level of water in the atmosphere by helping to regulate the water cycle. In deforested areas, there is less water in the air to be returned to the soil. This then causes dryer soil and the inability to grow crops. The continued mass deforestation of Coniston will impact future generations from growing quality food.*
5. *Soil erosion: Further effects of deforestation include soil erosion and coastal flooding. Trees help the land to retain water and topsoil, which provides the rich nutrients to sustain additional forest life. Without forests, the soil erodes and washes away, causing farmers to move on and perpetuate the cycle. The barren land which is left behind in the wake of these unsustainable agricultural practices is then more susceptible to flooding. Coniston soil is very loose and fragile soil erosion will be enhanced with the clearance.*

Please also refer to the response in item 1 above.

6. *Destruction of homelands: As large amounts of forests are cleared away, allowing exposed earth to wither and die and the habitats of innumerable species to be destroyed, the indigenous communities who live there and depend on the forest to sustain their way of life are also under threat. The loss of forests has an immediate and direct effect on their lifestyle that we in the highly industrialized parts of the world, despite our own dependency on what the rainforest provides, will never know. The level of immediacy is exponentially greater for indigenous peoples. The governments of nations with rainforests in their borders often attempt to evict indigenous tribes before the actual clear-cutting begins. This is one of the pre-emptive effects of deforestation. Matahe CPA intend to ensure the Coniston area becomes habitable but with all the clearance that dream will never materialize even if the land is returned.*

The relevance of the above objection to this development is unclear. At no stage did the applicant evict people from the farm proposed for development. Within the current legal system and under current rule of law, the farm Remainder of Portion 3 Coniston 699 MS was purchased legally by the applicant – refer Appendix E, p.69-70. Any claims for restitution would therefor fall outside the scope of the EIA process and must be dealt with accordingly.

7. *Reduction in soil moisture and leads to desertification: In normal circumstances, the soil contains moisture. The moisture needs to be conserved and this can only be done successfully if there is forest cover. The crucial role that the trees play is that they cover the soil and prevent the soil from losing the water vapor. When the soil is heated, vapor is lost but when the tree canopies are present; no excess vapor is lost. But with the continued acts of deforestation, water vapor is lost and the water cycle is broken. In return, no rainfall will take place because of the absence of trees. The whole process may end up in the emergence of a desert. Some of the worst desert conversion rates in sub-Saharan Africa have been associated with deforestation in west and central African forests. Coniston is home to many species which will be disturbed and destroyed by this clearance.*

The “Natuurboerdery”-philosophy practised by the applicant on all of its farms entails *inter alia* that lands are not left barren in between crop cycles, but that natural vegetation and indigenous and endemic grasses are encouraged to re-establish on those areas for the duration of the period during which the lands are left fallow (4-5 years at any time). This vegetative layer acts to bind the soil, preventing loss of topsoil through wind or water, shields the soil from temperature and heat extremes, assists in retaining soil moisture, while organic matter is able to decompose and return to the nutrient cycle of the soil.

This practise of crop rotation, in which only a part of the entire farm is planted at any one time, allows soil in the areas not planted during that cycle, to rest and recover, which improves microbial activity within the soil, contributing to soil health and longevity.

The risk of erosion will be mitigated and managed by the principles as set out in Appendix H – Stormwater and Erosion Management Plan.

Provided that the baobab trees and other large, indigenous trees are left intact where possible, the impact of the proposed development on the land is entirely reversible and the land will be able to return to its predevelopment state.



Figure 8. Lands left fallow in between crop cycles – note the regrowth of grasses.

8. *Increase in the greenhouse effect: In the normal circumstances, trees are always significant in the absorption of the greenhouse gases such as carbon dioxide, nitrogen, and many others. A research by the Global Forest Research Assessment revealed that deforestation resulted in the release of approximately a billion ton of carbon dioxide in 2010. With the cutting of trees which results in the depletion of the forest cover, the concentration of the greenhouse gases increases the rate of global warming. This leads to the inevitable climate change and adverse weather patterns such as severe flooding or drought. Some of the adverse greenhouse effects are the increased incidences of La Nina and El Nino. Increase of the greenhouse effect also raises the levels of evaporation and evapotranspiration and the higher temperatures cause extended dry spell periods and the exacerbation of drought conditions. Coniston and the surrounding area have suffered high levels of deforestation in the past 30 years and the surrounding area of Waterpoort.*

The ratio of biomass to soil is not expected to decrease significantly should the lands be developed. All plants absorb carbon dioxide from the atmosphere, in this instance the vegetative cover and land use type will change from permanent indigenous grasses, shrubs and trees to croplands, with indigenous grasses at various stages of succession at intervals of 4-5 years. The amount of carbon recycled to the atmosphere (carbon recycling) is a function of *inter alia* leaf economics (specific leaf surface area, rate of leaf growth, etc.) of the respective vegetation types on the land, determining if the plant contributes to a greater or lesser degree to carbon recycling.

9. *Melting of the icebergs: Deforestation in the cold Polar Regions also lead to the disturbance of the ice caps. Eventually, there is increased melting which further leads to the rise in the ocean or sea level. Climatic change is also a consequence of this activity. When such trees are cut and the ice begin to melt, there is that alteration in the weather pattern which also*

extend to the change in the climatic conditions in the Polar Regions. With the melting of the icebergs, there is the rise of sea levels which might give rise to intense flooding. Climate change affecting the world over whereby we seeing increase change in weather patterns.

10. *Vanishing of species: There are numerous species that depend on the forest habitats for survival, breeding, and development. It is estimated that about 80% of the world's species live in the tropical rainforests. These species are specifically supported by the rich forest environments that provide them with food and shelter. In most cases, when there is deforestation, many animals that depend on trees for livelihood are disadvantaged. To be precise, birds, reptiles, amphibians among many other classes of animals depend on trees for food and shelter. Whenever there is deforestation, these species that are lost either through death, migration, or the general degradation of their habitat. As an instance in this case, many animal species that were found in the West African Equatorial Rain forest have vanished without a trace.*
11. *Low agricultural increase: Humans may not be affected directly but as a result of the climatic change, they have to suffer from the consequences of their actions. Deforestation leads to the change in climate. This even further leads to the altered weather pattern. It can be characterized by the extreme heat or too much rainfall. Deforestation also degrades soil quality world's rapid desertification. Such weather patterns and environmental changes contribute to the plummeting of the agricultural production. Humans are hit by food shortage due to the low agricultural produce.*

The developer acknowledges that healthy topsoil is a most valuable asset and has measures and practises in place to conserve and protect this resource. The philosophy of *Natuurboerdery* as described above, aims to work in synchrony with nature to protect soils and minimise erosion. Without healthy soils, there can and will be no sustainable agriculture. While it is acknowledged that agriculture has an impact on the land, food security and livelihoods through job creation are urgent challenges which need to be addressed. The aim as such is to find a balance between these needs and a sustainable solution to these challenges. This proposed development will provide local people with an opportunity to generate income as well as opportunities for skills development.

At present the study area is not productive, nor does it contribute to food security or sustains livelihoods.

12. *Extremely climate and low life quality: Many people decry the extreme weather conditions such as the intense heat. But few people have thought about deforestation as the main contributor. This ramification is so severe. It lowers the quality of living conditions and leads to the emergence of various problems that may lead to death. Extreme changes in climate patterns can alter creature's habitats and decrease water and food availability. This may lead to loss of biodiversity, death and even extinction for the creatures without the necessary adaptive mechanisms.*

Should the development be approved, the land will not be left barren. The vegetative layer over the soil, be it tomato croplands or grass, as well as the irrigation applied during cultivation, will screen soils from temperature and heat extremes and threat of desertification. The non-perennial drainage channel and riparian buffer along the eastern section of the farm will be left undeveloped (in a natural state) to act as wildlife corridor and refugium for mammals and other animal species.

13. *Disrupted livelihoods: Thousands and thousands of people all over the world are contingent upon forests for hunting, gathering and medicine, small-scale agriculture and forest resources such as rubber and palm oil. However, deforestation interferes with the lives of such people, at times with wrecking consequences. In some areas deforestation has contributed to migration and social conflicts. Accordingly, thousands of people lose their source of livelihood on the account of deforestation.*

The impact of the proposed development on the land is almost entirely reversible and should the activity cease and be decommissioned, the land will be able to return to its predevelopment state. There are no people currently living on the land who risk displacement or loss of livelihood in lieu of the proposed development. Our request for information on the natural resources (medicinal plants etc.) which may currently be present on the study area have not been responded to, as requested in the CSR_August 2022/p27, par.4 – thus we are unable to comment on the impact of the proposed development thereon or propose mitigation measures herein.

Item 3: Graves

Concerns regarding the ZZ2 application for the deforestation of the farm Coniston in question in relation to graves.

Access to the gravesites

The community is struggling to access the graves at the moment, as they have to go through a lengthy administrative process and signing contracts just to bury or visit the graves of their loved ones.

With commercial agricultural project access to the graves will be made even harder.

The administrative process for grave access/visitation on all the applicant's farms, comprising privately owned land, are standard procedure and is applied across all farms. The establishment of croplands (or any other duly authorised land use) on the project site will not change the standard protocol already in place.

Potential damage and destruction of old graves

We believe in the clearance of the trees amongst other plants old graves will be destroyed. Some graves were damaged in the past and we hope the graves identified will be protected.

It is understood that all known grave positions have been pointed out by the community and Interested and Affected Parties. It is also agreed that the applicant will implement buffers around these sites. The applicant has, since being made aware of the presence and position of (previously unmarked) graves and the damage which may have occurred, committed to the preservation of all identified and marked graves, and has in fact already commenced with this process. Any graves allegedly damaged in the past occurred after commencement of the public participation process during April 2019, however no parties came forward at the time with information pertaining to the presence and location of such graves, apart from the graves shown to the project team by mr Samuel Tshivhula, which were duly indicated in the Heritage Impact Report of 2019. It was only on 09 September 2020 that the applicant (via the Heritage Specialist and EAP) was alerted to the

presence of such (unmarked and unknown) grave/s by mr Jan Tshifhiwa/Matahe CPA. Hence the above statement should be qualified and motivated by recent evidence of alleged damage since the invitation to point out and identify graves during the stakeholder meeting held in May 2021 and subsequent site visit and grave identification during the first half of 2022. The applicant has indicated their commitment to the preservation in situ of known grave sites, a commitment formalised with the numerous site visits, Heritage Impact Assessment and Grave Management Plan.

Constraints of space for future burials for the community

With the commercial farming project, the space for burial will become very small which will eventually drive the local people off their burial sites.

Please liaise with the applicant herein regarding their policy in this instance, as it falls outside the scope of the EIA process.

The incorrect area identified as a grave site on Coniston as illustrated below Mr. Samuel Tshivhula says he doesn't know the graves shown underneath and wanted to make sure that it is included in the feedback report. He believes the area could be a false site; so, he needs that properly investigated to avoid mistakes.

It is unclear if the comment refers to the cemetery (HIA/Grave site 22.8/Fig.35). If it does in fact relate to this site, the heritage specialist has, after due consultation with the community members and family representatives present on the day, demarcated a wide buffer of 30m around the cemetery, to ensure that all graves pointed out are included within the area to be mapped as graveyard. As the aim is not to disturb any sites/potential sites, but leave them untouched and thus unharmed, any further investigation would necessitate digging and excavation which might damage known/unknown graves at this site. It is therefore recommended that the marking of the site remain as is.

ITEM 4: CONCLUSION The community is not support of the clearance of the Coniston farm due to the above-mentioned factors.

9 SCREENING TOOL ASSESSMENT

A screening report was generated by the National Screening Tool (NST) of the Department of Forestry, Fisheries and the Environment (<https://screening.environment.gov.za>) on 30/06/2022 for the selected activity classification: "Transformation of land / Agriculture_Forestry_Fisheries / Crop Production", which identified the following attributes potentially relevant to the project site, and which require consideration – Appendix L:

9.1 Relevant development incentives, restrictions, exclusions or prohibitions

The National Screening Tool listed the following as applicable to the proposed development site:

- **Strategic Transmission Corridor - International corridor**

As land use of the site will remain agricultural, the proposed development will have no impact on or contribution to the STC.

