EnviroAfrica
Environmental Management and Impact Assessment
Omgewingsbestuur en Impakbeoordeling

THE PROPOSED

HENKRIES MEGA-AGRIPARK DEVELOPMENT

Remainder of the Farm Steinkopf No. 22, Springbok
Nama Khoi Municipality, Northern Cape Province.

ENVIRONMENTAL SCOPING REPORT & PLAN OF STUDY

DEA Ref. No.: NC/BA/28/NAM/NAM/STE1/2016

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ABBREVIATIONS

BGIS	Biodiversity Geographic Information System
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DENC	Department of Environment and Nature Conservation
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Programme
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
I&APs	Interested and Affected Parties
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM: BA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
NID	Notice of Intent to Develop
NWA	National Water Act
OESA	Other Ecological Support Area
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
WULA	Water Use Licence Application

1. INTRODUCTION

Henkries Farm is situated along the bank of the Orange River, approximately 90 km north of Springbok, just west of Goodhouse, Northern Cape Province. Derived from Khoekhoen, the name, also encountered as Henkrees, Henkeriss and Hamneries, means *'mountain slope'* (www/en.wikkepedia.org). Henkries, which falls within the Namaqualand District Municipality, relies almost exclusively on agriculture irrigated with water extracted from the Orange River. Namaqualand is an arid to semi-arid area situated in the northwest corner of South Africa, bordering on the Orange River. Large areas of arable soil can be found on the banks of the Orange River and the proximity to irrigation water creates attractive opportunities for development of intensive agricultural development. Namakwa district is one of very few areas in South Africa where high quality arable land together