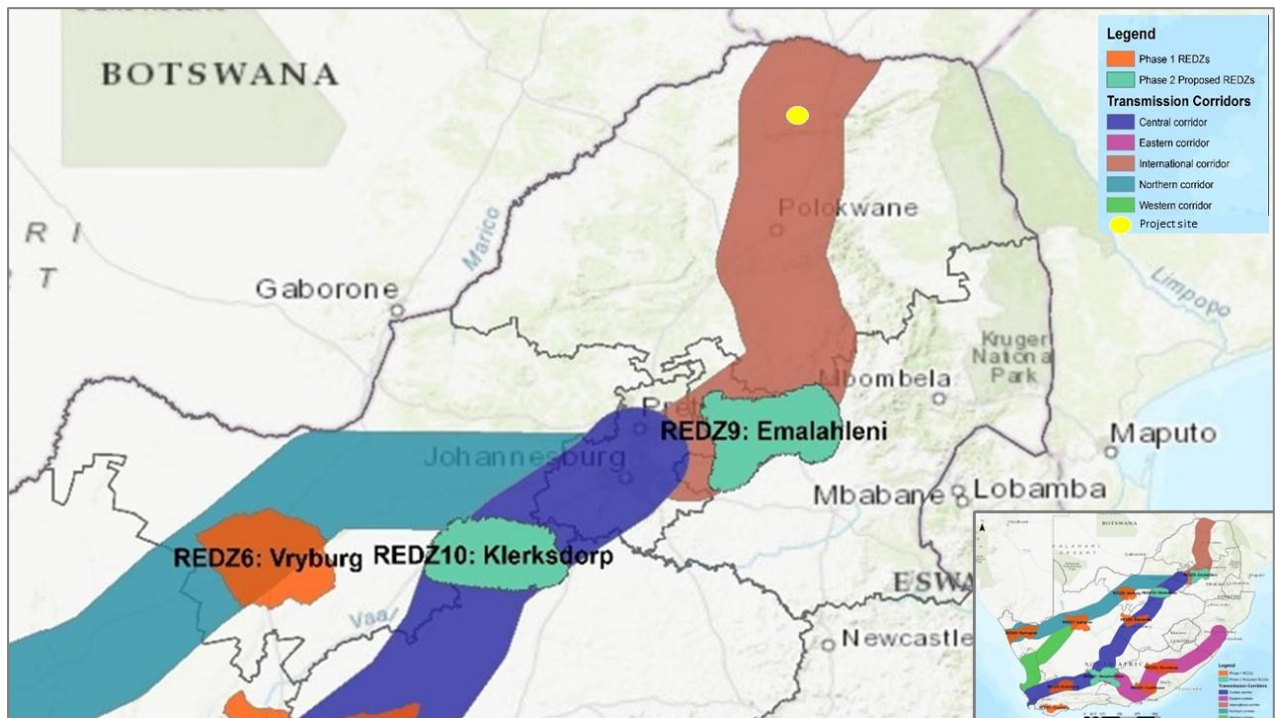


Figure 9. Project location within the STC - International corridor (GRN 383 of 29 April 2021)

- South African Protected Areas – Figures 10-12
- South African Conservation Areas – Figures 10-12

The project site is situated in the Transition zone of the Vhembe Biosphere Reserve and within the 5km buffer zone of a Nature Reserve.

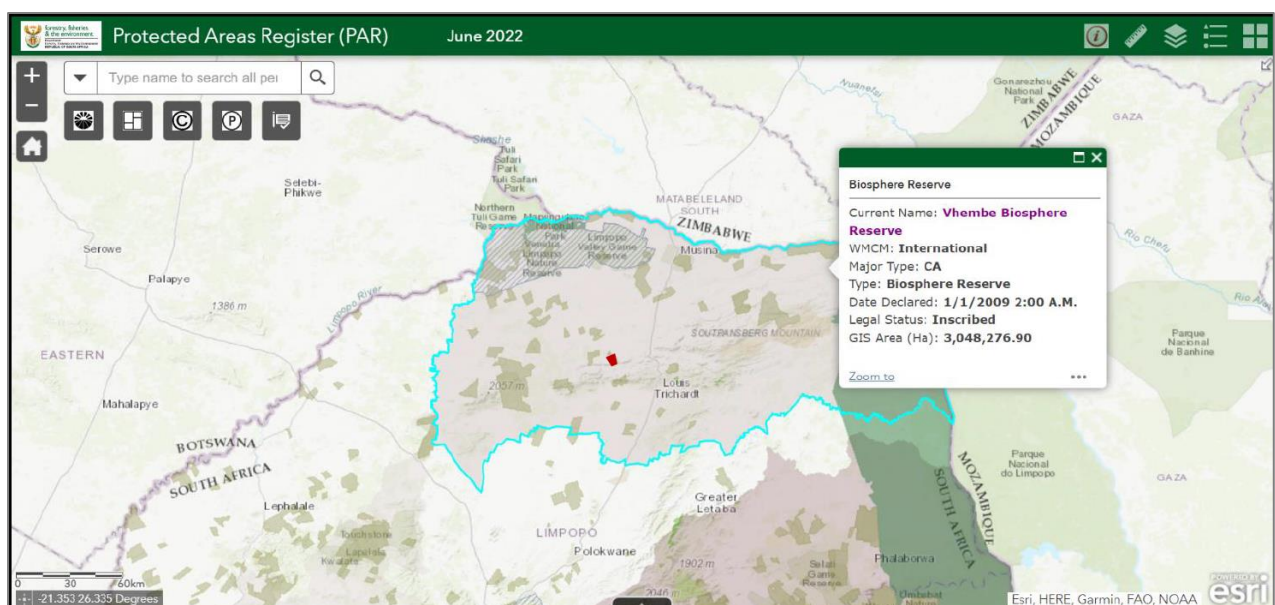


Figure 10. Project site location within the Vhembe Biosphere Reserve (DFFE Protected Areas register)

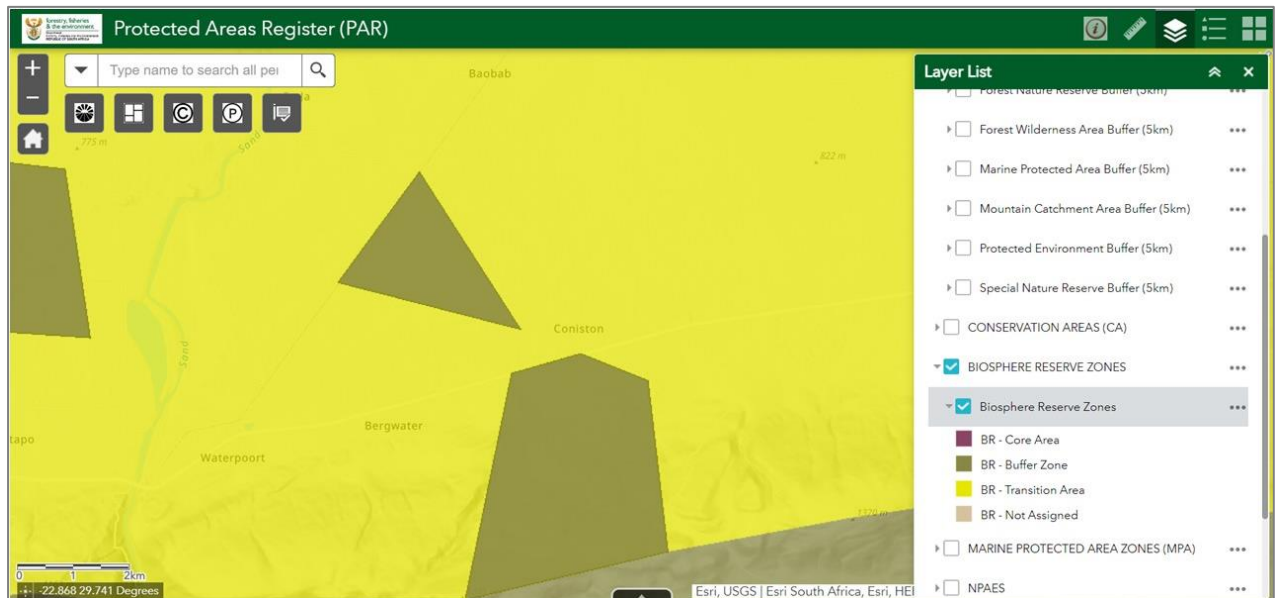


Figure 11. Project site location within the Vhembe Biosphere Reserve / Transition zone

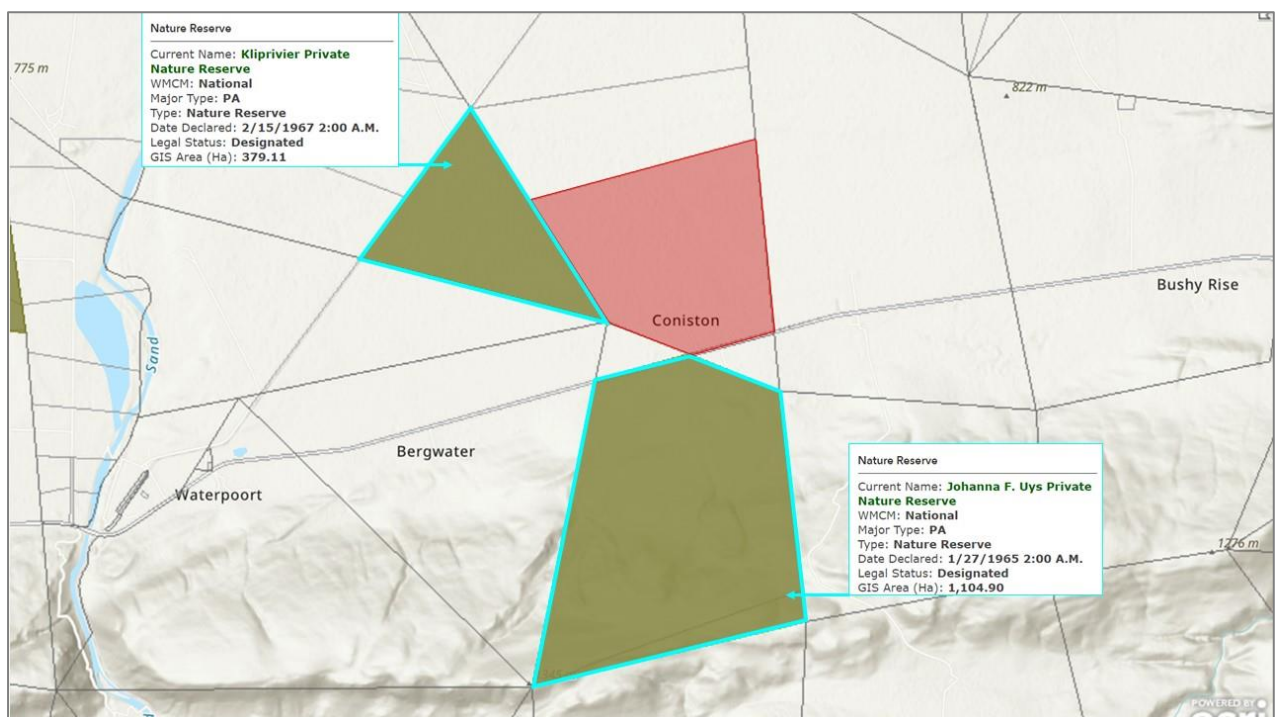


Figure 12. Project site proximity to nearest Protected Areas (DFFE Protected Areas register)

- 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.

9.2 Environmental sensitivities identified for the development areas

The Screening Tool identified the following development site environmental sensitivities. It should be noted that only the highest environmental sensitivity is indicated.

Table 4. Proposed development area environmental sensitivity (DFFE National Screening Tool)

| Theme | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|--|-----------------------|------------------|--------------------|-----------------|
| Agriculture Theme | X | | | |
| Animal Species Theme | | X | | |
| Aquatic Biodiversity Theme | | | | X |
| Archaeological and Cultural Heritage Theme | | X | | |
| Civil Aviation Theme | | X | | |
| Defence Theme | | | X | |
| Paleontology Theme | X | | | |
| Plant Species Theme | | | X | |
| Terrestrial Biodiversity Theme | X | | | |

- **Agriculture Theme**

Sensitivity – Very High

Following consultation with Dr Buks Henning, a Soil Science Specialist who has personally visited the site and conducted a ground-truth site assessment during May 2019, it was determined that as the proposed land use will remain Agricultural and is considered to be compatible with the Screening Tool assessment classification, an Agricultural Compliance Statement is not deemed necessary.

The reasons for not including an Agricultural Compliance Statement are further motivated by the following:

- The geology underlying an area generally determines the soil types present. Soil types directly west of, and within the southern section of the farm have proven successful in supporting tomato croplands. It can thus be inferred that the remainder of the farm will also be suited to crop production.
- Soil analysis and treatment, as is currently practised by the applicant on adjacent farms, will be continued on the project site, should the development be approved, to assess the condition of soils and adjust soil nutrient levels as and when required.
- The change in land use from indigenous vegetation to commercial agriculture will not result in irreversible change. Should farming no longer prove viable to the applicant, the land can be rehabilitated and ecological functions restored.

- **Landscape / Visual Theme**

Sensitivity - Low

Tomato croplands already exist along the entire southern 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 of electronic resources, various site visits, and feedback received from interested and affected parties.

- **Animal Species Theme**

Sensitivity - High

The drainage channel and riparian woodland have a High Sensitivity as these areas play important corridors to rare and endemic fauna found in the area.

- **Aquatic Biodiversity Theme**

Sensitivity - Low

Both drainage channels on site are non-perennial and no aquatic biodiversity is found on the proposed footprint.

- **Archaeology and Cultural Heritage Theme**

Sensitivity – High

A Phase 1 Archaeological Impact Assessment was conducted and is attached as Appendix E and Appendix E.1. The screening tools shows 2 sites in the north western corner of the property (labelled site 40 and 41) and refers to 2 stands of marula trees, not heritage sites (Chapudi Heritage Impact Assessment for Coal of Africa in 2013). The information can be located on page 133 and page 239 of the relevant report [GREATER SOUTPANSBERG CHAPUDI PROJECT ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME \(sahra.org.za\)](https://www.sahra.org.za/Portals/0/Appendix%20E%20-%20Greater%20Soutpansberg%20Chapudi%20Project%20Environmental%20Impact%20Assessment%20and%20Environmental%20Management%20Programme.pdf).

- **Civil Aviation Theme**

Sensitivity - High

The project area is in a restricted airspace area and within 8 - 15 km from other civil aviation aerodrome. The proposed croplands will not have any impact on civil aviation.

- **Defence Theme**

Sensitivity - Medium

- **Palaeontology Theme**

Sensitivity – Very High

A Phase 1 Palaeontological Impact Assessment is attached as Appendix D.

- **Plant species Theme**

Sensitivity - Medium

The site has a Medium-High sensitivity from a Plant Species Theme perspective due to the presence of natural fauna habitats and corridors – Appendix G.

- **Terrestrial Biodiversity Theme**

Sensitivity – Very High

The natural woodland areas have a Medium sensitivity due to its widespread distribution in the project area.

- The drainage channel and riparian woodland have a High Sensitivity.
- 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.

10 ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE FOOTPRINT

10.1 Ecology (Appendix G)

A survey was conducted, and a Terrestrial Biodiversity Impact Assessment Report compiled by Dr BJ Henning.

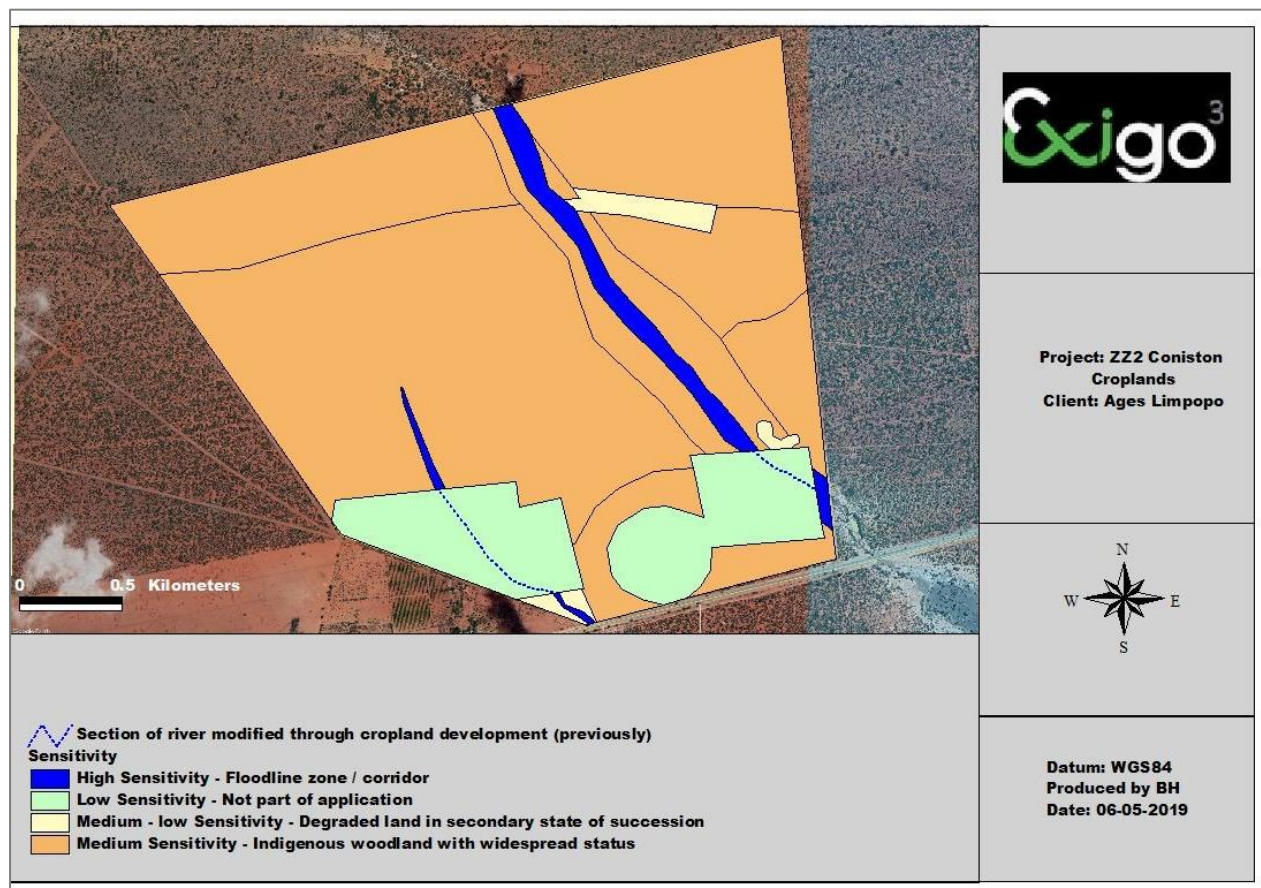


Figure 13. Sensitivity map of project site

10.1.1 Vegetation types

The most recent classification of the area by Mucina & Rutherford shows the site to be part of the Musina Mopane Bushveld.

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 and a least threatened

conservation status. The landscape is characterized by undulating to very irregular plains, with some hills. The gravelly hillsides and lower plains form moderately closed to open woodland dominated by *Colophospermum mopane* and *Terminalia prunoides*, while areas with deep sandy soils is characterized by moderately open savanna dominated by *Colophospermum mopane*, *Adansonia digitata*, *Commiphora mollis*, *Grewia flava* and *Combretum apiculatum*

10.1.2 Vegetation units

The proposed cropland development sites occur on a landscape that varies from slightly undulating plains to flat plans bisected by drainage channels. The importance to survey the area as a whole to have a better understanding of the ecosystem and the potential impact of the croplands on the natural environment was identified as a key factor, and subsequently the footprint areas was completely surveyed. The site forms part of a larger farm used for game farming and crop cultivation. The vegetation units on the site vary according to soil characteristics, topography and land-use. Vegetation units were identified on the footprint development sites and can be divided into 6 distinct vegetation units according to soil types and topography.

The following vegetation units were identified during the survey.

1. Mixed *Sclerocarya birrea* – *Combretum* - *Terminalia* sandveld

| | | |
|-------------------|---|--|
| Sensitivity | - | Medium |
| Red data species | - | None observed |
| Protected species | - | <i>Sclerocarya birrea</i> , <i>Boscia albitrunca</i> , <i>Adansonia digitata</i> , <i>Vachellia erioloba</i> |

- The eradication of protected trees would need a permit from DAFF. Where possible the larger protected trees such as baobabs and marulas should be incorporated as part of the croplands;
- The development of croplands is considered suitable in this area, provided that the soil depth is confirmed as suitable for crop cultivation under irrigation.

2. *Terminalia prunoides* – *Commiphora pyracanthoides* woodland

| | | |
|-------------------|---|--|
| Sensitivity | - | Medium |
| Red data species | - | None observed |
| Protected species | - | <i>Boscia albitrunca</i> , <i>Adansonia digitata</i> , <i>Sclerocarya birrea</i> |

- The eradication of protected trees would need a permit from DAFF. Where possible the larger protected trees such as baobabs and marulas should be incorporated as part of the croplands;
- The development of croplands is considered suitable in this area.

3. Mixed *Terminalia prunoides* – *Sclerocarya* – *Senegalia nigrescens* woodland

| | | |
|-------------------|---|--|
| Sensitivity | - | Medium |
| Red data species | - | None observed |
| Protected species | - | <i>Sclerocarya birrea</i> , <i>Boscia albitrunca</i> , <i>Adansonia digitata</i> |

- The eradication of protected trees would need a permit from DAFF. Where possible the larger protected trees such as baobabs and marulas should be incorporated as part of the croplands;
- The development of croplands is considered suitable in this area.

4. *Senegalia mellifera* – *Senegalia grandicornouta* shrubveld on calcareous soils

| | | |
|-------------------|---|--------------------------|
| Sensitivity | - | Medium |
| Red data species | - | None observed |
| Protected species | - | <i>Boscia albitrunca</i> |

- The shallow soils make the potential for cropland development in this area unsuitable.

5. Secondary old fields

| | | |
|-------------------|---|---------------|
| Sensitivity | - | Low |
| Red data species | - | None observed |
| Protected species | - | None observed |

- Unlimited development could be supported in this area. This area would be the most suitable area for the development of croplands.

6. Hydrological features

○ River with riparian woodland

- Although no red data species were noted in the area the vegetation unit as an entity represents a sensitive ecozone.
- No cropland development can be supported in this vegetation unit considering the river represents a biodiversity “hotspot” in the area. The potential to impact on the sensitive habitat is **high** and therefore the woodland on calcareous soils along the periphery of the river provides a sufficient buffer zone of 30 meters.

- Artificial stormwater canal
 - Although the canal is considered artificial it still has limited functionality in terms of ecosystem and hydrological functioning and is therefore classified as having a Medium-Low Sensitivity.
 - Stormwater must be managed and diverted around the cropland where necessary.

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 DFFE. The large Baobab trees will be left undisturbed in the lands. Detailed ecological (fauna habitat & flora) surveys have been conducted during May 2019.

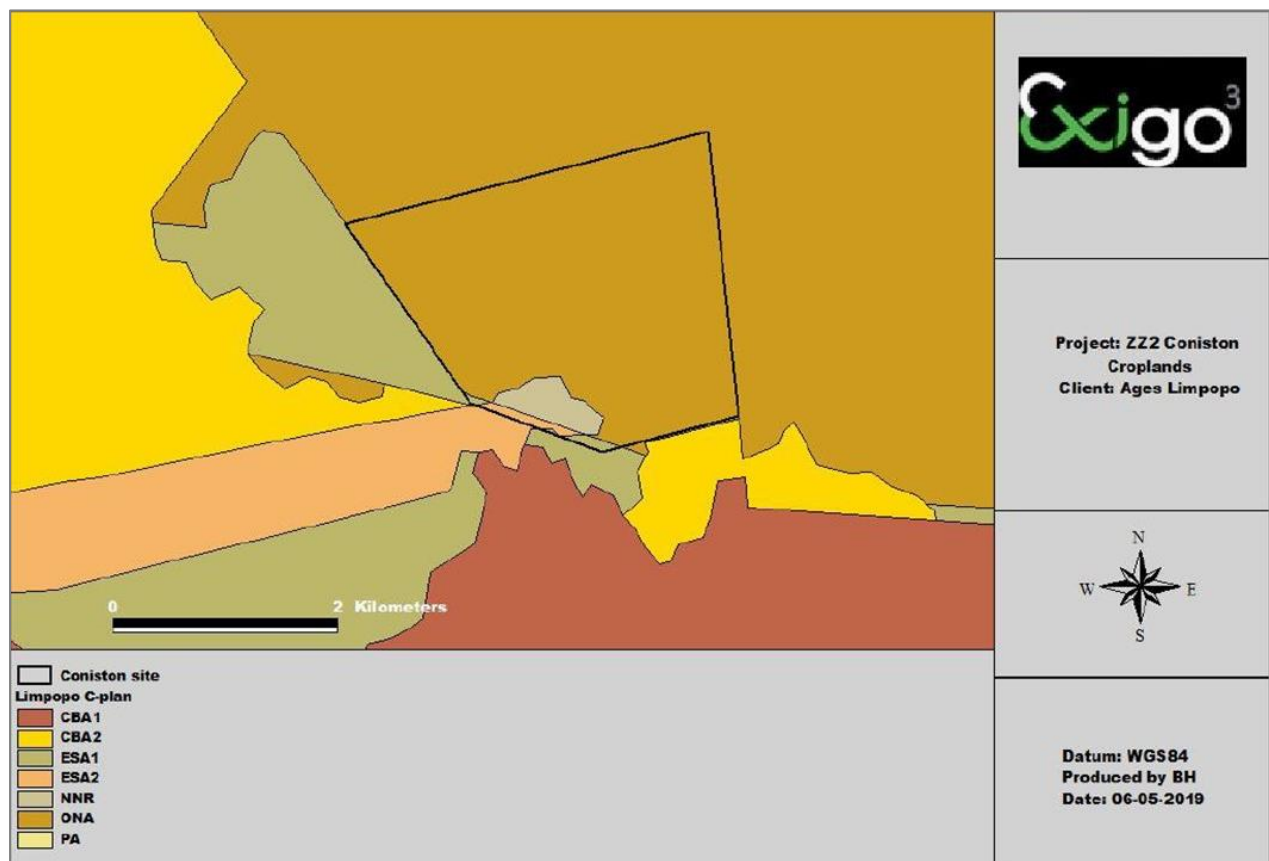


Figure 14. Limpopo C-Plan Map for the project area

10.1.3 Flora: Species level assessment

Table 5. Red data and endemic species occurring in the project area of the QDS

| Family | Genus | Species | IUCN classification |
|----------------|--------------------|-----------------------|---------------------|
| Myrothamnaceae | <i>Myrothamnus</i> | <i>flabellifolius</i> | Data Deficient |
| Santalaceae | <i>Thesium</i> | <i>resinifolium</i> | Data Deficient |
| Asphodelaceae | <i>Aloe</i> | <i>vogtsii</i> | Near Threatened |

None of these species were documented during the surveys.

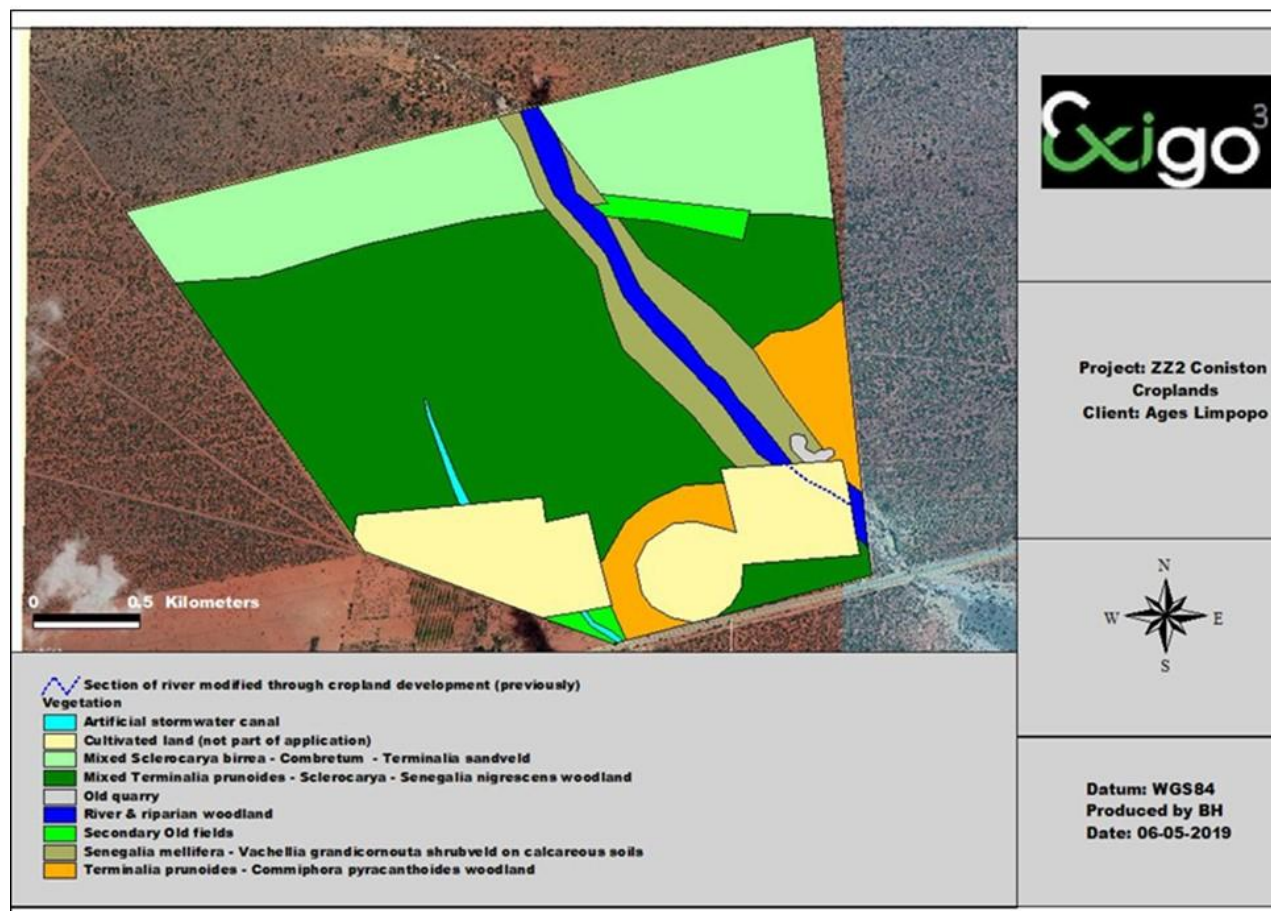


Figure 15. Vegetation unit map of the proposed development area

10.1.3.1 Protected tree species (DAFF)

Table 6. Protected tree species of concern in the project area

| Species | National Conservation status | Status in project area |
|---------------------------|------------------------------|------------------------|
| <i>Adansonia digitata</i> | Protected (NFA) | Widespread |
| <i>Boscia albitrunca</i> | Protected (NFA) | Widespread |
| <i>Sclerocarya birrea</i> | Protected (NFA) | Widespread |
| <i>Vachellia erioloba</i> | Protected (NFA) | Widespread |

10.1.3.2 Protected Plants (LEMA)

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

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

Table 7. List of Alien Invasive Species (AIS) documented in the project area

| Species | Category |
|-----------------------------|----------|
| <i>Argemone ochroleuca</i> | 1b |
| <i>Datura stramonium</i> | 1b |
| <i>Opuntia ficus-indica</i> | 1b |
| <i>Opuntia stricta</i> | 1b |

10.1.4 Faunal assessment

Results of desktop survey and site visits during May 2019

A survey was conducted during May 2019 to identify specific fauna habitats, and to compare these habitats with habitat preferences of the different fauna groups (birds, mammals, reptiles, amphibians) occurring in the quarter degree grid.

10.1.4.1 Fauna habitats of the project area

Two major fauna habitats were observed in the area namely:

- Riparian woodland;
- Mixed undulating woodland;

Habitat B: Riparian woodland

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

Habitat C: 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.

10.1.4.2 Common fauna documented and potentially occurring on the development site

10.1.4.3 Mammals

Large mammals such as elephant, lion, buffalo and rhinoceros species that occurred historically in the habitats observed on site that forms part of the development site are today mainly restricted to game reserves and national parks in the area, although they might migrate occasionally through the area. This loss of large species on the private land that forms part of the project area means that the mammal diversity on these sites is far from its original natural state not only in terms of species richness but also with regards to functional roles in the ecosystem.

Larger predators such as leopard and brown hyena still occur in the natural areas and signs of brown hyena were also confirmed in the project area.

The majority of the habitat types are still intact. Therefore, the expected mammalian richness on these areas is considered high. Red data mammals that still roam freely in the area include larger predators such as leopard and brown hyena (red data). Antelope species such as klipspringer, kudu, bushbuck and duiker will roam freely through the area and are not restricted by game fences.

Smaller mammal species such as honey badgers and serval can become habituated to anthropogenic influences, while other species such as brown hyena will rather move away from the construction activities and will seldom use the area. Many of the bat species of conservation concern in the project area are cave-dependant for roosting. Any individuals that utilize the area would therefore either be foraging or migrating and would not be affected by the localized loss of habitat due to the development. The dominant species composition therefore comprises of widespread taxa with unspecialised life history traits.

Most mammal species are highly mobile and will move away during construction of the croplands. The most important corridors that need to be preserved for free-roaming mammal species in the area include the rocky ridges and riparian woodland.

10.1.4.4 Birds (avifauna)

Two major bird habitat systems were identified within the cropland footprint areas, including the riparian woodland and mixed broadleaf woodland.

The woodland biome in Southern Africa supports the highest diversity of bird species of all the vegetation types in the sub region. This includes such characteristic and colourful woodland birds as rollers, bee eaters and waxbills, as well as large birds of prey such as vultures and eagles. The broadleaved woodland occurring in the project area has quite a higher diversity of birds as a result of the crossover of habitats. Typical examples of broad-leaved-woodland birds are Pallid Flycatcher, Greencapped Eremomela, White-bellied Korhaan and Meyer's Parrot.

Some bird species such as the red-billed oxpeckers and vulture species that occur in the area where the croplands are planned are primarily dependant on the presence of their food source. There is a long list of red data bird species that have a geographical distribution that includes the site. The presence of the habitat of these species is mostly confined to the open water habitats and rocky habitats that occur outside the project area.

10.1.4.5 Herpetofauna (Reptiles and Amphibians)

There are no amphibian species of conservation concern that have a distribution that includes the development footprint areas. No specific breeding habitat of frogs and toads occur on site.

Reptile species such as the southern rock python, the black mamba, puff adder, boomslang, vine snake, spotted bush snake and several members of the green snakes (*Philothamnus* spp.) is expected to occur in the habitats of the proposed cropland sites, although the presence of these snakes is dependent on the presence of their prey species (rodents, frogs etc.). The general habitat type for reptiles consists of open to very dense bushveld, with limited available habitat for diurnally active and sit-and-wait predators, such as terrestrial skinks and other reptiles. Arboreal species are the more prominent components of the local herpetofauna.

The only species listed in the IUCN red data categories that could potentially be impacted on by the croplands is the South African python. The proposed development activities should allow the species to still have optimal living conditions on the remainder of the area.

10.1.4.6 Insects and invertebrates

All of the potential invertebrate habitats are well represented by a high family richness of insects and spiders. Spiders occur throughout all the habitats, and both web builders and active hunters find their ways in trapping and actively hunt around for potential food.

10.1.4.7 Red data species

According to the existing databases and field survey the following number of fauna species included in the IUCN red data lists can potentially be found on the cropland footprint areas.

Table 8. Red data list of potential fauna for the study area

| English Name | Conservation status | Probability of occurrence |
|------------------|---------------------|---------------------------|
| BIRDS | | |
| Bustard, Kori | Near threatened | Medium-High |
| Eagle, Martial | Endangered | Medium-High |
| Eagle, Tawny | Endangered | Medium-High |
| Roller, European | Near threatened | High |
| Secretarybird | Vulnerable | Medium-High |
| MAMMALS | | |
| Leopard | Vulnerable (2016) | High |

The cumulative negative impact of cropland development on the fauna has the potential to be moderate to high should development disregard the environment. However, provided the general mitigation and management actions described in Appendix G/Terrestrial Biodiversity Impact Assessment are implemented, the impact on faunal populations should be low.

10.1.5 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, developed for stormwater management on the site is considered an artificial drainage feature that can be rehabilitated. The canal should be maintained to manage stormwater on site.

The drainage channel and riparian woodland has a Class C Present Ecological State (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 Ecological Importance and Sensitivity (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 that 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.

Table 9. Present Ecological State and Ecological Importance & Sensitivity of the riparian system on the proposed development site

| HGM unit | PES | EIS |
|-----------------------------|------------------------------|----------|
| River and riparian woodland | Class C: Moderately Modified | Moderate |

10.1.6 Geology & Soils

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
- Klopfontein 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 seams 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.

Table 10. Landtype, soils and geology of the project site

| Landtype | Soils | Geology |
|----------|--|--|
| Ae305 | Red-yellow apedal, freely drained soils; red, high base status, > 300 mm deep (no dunes) | Mainly sand of the Quaternary System. |
| Ae303 | Red-yellow apedal, freely drained soils; red, high base status, > 300 mm deep (no dunes) | Alluvium, sand and calcrete of the Quaternary System. Basalt of the Letaba Formation and Lebombo Group. Shale, mudstone and sandstone of the Klopfontein Formation. Both formations of the Karoo Sequence; also leucogneiss and amphibolite. |
| la151 | Miscellaneous land classes, undifferentiated deep deposits | Alluvium, mudstone, sandstone siltstone, shale and coal of the Clarens Formation and undifferentiated strata of the Karoo Sequence. |

10.1.7 Surface drainage

The study area is in the Limpopo Catchment Management Area (CMA) and 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.

10.1.8 Socio-Economic value of the activity

| | | |
|--|-------------------------------------|----|
| What is the expected capital value of the activity on completion? | R 50 000 000 | |
| What is the expected yearly income that will be generated by or as a result of the activity? | R 10 000 000 | |
| Will the activity contribute to service infrastructure? | <input checked="" type="checkbox"/> | NO |
| Is the activity a public amenity? | <input checked="" type="checkbox"/> | NO |
| How many new employment opportunities will be created in the development and construction phase of the activity/ies? | 100 | |
| What is the expected value of the employment opportunities during the development and construction phase? | R 406 400 | |
| What percentage of this will accrue to previously disadvantaged individuals? | 100% | |
| How many permanent new employment opportunities will be created during the operational phase of the activity? | 390 | |
| What is the expected current value of the employment opportunities during the first 10 years? | R 1 584 960 | |
| What percentage of this will accrue to previously disadvantaged individuals? | 100% | |

The following socio-economic impacts may arise during the clearance and establishment phases of the proposed croplands:

- Socio-economic benefits through job creation (especially in the lower-skilled levels).
- Training and capacity building with enhancement of the skills of individual workers.

During the operational phase the following impacts and issues are anticipated:

- Provision of job opportunities for local and skilled workers.
- Skills development of workers.

10.1.9 Socio-economic environment

The project site is situated in an area characterised by vast open spaces comprising farmland, while the nearest and largest urban centre in the area, Louis Trichardt, is approximately 50km to the south-east, via the R523 regional road. The region is sparsely populated with centres of human activity (farms, homesteads, local roadside shops and small businesses) isolated within a mostly unpopulated landscape. Job opportunities seem scarce while long distances separate centres of economic activity. Very little public transport infrastructure was observed (no buses or train service), and no taxis observed on the R523 during each of the site visits conducted (2019 – 2022).

The Makhado Local Municipality IDP provides the following statistics:

- 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.

The applicant and company who will manage the proposed croplands has a proven track-record of successful commercial farming and is GlobalG.A.P. accredited – Appendix K.

The results of the GlobalG.A.P. Risk Assessment on Social Practice (GRASP) shows full compliance with the outcomes:

- Employees' representative
- Individual or council representing the interests of the employees to management), with documented minutes of all meetings held, and at a satisfactory frequency.
- Complaint procedure
- Good social practices
- Access to and compliance with National labour regulations
- Employment contracts and remuneration
- Access to compulsory school education
- Hours of work and breaks
- Social benefits

The applicant/company who will manage the croplands furthermore provides the following social benefits to its employees and their families at its other farming operations:

- Creche and child-care
- Clinic on the farm to provide medical care and assistance

- Fresh produce once per month
- Subsidised food
- Funeral assistance
- Wood for fire-making
- Learnerships and training of employees
- Transport home and back on pay-weekends
- Soccer/sports field on the farm
- Cultural activities such as choir

These practises and benefits will be actioned on the proposed development as well.

10.1.10 Visual aspects

The change in land use over such a large area will be noticeable. The clearance of indigenous vegetation for crop establishment can however be regarded as acceptable as the proposed land use will be an extension of existing crop farming on RE Ptn 3 Coniston, as well as with adjacent land use to the west (also consisting of commercial croplands), and will not conflict with remaining land uses (natural vegetation) directly north, east and south.

During both the construction and operational phases, farming activities (tractors and other large farming machinery, vehicles and people moving in and out of and on the site, will be visible intermittently, with movement to and from the site. However, this will be in keeping with the existing character of the area, already characterised by commercial farming. The existing boundary fence along the R523 regional road will remain and will thus not introduce any new visual impact.

10.1.11 Air quality and noise

During the clearance phase the use of machinery and the movement of vehicles will generate dust, exhaust emissions and noise. During the operational phase croplands will periodically be cultivated and sprayed with chemicals (fertilizer and herbicides/pesticides). Low levels of noise will be created during the movement of tractors through the croplands.

10.2 Heritage resources (Appendix E)

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 Phase 1 Archaeological Impact Assessment Report provided the following information, following various site surveys and stakeholder consultation between April 2019 – April 2022 (Appendix C).

10.2.1 Summary of recorded heritage resources and impacts

| Type | Number As on map | GPS | Recorded artefact/feature /grave | Impact WITH mitigation | | |
|----------------|------------------------|----------------------------------|--|------------------------|---|--------------|
| | | | | High | Medium | Low/ None |
| Social | 1 | S22° 52' 01.6" E29° 41' 06.9" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 2 | S22° 52' 04.0" E29° 41' 06.0" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 3 | S22° 52' 15.3" E29° 41' 09.9" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 4 | S22° 52' 15.9" E29° 41' 07.8" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 5 | S22° 52' 16.0" E29° 41' 09.3" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 6 | S22° 52' 17.6" E29° 41' 06.7" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 7 | S22° 52' 18.8" E29° 41' 05.4" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Grave | 8 | S22° 52' 53.7" E29° 41' 11.3" | Grave | X | | |
| Grave | 9 | S22° 52' 46.2" E29° 41' 07.1" | Graves | X | | |
| Grave | 10 | S22° 52' 15.4" E29° 41' 09.7" | Grave | X | | |
| Grave | 11 | S22° 52' 06.6" E29° 41' 07.5" | Cemetery | X | | |
| Archaeological | 12 | S22° 52' 29.9" E29° 41' 40.6" | Ceramics scatter- medium density | | | X |
| Archaeological | 13 | S22° 52' 34.0" E29° 41' 43.0" | Ashy deposit | | | X |

| | | | | | | |
|----------------|-------|----------------------------------|------------------------------------|---|---|---|
| Archaeological | 14 | S22° 52' 33.7" E29° 41' 44.8" | Ceramic scatter- medium density | | | X |
| Archaeological | 15 | S22° 52' 35.1" E29° 41' 43.6" | Grain bin stand | | X | |
| Archaeological | 16 | S22° 52' 41.0" E29° 41' 49.0" | Ceramic sherd medium density | | | X |
| Archaeological | 17 | S22° 52' 42.2" E29° 41' 50.3" | Grain bin stand | | X | |
| Archaeological | 18 | S22° 52' 43.7" E29° 41' 52.1" | Ceramic scatter | | | X |
| Grave | 22.1 | S22° 53' 13.6" E29° 41' 19.9" | Grave | X | | |
| Grave | 22.2 | S22° 52' 49.9" E29° 41' 33.4" | Grave | X | | |
| Grave | 22.3 | S22° 52' 55.6" E29° 41' 30.2" | Grave | X | | |
| Grave | 22.4 | S22° 52' 06.6" E29° 41' 05.9" | Grave | X | | |
| Grave | 22.5 | S22° 52' 15.6" E29° 41' 05.4" | Grave | X | | |
| Grave | 22.6 | S22° 52' 18.2" E29° 41' 06.5" | Grave | X | | |
| Grave | 22.7 | S22° 52' 17.9" E29° 41' 07.0" | Grave | X | | |
| Grave | 22.8 | S22° 52' 38.1" E29° 41' 22.4" | Cemetery | X | | |
| Grave | 22.9 | S22° 52' 39.8" E29° 41' 21.6" | Grave | X | | |
| Social | 22.10 | S22° 52' 51.0" E29° 41' 11.9" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 22.11 | S22° 52' 51.1" E29° 41' 13.5" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Social | 22.12 | S22° 52' 53.0" E29° 41' 17.2" | Traditional social | | Due to community living memory intrinsically linked to land | |
| Social | 22.13 | S22° 52' 54.9" E29° 41' 03.2" | Traditional residential | | Due to community living memory intrinsically linked to land | |
| Grave | 22.14 | S22° 52' 59.5" E29° 40' 43.0" | Grave | X | | |

10.2.2 Social and/or religious intangible heritage

The following sites of importance were recorded.

- **7 sites** (HIA site references 19.1 – 19.7)

A. General site description: Con 19/01

| <u>Number allocated</u> | <u>Type site</u> | <u>GPS</u> | <u>Notes</u> |
|-------------------------|--|-------------------------------|---|
| 19.1 | Seshokane family area | S22° 52' 01.6" E29° 41' 06.9" | All family, kraal areas were shown to the field team by Mr Samuel Tshivhula, and GPS designates roughly the center of each family settlement area |
| 19.2 | Ratshikane kraal area | S22° 52' 04.0" E29° 41' 06.0" | |
| 19.3 | Frans Tshivhula (Samuel) father's cattle kraal area | S22° 52' 15.3" E29° 41' 09.9" | |
| 19.4 | Mmboyi family area | S22° 52' 15.9" E29° 41' 07.8" | |
| 19.5 | Frans Tshivhula (Samuel) father built with bricks from local soil- family area | S22° 52' 16.0" E29° 41' 09.3" | |
| 19.6 | Machete family area | S22° 52' 17.6" E29° 41' 06.7" | |
| 19.7 | Ramavhila family area | S22° 52' 18.8" E29° 41' 05.4" | |

Mr Samuel Tshivhula, was asked by the field team if he had objection to the development and ploughing of the area where families stayed. He replied that he did not have an issue with the area being ploughed. However, it was decided by the field team to rather exclude the area, as child graves etc, may be in the area that are perhaps not well remembered.

2022 addendum- it is the view of the community that they do not want the social areas ploughed as they have a deep familial link to the land.

The wider area has been occupied by the Tshivhula family since around 1910. During conversations with Mr Samuel Tshivhula on site on the day, he explained that his grandfather had a family home approximately 2 farms over on the southern side of the road. He was unsure of exact dates but estimated it to be around 1910. As sons grew of age and settled nearby land, his father- Frans eventually settled on Coniston, where the development is proposed to take place. Family graves are also located on adjoining and adjacent farms.

- **4 sites** (22.10 – 22.13)

A. General site description: Con 22.10- Con 22.13

| <u>Number allocated</u> | <u>Type site</u> | <u>GPS</u> | <u>Notes</u> |
|-------------------------|---|-------------------------------|---|
| 22.10 | Edward Khumalo childhood homestead | S22° 52' 51.0" E29° 41' 11.9" | Mr Khumalo stated that his family left the homestead in roughly the 1990's Mr Khumalo stated that his family moved from here |
| 22.11 | Social area for the community | S22° 52' 51.1" E29° 41' 13.5" | |
| 22.12 | A homestead- 1 st for Mr Khumalo | S22° 52' 53.0" E29° 41' 17.2" | |
| 22.13 | A homestead- unknown- near baobab | S22° 52' 54.9" E29° 41' 03.2" | |

10.2.3 Historical period and built 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.

10.2.4 Graves

A total of 12 gravesites and 2 cemeteries were recorded.

10.2.5 Iron age/early farming communities remains

Archaeological remains (8 – 12) recorded a total of 7 finds.

10.2.6 Stone age remains

No Stone Age remains were recorded.

10.2.7 Palaeontological Sensitivity

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

10.2.8 Recorded heritage resources and impacts

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

Errata: The Heritage Impact Assessment Report_v01 distributed in hard copy to Interested and Affected Parties on 31 August 2022 noted in error that a buffer of 50m is recommended around graves and grave sites (page 2), while in the remainder of the report the buffer is stated correctly as 30m. The Grave Management Plan (Appendix F) also states the buffer correctly as 30m as recommended by ***The Burial grounds and graves permitting policy, South African Heritage Resources Agency, September 2021, page 10: "In-situ preservation"***:

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 30m for all other activities.*

The Heritage Impact Assessment Report_v02 distributed with this Consultation Environmental Impact Assessment Report was amended accordingly and the error corrected.

Heritage Scoping report for proposed new croplands and S24G rectification on portion 3 of the farm Coniston 699 MS

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| CaseHeader | LocationInfo | Admin | Images | | | | | | | | |
|---|---------------|---------|---------------|------|---------------|---------|---------------|-------|--|--|--|
| <p>Status: Studies Submitted</p> <p>HeritageAuthority(s): SAHRA LIHRA</p> <p>Case Type: Section 38 (1) - Decision from Heritage Authority required</p> <p>Development Type: Agriculture</p> <p>ProposalDescription: Proposed new croplands on 450ha and S24G rectification of 59ha of existing croplands on portion 3 of the farm Coniston 699 MS, in the Waterpoort area, Vhembe District, Limpopo Province. The proposed croplands are to be used as tomato croplands.</p> <p>ApplicationDate: Wednesday, August 5, 2020 - 13:24</p> <p>CaseID: 15346</p> <p>Applicants: AGES (PTY) Ltd - Limpopo</p> <p>Consultants/Experts: Linky Wendel Liesl Stegmann</p> <p>OtherReferences:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #800000; color: white;"> <th>Dept</th> <th>CaseReference</th> <th>DueDate</th> <th>FinalDecision</th> </tr> </thead> <tbody> <tr> <td>LEDET</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Heritage Reports: Heritage scoping report for new croplands and S24G rectification of existing croplands on portion 3 the farm Coniston 669 MS PIA Coniston 669 MS Updated Heritage Scoping Report September 2022 for P3 Coniston 699MS</p> <p>ReferenceList:</p> | | | | Dept | CaseReference | DueDate | FinalDecision | LEDET | | | |
| Dept | CaseReference | DueDate | FinalDecision | | | | | | | | |
| LEDET | | | | | | | | | | | |
| AdditionalDocuments | | | | | | | | | | | |
| <ol style="list-style-type: none"> 1. Coniston lands Final Scoping report 2. Public participation 3. LEDET response letter 4. Heritage survey path 2019 5. Heritage survey path 2020 6. CSR 2022 7. Ecological report 8. Grave Management Plan 2022 | | | | | | | | | | | |

Figure 16. Proof of upload of Heritage Resources Scoping Report to SAHRA_September 2022

10.3 Palaeontological Impact Assessment (Appendix D)

A Palaeontological Impact Assessment desktop study, compiled by Professor Bruce Rubidge in July 2019 found that:

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 Kloppefontein Formation –comprises coarse 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.

10.4 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.

10.5 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.

10.6 Water availability

- Water is available and will be sourced from the registered legal water use for the adjacent farms, Ptn 2 Bergwater 697MS, Ptn 5 and Ptn 6 Waterpoort 695MS and Sitapo 690MS. A water balance calculation indicating that sufficient water is available from these farms, is included as Table 3. No abstraction of water from boreholes on the farm RE Ptn 3 Coniston will be required, as a sufficient volume of water is available from the Existing Lawful Uses as stated above.
- A pipeline with a diameter of less than 360 mm from the farms Bergwater/Dorpsrivier will deliver water to the RE Ptn 3 of Coniston 699MS. The pipeline route is indicated in Appendix A4.
- Tomatoes will be irrigated with drippers, which minimises evaporation, compared to other irrigation methods.

10.7 Topography and drainage

The proposed cropland development site occurs on a landscape that varies from slightly undulating plains to flat ins bisected by a drainage channel.

10.8 Stormwater and erosion management

The drainage channel in the eastern section of the site is non-perennial and a 30m buffer will be retained around it to protect it from erosion and conserve sensitive riparian habitat and wildlife corridors.

A canal was developed for stormwater management in the western section of the site and is considered an artificial drainage feature that can be rehabilitated. The canal should be maintained to manage stormwater on site.

10.9 Pollution control

The applicant and company responsible for managing the farming operation, is a GLOBALG.A.P. accredited tomato producer and maintains and retains records of all actions taken in its use of agricultural chemicals.

10.10 Solid waste management

- The establishment of the croplands will mainly produce vegetation debris that will be used for compost and firewood.
- Household waste will be collected in skips and disposed of legally to a licensed landfill site.
- Old, redundant irrigation pipes (metal & plastic) will be stored and collected by a recycling company for re-cycling according to present practise.
- Used oil and filters from tractors and other equipment will be stored separately and disposed of legally to an oil recycler licensed for its disposal.

10.11 Environmental stewardship

The applicant is implementing many of the measures generally accepted as “good stewardship” of the land with the aim of ensuring long term sustainability of the farm and natural environment within which it operates and on which the farming enterprise depends. Examples of such measures include that:

- Stormwater on site is managed by diverting clean stormwater back to the drainage channels, and by implementing stream reduction measures such as gabions to reduce water velocity during periods of high flow. As such, erosion is minimised and controlled, and sedimentation of drainage channels prevented.
- Water quality is preserved by preventing clean stormwater from becoming polluted. Chemicals and dangerous goods are stored in bunded areas to prevent the spread of potentially spilled chemicals to the surrounding environment.
- Alien and invasive plant species are eradicated, and management thereof is ongoing.

Future actions on the project site, to ensure continued stewardship of natural resources include that:

- Riparian woodland along the drainage channels on site will be preserved by maintaining a buffer of at least 30m from its edge, to preserve corridors of riverine woodland and allow fauna to move freely between the areas of disturbance.

11 IMPACTS AND RISKS IDENTIFIED

11.1 Methodology used in ranking the nature, significance, consequences, extent, duration and probability of potential 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 development phase 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 matrixes 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 formula for calculating Consequence, Likelihood and Significance are provided below, where:

- **Consequence = severity + duration + extent + compliance / 4** (**C = s + d + e + c / 4**)
- **Likelihood = frequency + probability / 2** (**L = f + p / 2**)
- **Significance = Consequence x Likelihood** (**S = C x L**)

| 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 the proposed croplands footprint | 1 |
| Low-medium | Within RE Ptn 3 of the farm Coniston 699 MS | 2 |
| Medium | Within adjacent farms | 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 |

$$[(\text{Severity} + \text{Duration} + \text{Extent} + \text{Compliance}) / 4] \times [(\text{Frequency} + \text{Probability}) / 2] = \text{Significance}$$

Table 11. 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 |

11.2 Assessment criteria

The terms of reference for the study include criteria for the description and assessment of environmental impacts. These criteria are drawn from the *Integrated Environmental Management Guidelines Series, Guideline 5: Assessment of Alternatives and Impacts*, published by the DEA in terms of the Environmental Impact Assessment. These criteria include:

Table 3: Impact Assessment Criteria

| | | |
|---|------------------------|--|
| Nature of impact This is an appraisal of the type of effect the proposed activity would have on the affected environmental component. The description should include what's being affected and how. | | |
| Extent The physical and spatial size of the impact. | Site | The impact could affect the whole, or a measurable portion of the above-mentioned properties. |
| | Local | The impacted area extends only as far as the activity, e.g. the footprint. |
| | Regional | The impact could affect the area including the neighbouring farms, the transport routes and the adjoining farms. |
| Duration The lifetime of the impact; this is measured in the context of the lifetime of the base. | Short term | The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than any of the phases. |
| | Medium term | The impact will last up to the end of the establishment of the dam, where after it will be entirely negated. |
| | Long term | The impact will continue or last for the entire operational life of the dam but will be mitigated by direct human action or by natural processes thereafter. |
| | Permanent | The only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient. |
| Intensity | Low | The impact alters the affected environment in such a way that the natural processes or functions are not affected. |
| | Medium | The affected environment is altered, but function and process continue, albeit in a modified way. |
| | High | Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases. |
| Probability The likelihood of impacts occurring. Impact may occur for any length of time during the life cycle of activity and not at any given time. | Improbable | The possibility of the impact occurring is very low, due either to the circumstances, design or experience. |
| | Probable | There is a possibility that the impact will occur to the extent that provisions must be made therefore. |
| | Highly probable | It is most likely that the impacts will occur at some or other stage of the dam. Mitigation plans must be drawn up before the undertaking of the activity. |

| | | |
|---|------------------------|--|
| | Definite | The impact will take place regardless of prevention plans, and there can only be relied on mitigation actions or contingency plans to contain the effect. |
| | | |
| Determination of significance. Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. | No significance | The impact is not substantial and does not require any mitigation action. |
| | Low | The impact is of little importance but may require limited mitigation. |
| | Medium | The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels. |
| | High | The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the proposed dam unacceptable. Mitigation is therefore essential. |

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 DEA, an open, approach, which encourages accountable decision-making, was adopted.

11.3 Positive and negative impacts that the proposed activity and alternatives will have on the environment and the community

11.3.1 Positive impacts

- 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 potential 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. The proposed development will contribute to job creation, and skills-development in the region and will provide more than 390 jobs during the construction and operational phases.
- Training in agricultural practices, provided by the applicant to its employees will continue to facilitate skills-development as well as up-skilling of people from local communities.

- The income and training provided will increase agency and secure livelihoods, while empowering local people with knowledge and skills in agricultural practices.
- 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.
- The sustainable, long-term production of food for the local fresh produce and processing markets as well as for exports, earning valuable foreign exchange, will have a positive socio-economic impact.
- By utilising the latest in irrigation technology according to international best-practise, current yields can be sustained with minimum water and fertiliser demand.

11.3.2 Negative impacts

- The removal of indigenous vegetation and faunal habitat is a negative impact. The proposed development should however 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 for the adjacent farms, which have sufficient water available to support the proposed development. 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 and EMP are adhered to for the lifecycle of the development.
- The proposed development will have a low negative impact on soils or agricultural resources as the proposed land use is considered compatible with the current land use classification (agriculture), provided that soil erosion will be prevented by management and mitigation measures to preserve soil integrity and quality.
- 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.

- 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. Concerns regarding the potential impact of agricultural chemicals on human health are addressed in sections 25, 41 and 10.9 of this CEIAR. Mitigation measures to further reduce these impacts are included in the EIAR and EMP.

11.4 Concluding statement indicating the preferred alternative and location of the activity

The preferred alternative was selected based on the following criteria:

- Current successful farming with cash crops on adjacent farms, managed by the applicant.
- Future availability of water subject to the Existing Lawful Use.
- The site can be substantially more productive as a crop production farm, as compared to its historic use as a wildlife farm.
- The natural woodland areas have a Medium sensitivity due to its widespread distribution in the project area. The cropland developments can be supported in these areas, provided that large baobab trees are left in the lands and smaller ones are transplanted. A licence must be obtained for the removal of any of the protected trees.
- The drainage channel and riparian woodland have a High sensitivity. These areas are important corridors to rare and endemic fauna found in the area.
- No rare and endangered species were identified on the site.
- The project footprint is characterised by flat plains while the soils are considered suitable for agriculture.

12 DESCRIPTION OF THE PROCESS TO IDENTIFY AND RANK ENVIRONMENTAL IMPACTS IMPOSED BY THE ACTIVITY ON THE PREFERRED LOCATION THROUGHOUT ITS LIFE-CYCLE

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.

12.1 Description of environmental issues and risks identified during the EIA process

The potential aspects that were assessed during the EIA process are:

- 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.

The following possible key environmental impacts were identified:

| 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 concerns 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 <i>E.coli</i> | Poorly planned and managed sanitation facilities | Water pollution & health risk |
| Water pollution | Use of Pesticides and Fertilizers | Effect on groundwater and surface water 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 | Impact on soil ecology & groundwater |
| 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, herbicides and fertilizers | Impact on 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 | <p>Damage to and possible loss of cultural heritage sites (burial grounds, graveyards, and archaeological sites) during clearing and cultivation of areas.</p> <p>+ 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.</p> |
| Visual impact | | |
| Visual impact & impact on sense of place | Croplands | <p>± Impact on landscape quality character</p> <p>± Impact on sense of place</p> |
| Socio-economic impacts | | |
| Job creation and skills development | Increase in temporary & permanent work opportunities | + Socio- economic benefit |

The process to reach the location alternative is discussed in section 7 while the process and no-go alternatives are discussed for the location alternative.

12.2 Impacts and mitigation measures of the development and operational phases

All possible impacts which could be predicted during both the development and operational phases of the proposed croplands are addressed. Specific mitigation measures are proposed, and the significance of these impacts is described with and without the mitigation measures.

12.2.1 Air pollution and noise

Clearance and soil preparation phase:

During this phase dust (especially during dry and windy conditions) and exhaust fumes will be created by earthmoving equipment and construction vehicles that will level the area and clear vegetation. There will also be noise created by the vehicles during this phase. Burning of plant material will also create smoke.

Operational phase:

During this phase exhaust gasses and spraying of chemicals (pesticides, herbicides, fertiliser) will impact on air quality.

| Project Phase | Impact: Air pollution and noise | | | | | | | | |
|--------------------------------------|---|---|------------|------------|------------|-------------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil preparation phase | Vegetation clearance – movement of vehicles on site | Dust and fumes from vehicles | Low | Low | Low | High | High | Low | Medium |
| | Vegetation clearance – movement of vehicles on site | Noise | Low | Low | Low | High | High | Low | Medium |
| | Vegetation – burning of plant material | Excessive smoke | Medium | Low | Low-medium | Low | Medium | Low | Medium |
| Cumulative impacts | Vegetation clearance for preparation of croplands | Dust, noise & smoke | Low | Low-medium | Low-medium | High | High | Low-medium | Medium |
| Operational phase | Use of tractors and farming vehicles | Exhaust gasses | Low | Low | Low | Medium-high | High | Low | Low-Medium |
| | Spraying of chemicals | Insecticide, herbicide and fertiliser fumes | Low | Low | Medium | Medium | High | Low | Low-Medium |
| Cumulative impacts | Preparation and cultivation of lands | Dust, noise & spraying of chemicals | Low-medium | Low-medium | Low-medium | Medium | High | Low-medium | Medium |

Mitigation measures – Clearance of vegetation and soil preparation phase:

- Vehicles must be maintained to avoid excessive noise levels and generation of excessive fumes.
- No plant material may be burnt on site. Plant material can be used as mulch or compost. Thicker branches can be removed for firewood by the workers or community.
- Open fires for cooking are only to be made at designated and safe areas.
- Existing firebreaks around the project footprint and the farm must be maintained to minimise the risk of accidental fires.

Mitigation Measures - Operational phase:

- Vehicles must be maintained to prevent excessive fumes and noise.
- Spraying of chemicals (pesticides, herbicides, fertiliser) must be done only during no / low wind conditions.

12.2.2 Water quantity

Operational phase:

Water is available from the Existing Lawful Use of the applicant and company who will manage these - Table 3.

| Project Phase | Impact: Water use | | | | | | | | |
|-------------------|---------------------------------------|----------------------------|----------|----------|--------|-------------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Operational phase | Use of water from adjacent farms' ELU | Reduction in water sources | Low | Medium | Medium | Medium-high | High | Low | Medium |
| Cumulative | Use of water from adjacent farms' ELU | Reduction in water sources | Low | Medium | Medium | Medium-high | High | Low | Medium |

Mitigation measures - Operational phase:

- Remain within legal water use limit.
- Irrigation systems used must aim to minimise water use.
- Inspect pipes regularly for possible leakages. Any leakages observed must be repaired as soon as possible.

12.2.3 Water quality (groundwater and surface water pollution)

Clearance and soil preparation phase:

- Lack of well managed sanitation facilities could result in groundwater pollution and associated health risks.
- The spillages of fuel and lubricants from construction vehicles could occur.

Operational phase:

- Pollution from sanitation facilities, oil/fuel and other lubricants may lead to water pollution.
- Fertilizers, pesticides, and herbicides used at the project during operation can create pollution if not handled and applied correctly.

| Project Phase | Impact: Groundwater and surface water pollution | | | | | | | | |
|--------------------|--|-----------------------------------|------------|------------|------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Construction phase | Spillages of fuel and oil during use of machinery and movement of vehicles | Surface and groundwater pollution | Low | Low-Medium | Low | Medium | Medium | Low | Low-Medium |
| | Unavailability of toilet facilities at the cropland sites | Water pollution | Low-Medium | Low-Medium | Low | Medium | Low | Low | Low-Medium |
| Cumulative impacts | Spillage of fuel & oil and lack of sanitation facilities | Surface and groundwater pollution | Low-Medium | Low-Medium | Low | Medium | Low | Low | Low-Medium |
| Operational phase | Use of pesticides, herbicides and fertilizers at croplands | Water pollution | Low-medium | Medium | Low-medium | Medium | Medium | Low-Medium | Medium |
| | Unavailability of toilet facilities at croplands | Water pollution | Low-medium | Low-medium | Low | Medium | Low | Low | Low-Medium |
| | Leakages of fuel and oil from tractors and farming vehicles | Surface and groundwater pollution | Low | Medium | Low | Medium | Medium | Low | Medium-low |
| Cumulative impacts | Use of herbicides & pesticides, spillage of fuel & oil and lack of sanitation facilities | Surface and groundwater pollution | Low-medium | Medium | Low-medium | Medium | Medium | Low-medium | Medium |

Mitigation measures - Clearance and soil preparation phase:

- Temporary toilets must be provided on the edges of the croplands. These toilets must be emptied regularly, and the contents disposed of at a site registered to accept such waste.
 - Care must be taken that no spillage of contents occurs during emptying. Any spillages must be contained and cleaned up immediately.
 - Units must be inspected regularly, and any leakages observed must be repaired as soon as possible.
- Machinery to be maintained to reduce the risk of excessive spillages of fuel and oils.

- The storage of fuel, oils and lubricants must only take place at the existing farm maintenance yard.
- Re-fuelling and maintenance must be done at the farm workshop.
- When a spill incident occurs, all possible measures must be taken to ensure that spilled fuel or oil do not reach any drainage channel.
- Spill incidents must be reported to LEDET in terms of Section 30(5) of NEMA.

Mitigation measures - operational phase:

- Vehicles must be maintained as to not spill diesel and oil.
- When a spill incident occurs, all possible measures must be taken to ensure that spilled fuel or oil do not reach any drainage line.
- Spill incidents must be reported to LEDET in terms of Section 30(5) of NEMA.
- Temporary toilets must be provided on the edges of the croplands. These toilets must be emptied regularly, and the contents disposed of to a site registered to accept such waste.
 - Care must be taken that no spillage of contents occurs during emptying. Any spillages must be contained and cleaned up immediately.
 - Units must be inspected regularly, and any leakages observed must be repaired as soon as possible.
- Selection and application of insecticides, herbicides and fertilizers must be done in consultation with an ecologist or specialist advisor.

12.2.4 Land and soils

Clearance and soil preparation phase:

- During this phase soil pollution can occur due to oil and diesel spillages during the operation of construction vehicles.
- Soil pollution can occur due to unavailability of sanitation facilities.
- Loss of topsoil (erosion) can occur due to storm water over cleared areas.

Operational phase:

- During this phase soil pollution can occur due to leakages of fuel/oil or other lubricants from tractors and vehicles.
- Loss of topsoil (erosion) can occur due to storm water run-off over cleared areas.

| Project Phase | Impact: Land and soils | | | | | | | | |
|--------------------|---|-----------------|----------|----------|--------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil | Oil and diesel spillages during use of machinery and vehicles | Soil pollution | Low | Low | Low | Medium | Medium | Low | Medium |

| Project Phase | Impact: Land and soils | | | | | | | | |
|--------------------|---|----------------------------|------------|------------|------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| preparation phase | Unavailability of sanitation facilities at the cropland development site | Soil pollution | Low | Low | Low | Medium | Medium | Low | Medium |
| | Vegetation clearance – storm water over cleared sections | Soil loss | Low-Medium | Low-medium | Low-medium | Medium | Medium-High | Low | Medium |
| Cumulative impacts | Spillage of fuel & oil, lack of sanitation facilities and poor stormwater management | Soil pollution and erosion | Low-Medium | Low-medium | Low-medium | Medium | Medium-High | Low | Medium |
| Operational phase | Stormwater flow through croplands during heavy rainfall | Loss of topsoil | Low-Medium | Low-Medium | Low-Medium | Medium | Low-Medium | Low | Low-Medium |
| | Leakages of fuel/oil and other lubricants during the use of tractors and other farming vehicles | Soil pollution | Low | Medium | Low | Medium | Low-Medium | Low | Low-Medium |
| | Disposal of solid waste | Soil pollution | Low | Medium | Low | Medium | Low-Medium | Low | Low-medium |
| | Unavailability of toilet facilities at croplands | Soil pollution | Low | Medium | Low | Medium | Low | Low | Low-medium |
| Cumulative impacts | Spillage of fuel & oil, lack of sanitation facilities and poor waste & stormwater management | Soil pollution | Low | Medium | Low | Medium | Medium-High | Low-medium | Medium |

Mitigation measures - Clearance and soil preparation phase:

- Machinery to be maintained to avoid the risk of excessive oil and fuel spillages.
- The storage of fuel, oils and lubricants must only take place at a designated storage room at the farm maintenance workshop.
- If a spill incident occurs, polluted soil must be removed and treated by a qualified company or removed to a hazardous landfill site.
- Spill incidents must be reported to LEDET in terms of Section 30(5) of NEMA.
- Temporary toilets must be provided on the edges of the croplands. These toilets must be emptied regularly, and the contents disposed of to a site registered to accept such waste.
 - Care must be taken that no spillage of contents occurs during emptying. Any spillages must be contained and cleaned up immediately.

- Units must be inspected regularly, and any leakages observed must be repaired as soon as possible.
- Removal of vegetation must be limited to the croplands footprint area. Removed vegetation can also be used to stabilize exposed sections.
- Implementation of adequate erosion control measures (contours and drainage channels) for cleared areas and roads.

Mitigation measures - Operational phase:

- Vehicles must be maintained to prevent excessive oil and fuel leaks.
- Polluted soil must be removed and treated by a qualified company or removed to a hazardous landfill site.
- Spill incidents must be reported to LEDET in terms of Section 30(5) of NEMA.
- Any damages to soil stabilization measures must be repaired immediately.
- Temporary toilets must be provided on the edges of the croplands. These toilets must be emptied regularly, and the contents disposed of to a site registered to accept such waste.
 - Care must be taken that no spillage of contents occurs during emptying. Any spillages must be contained and cleaned up immediately.
 - Units must be inspected regularly, and any leakages observed must be repaired as soon as possible.
- Contours and stormwater drainage channels must be maintained.
- The establishment of the croplands will produce mainly vegetation debris that will be used for compost and firewood.
- Household waste must be collected and contained in weather- and scavenger-proof bins. Waste must be disposed of regularly to a landfill site licensed to accept such waste.
- No waste may be buried or burned.
- Old irrigation pipes (metal & plastic) must be collected by a recycling company, for recycling according to present practise.
- Used oil and filters from the tractors must be collected according to the current arrangement with an oil recycler, as is currently practised.

12.2.5 Ecology (Fauna & Flora)

Clearance and soil preparation phase:

- During vegetation clearance a loss of faunal habitat will occur.
- Loss of indigenous flora will occur due to the removal of trees and shrubs.
- Fragmentation of natural habitat and loss of wildlife corridors, resulting from fences and/or human activity on site, will occur.
- The potential for human-animal conflict and resultant animal injuries and/mortalities will increase due to human presence on site.
- A loss of indigenous flora and fauna can occur due to possible accidental fires.

Operational phase:

- During the resting phases of the lands some fauna will move back to the croplands footprint.
- Alien invaders will be controlled.

| Project Phase | Impact: Ecology (Biodiversity/Fauna and Flora) | | | | | | | | |
|--------------------------------------|--|---|------------|----------|--------------|------------|-------------|-----------------|--------------------|
| | Activity that causes impact | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil preparation phase | Vegetation clearance | Loss of vegetation and faunal habitat | Medium | High | Low | Low | High | Low-Medium | Medium-High |
| | Possible accidental fires | Loss of biodiversity | Medium | Low | Low - Medium | Low | Low | Low | Low-Medium |
| | Removal of protected trees | Loss of protected species | Low-Medium | High | Low | Low | Medium | Low | Medium-High |
| Cumulative impacts | Vegetation clearance and removal of protected trees | Loss of natural habitat & biodiversity | Medium | High | Low-medium | Low | High | Low-Medium | Medium-High |
| Operational phase | Human activities - the killing or snaring of animals | Loss of fauna | Low | Medium | Low-medium | Medium | Low-Medium | Low | Low-Medium |
| | Cultivation of croplands | Control of alien invader and encroacher species | Medium | High | Low | Low-medium | High | Low | Medium |
| Cumulative impacts | Cultivation of croplands | Loss of fauna & alien species control | Medium | High | Low-medium | Low-medium | High | Low | Medium |

Mitigation measures – Clearance and soil preparation phase:

- Disturbances in close vicinity of the development (periphery) should be limited to the smallest possible area to protect species habitat.
- No development should take place within the 1:100 year flood line. A buffer zone of about 30 meter is also needed for the non-perennial drainage channel. These areas should remain natural without any development or landscaping.
- 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.
- The necessary permit to remove protected trees must be obtained from the Department of Forestry, Fisheries and the Environment (DFFE) and LEDET prior to the removal thereof.
- Large baobab and other ecologically significant trees must remain, and small trees be re-located.
- No drainage channels may be altered without a water use license. A 30-meter minimum buffer should be implemented around drainage channels.
- A buffer of natural vegetation of 30 meters must remain from the edge of the riparian woodland.
- Woody vegetative cover that is removed may be used for compost.
- Only removed vegetation (wood) during site clearance can be used as firewood by workers and the community. Fires may however only be made at designated areas.
- Staff must be educated on the dangers of accidental fires. The necessary safety measures must be in place on site.

Mitigation measures – Operational phase:

- The most effective management measures for the control of alien invasive species are to uproot seedlings or alternatively apply foliar herbicides registered for the specific species on regrowth.
- Application of herbicides and pesticides must be done in consultation with an ecologist to prevent unintentional poisoning of non-target species.
- No killing of fauna by snaring or trapping must be allowed.

12.2.6 Archaeological and Heritage resources

Clearance Phase:

- The clearing of the site, construction and operational activities may have a negative impact on the archaeological features of the site.
- These impacts will negatively impact upon the cultural heritage of the farm.

| Project Phase | Impact: Archaeological/Heritage resources | | | | | | | | |
|--------------------|--|----------------------------------|----------|----------|-------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Construction phase | Vegetation clearance, construction activities and human activities on site | Damage to/loss of heritage sites | High | High | Medium-High | Low | Medium | Low | High |

| Project Phase | Impact: Archaeological/Heritage resources | | | | | | | | |
|-------------------|--|-------------------------------------|----------|----------|--------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| | Vegetation clearance, construction activities and human activities on site | Negative impact on/loss of heritage | High | High | High | Low | Medium | Low | High |
| Operational phase | Farming activities on site | Damage to/loss or heritage sites | Low | High | Low | Medium | Medium | Low- | Medium |
| | Farming activities on site | Negative impact on/loss of heritage | Medium | High | Medium | Medium | Medium | Low | Medium |

Mitigation measures - Planning phase:

- The recommendations contained in the Archaeological Impact Assessment (Appendix E) and Grave Management Plan (Appendix F) must be used to compile a Site Management Plan. This plan must be explained to the project manager prior to any site activities commencing.
- The areas where archaeological materials were recorded should be excluded from development and cordoned off to prevent farm machinery accidentally impacting archaeological resources. KMZ files should be provided to the developer. Fencing the area would be appropriate.
- These heritage sites must be demarcated, must be clearly visible and must be considered no-go areas to construction personnel.

Mitigation measures - Clearance and soil preparation phase:

- The Site Management Plan must be executed, and the process must be overseen by a person qualified to do so.
- The areas where social/family areas were recorded should be excluded from development and cordoned off to prevent farm machinery accidentally 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.

- Care must be taken in the excavations and moving of soil to observe any archaeological feature of importance. If subsurface archaeological deposits, artefacts, or skeletal material were to be recovered in the area during construction activities, all activities must be suspended, and the archaeological specialist should be notified immediately.
- 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.

Mitigation measures - Operational phase:

- The operational phase should not have any negative impact on the archaeological features of the site if all recommendations of the Archaeological Impact Assessment are adhered to.

12.2.7 Visual impacts

Clearance and soil preparation phase:

- The removal of indigenous vegetation will have a definite visual impact and will result in a change in the landscape characteristics of the site.
- The proposed project would have a low contrast and associated visual intrusion on the existing landscape character scene due to its proximity to existing similar land uses.

| Project Phase | Impact: Visual | | | | | | | | |
|--------------------------------|-----------------------|-------------------------------------|------------|----------|------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil preparation | Removal of vegetation | Visual change in landscape features | Low-medium | High | Low-medium | Low | High | Low-medium | Medium |
| Cumulative impacts | Removal of vegetation | Visual change in landscape features | Low-medium | High | Medium | Low | High | Low-medium | Medium |

Mitigation measures - Clearance and soil preparation phase:

- Vegetation removal must be confined to the development footprint (422ha) .
- Large baobab trees and other ecologically valuable trees occurring in the croplands footprint must remain.
- Vegetation clearance must remain outside of the 30-meter buffer surrounding the drainage channel delineation (Figure 6).

12.2.8 Socio-economic impact

Clearance and soil preparation phase as well as operational phase:

- The expansion of existing croplands will ensure more jobs, both seasonal and permanent. This will also provide for training and skills development of people from local communities.
- More staple foods will be produced which will contribute to greater food security.
- Export to international markets will earn valuable foreign exchange, a sustainable source of income, beneficial to the national economy.

| Project phase | Impact: Socio-economic | | | | | | | | |
|--------------------------------------|---------------------------|--|-------------|--------------|--------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil preparation phase | Job creation | Availability of jobs and skills development to local communities | Low-medium+ | Low-medium+ | Medium-high+ | High + | High + | Medium + | N/A |
| Operational phase | Job creation | Availability of jobs and skills development to local communities | Low-medium+ | Medium-high+ | Medium-high+ | High + | High + | Medium + | N/A |
| | More productive croplands | Increased food production and food security | Medium + | High + | High+ | High + | High + | High + | N/A |

Mitigation measures - Clearance and soil preparation phase as well as operational phase:

- Where viable, work must be executed in a labour-intensive manner to create as many jobs as possible.
- Skills-development and upskilling of labour should be ongoing.

12.2.9 Safety, security and health aspects

Clearance and soil preparation phase:

- Possible injuries to staff may occur during the operation of construction machines as well as during soil preparation.
- Burning of removed vegetation may lead to veld fires.

Operational phase:

- During this phase staff may be injured during the operation of machines.
- Spraying/application of pesticides and herbicides will pose a danger to staff.

| Project phase | Impact: Safety, security and health | | | | | | | | |
|---|--|--|----------|----------|------------|-----------|-------------|-----------------|--------------------|
| | Activity/Aspect | Specific impact | Severity | Duration | Extent | Frequency | Probability | Significance | |
| | | | | | | | | With Mitigation | Without Mitigation |
| Clearance and soil preparation phase | Operation of construction vehicles or machinery | Possible injuries to staff | Medium | Low | Low | Low | Low | Low | Low-Medium |
| Operational phase | Unintentional veld fires occurring during farming activities | Health – injury | Medium | Low | Low-Medium | Low | Low-Medium | Low | Low-medium |
| | Spraying of pesticides and herbicides | Inhalation of/skin contact with mist/fumes or drift | High | Medium | Low | Medium | Low-Medium | Low | Low-Medium |
| | Possible injuries to staff during farming activities | Health - injuries | High | Medium | Low | Medium | Low-Medium | Low | Low-Medium |
| Cumulative impacts | Veld fires and cultivation of lands | Destruction of indigenous vegetation and health impacts on workers | High | Medium | Low-medium | Medium | Low-medium | Low-medium | Medium |

Mitigation measures – Clearance and soil preparation phase:

- The Safety Act (Act 80 of 1993) requires the designation of a Health and Safety representative when more than 20 employees are employed.
- Fire breaks should comply with the National Veld and Forest Fire Act, 1998 (Act 101 of 1998, Chapter 4: Duty to Prepare and maintain firebreaks). An emergency plan must be in place so that any uncontrolled fire can be combated in the most efficient manner.
- No vegetation may be burnt on the premises or surrounding areas.
- Staff must be adequately trained in aspects of vegetation clearing, handling and application of chemicals and operation of machinery/equipment.
- Personal protective equipment must be provided by the employer and must be worn when executing duties, handling of chemicals and operation of machinery.
- There must be a first aid trained person at the farm office as well as a first aid medical kit.
- Emergency contact numbers must be clearly displayed.

Mitigation measures – Operational phase:

- The Safety Act (Act 80 of 1993) requires the designation of a Health and Safety representative when more than 20 employees are employed.
- Fire breaks should comply with the National Veld and Forest Fire Act, 1998 (Act 101 of 1998, Chapter 4: Duty to Prepare and maintain firebreaks). An emergency plan must be in place so that any uncontrolled fire can be combated in the most efficient manner.
- No vegetation may be burnt on the premises or surrounding areas.
- Staff must be adequately trained in aspects of vegetation clearing, handling and application of chemicals and operation of machinery/equipment.

- Personal protective equipment must be provided by the employer and must be worn when executing duties, handling of chemicals and operation of machinery.
- There must be a first aid trained person at the farm office as well as a first aid medical kit.
- Emergency contact numbers must be clearly displayed.

12.3 Assessment of potentially significant impacts and risks

Impacts with a rating of Medium-High or High are impacts which are regarded as potentially significant, rated without any mitigation measures. In this impact assessment the potentially significant negative impacts are:

- 1) Removal of vegetation and protected trees (Medium-High)
- 2) Loss of archaeological resources (High)

These impacts will now be briefly discussed.

12.3.1 Cumulative impacts

- 1) A non-perennial drainage channel in the eastern section of the site was modified partially when croplands were developed previously. The channel with associated riparian vegetation is considered to be ecologically sensitive, forming an important, limited and specialised habitat for several plant and fauna species. The corridor of riverine woodland along the channel is also important to allow fauna to move freely between areas of disturbance. A 30m buffer will be retained around it to protect it from erosion and conserve sensitive riparian habitat and wildlife corridors.
- 2) Impacts to graves will impact on the cultural and heritage significance of the site. As such, the potential impact is regarded as High, however this impact rating can be limited to a Low impact by the implementation of mitigation measures (stakeholder engagement, site management and site monitoring) during construction and operation.

12.3.2 Nature of impact

- 1) Impact on sensitive riparian ecosystem, habitat loss and degradation and erosion
- 2) Damage to or loss of heritage resources due to activities on site

12.3.3 Extent and duration of impact

- 1) This impact will have significance on a local scale and the impact is reversible.
- 2) This impact will have significance on a local and community-specific scale, and the duration is permanent.

12.3.4 Probability of occurrence

- 1) The probability of this impact is High
- 2) The probability of this impact is Medium

12.3.5 Degree to which impact can be reversed

- 1) The impact is reversible.
- 2) The impact is irreversible.

12.3.6 Degree to which impact can cause irreplaceable loss of resources

- 1) Medium
- 2) High

12.3.7 Degree to which impacts can be mitigated

- 1) Mitigation is possible – mitigation measures will be strictly implemented.
- 2) Mitigation is possible – mitigation measures will be strictly implemented.

13 ENVIRONMENTAL IMPACT STATEMENT – SUMMARY OF KEY FINDINGS

13.1 Palaeontological Impact Assessment (Appendix D)

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).

13.2 Archaeological (Heritage) Impact Assessment (Appendix E)

In total an additional cemetery and 10 individual graves were recorded, summarised as follows:

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

- Recommendations are that graves remain *in situ* and be fenced with a 30m buffer zone, especially where exact position is no longer well remembered.
- Newly recorded residential areas were also recorded.
- All are of Medium to High significance.
- The sites should be fenced and access gates should provide controlled access to the sites.
- Clear signboards should be erected indicating the heritage sensitivity of the sites and contact details for visitation of the graves should be provided.
- The sites should be monitored on a weekly basis during initial site clearing and earth moving activities by an ECO familiar with the sensitivity of receptors, or the Heritage Consultant in order to detect any impact at the earliest opportunity.
- Further monthly monitoring of the burial sites is recommended during subsequent stages of development.
- A Site Management Plan (SMP) should be implemented detailing these conservation measures and indicating responsible parties in this regard.
- If subsurface archaeological deposits, artefacts or skeletal material were to be recovered in the area during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately

13.3 Ecological Impact Assessment (Appendix G)

- 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.
- The proposed areas for the croplands are mostly on mixed woodland variations.
- 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 are important corridors to rare and endemic fauna found in the area.
- 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.
- The area surrounding the drainage channel consists of calcareous material not suitable for farming.
- No red data plant species were found on the site.

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 fauna includes the following:

- Disturbances in close vicinity of the development (periphery) should be limited to the smallest possible area in order 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 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 Present Ecological State (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 Ecological Importance and Sensitivity (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 that 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.

13.4 Summary of positive and negative impacts and risks of the proposed activity and identified alternatives

13.4.1 Advantages of the proposed croplands

- Use of available water for food production.
- Crop rotation resulting in higher production with same volumes of fertilizers.
- Job creation and skills development will benefit the people from surrounding communities.
- Food will be produced for the local markets, food processing plants and export market.

13.4.2 Disadvantages of proposed croplands

- 1) Removal of indigenous vegetation.
- 2) Loss of habitat for fauna.

14 AUTHORISATION OF ACTIVITY AND CONDITIONS

The purpose of this report is to provide the relevant authority with sufficient information regarding the potential impacts of the development to make an informed decision regarding the approval of the Environmental Impact Assessment report. Potential impacts were identified in consultation with I&AP's and technical specialists and were assessed using a matrix and by applying professional knowledge. The potentially significant negative and positive impacts that have been identified should be mitigated through the implementation of the mitigation measures contained in Section 12 of this report.

Impacts with a rating of **Medium-high or High** are impacts which are regarded as potentially significant, rated without any mitigation measures. In this impact assessment the only potentially significant negative impact is the impact on Heritage and Archaeological resources.

It is proposed that the following conditions must be included in the Record of Decision if the project is authorised:

- All of the mitigation measures contained in this report and its appendices must be implemented.
- The management and or mitigation measures contained in the Environmental Management Plan must be implemented (Appendix M).

- The responsibility to obtain any further authorisations and/or licenses will rest on the proponent of the project, PRIOR to commencing with any activities on site.

14.1 Conditions to be included in the record of decision for each project phase:

14.1.1 Clearance and soil preparation phase

- Buffer areas around grave & heritage sites must be clearly demarcated and cordoned off.
- The necessary permits and authorizations must be obtained before activities can commence. The removal of protected trees will necessitate permits from DFFE and LEDET.
- The Department of Economic Development, Environment and Tourism as well as the Department of Agriculture must be informed before activities commence.
- Vehicles and machinery must be properly maintained to prevent spillages of fuels and oils onto soils.
- Toilet facilities must be provided to workers.
- Dripper irrigation must be used while ensuring that no water is wasted.
- Regular maintenance and the implementation of adequate erosion control measures of the exposed soil and road sections must be done.
- Care must be taken during clearance and soil preparation that anything of archaeological or palaeontological value that is unearthed must be recorded. The archaeologist/SAHRA, or palaeontologist must be notified whenever anything of importance is discovered.
- Only vegetation (wood) removed during site clearance can be used as firewood.
- No trees may be cut or destroyed for firewood outside the footprint of the croplands. Removal of vegetation is to be confined to the croplands footprint area.
- Large baobab and other ecologically important trees occurring in the lands must be left and smaller ones re-located.
- No development should take place within the 1:100 year flood line. A buffer zone of about 30 meters is needed for the non-perennial drainage channels. These areas should remain natural without any development or landscaping.
- No drainage channel may be altered without a water use license.
- A 30-meter minimum buffer should be implemented around the riparian woodland.
- Any signs of erosion must be repaired immediately.
- Alien invasive species seedlings must be mechanically controlled or alternatively apply foliar herbicides register for the specific species on regrowth.
- No snaring, trapping or killing of fauna must be allowed.
- Staff must be educated on the dangers of accidentals fires. The necessary safety measures must be in place on site.
- Fire breaks should comply with the National Veld and Forest Fire Act 101 of 1998 (Chapter 4: Duty to Prepare and maintain firebreaks). An emergency plan must be in place so that any uncontrolled fire can be combated in the most efficient manner.
- The applicant is responsible for the eradication of alien invasive species.
- Safety Act (Act 80 of 1993) requires the designation of a Health and Safety representative when more than 20 employees are employed.
- Staff must be adequately trained and provided with the necessary safety gear/clothing during vegetation clearance, and during the operation of machinery.
- There must be a first aid trained person on the farms as well as a first aid medical kit.

14.1.2 Operational Phase

- The water allocation may not be exceeded.
- Buffer areas around grave & heritage sites must be fenced, and fences maintained.
- Application of insecticides, herbicides and fertilizers must be done in prior consultation with an ecologist.
- Any signs of erosion must be repaired immediately.
- Alien invasive species seedlings must be mechanically controlled or alternatively apply foliar herbicides register for the specific species on regrowth.
- No snaring, trapping or killing of fauna must be allowed.

15 ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

- In this report it is assumed that the applicant, farm/project manager and contractor will always act responsibly by taking the environment into consideration.
- It is assumed that the applicant will ensure that the mitigation measures in this report are complied with and that all monitoring and maintenance requirements will be followed closely.

16 CONCLUDING RECOMMENDATION BY EAP

The purpose of this report is to provide LEDET with sufficient information regarding the potential impacts of the proposed development to make an informed decision regarding the approval/rejection of the Environmental Impact Assessment Report and issuing of a positive/negative Environmental Authorization.

The potentially significant negative impacts which have been identified should be mitigated through the implementation of the mitigation measures highlighted in this report. AGES believes that the proposed mitigation measures will effectively reduce the impacts to acceptable levels.

Potential impacts were identified in consultation with I&AP's and technical specialists (where applicable) and assessed using a matrix and by applying professional knowledge. The recommendations contained in all of the specialists' reports provided, must be strictly implemented.

It is the professional opinion of AGES that the proposed development does not present any fatal flaws in terms of negative impacts to the environment and therefore will not have any significant detrimental impacts to render the project unfeasible.

The Department is therefore respectfully requested to evaluate this Consultation Environmental Impact Assessment Report (EIAR), as part of an application lodged in terms of Chapter 5 of the National Environment Management Act, 1998 (Act no. 107 of 1998), in respect of the activities identified in Government Notice R 984:

| Relevant notice | Description |
|---|--|
| GN R.984 of 4 December 2014 (as amended), 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 422ha and the required footprint will be cleared of vegetation. |
| GN R.984 of 4 December 2014 (as amended), Activity 15 <i>“The clearance of an area of 20 hectares or more of indigenous vegetation.”</i> | Approximately 422ha of indigenous vegetation will be cleared for croplands |

17 BIBLIOGRAPHY

COAL OF AFRICA., 2013. *Greater Soutpansberg Chapudi Project: Environmental Impact Assessment and Environmental Management Programme* (<https://sahris.sahra.org.za> accessed 20230324)

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

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).

DEA, 2016. *The South African Strategy for the Biosphere Reserve Programme (2016-2020)*. Department of Environmental Affairs, Pretoria.

HEDDEN-DUNKHORST, B. SCHMITT, F. 2020. Land. Vol. 9, 237. *Exploring the Potential and Contribution of UNESCO Biosphere Reserves for Landscape Governance and Management in Africa*. www.mdpi.com/journal/land

MIDGLEY, D.C. PITMAN, W.V. AND MIDDLETON, B.J.1994. First Edition *Surface water resources of South Africa 1990, Volume VI, Drainage regions U,V,W,X, Eastern Escarpment*. WRC Report No 298/6.2/94, Pretoria.

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.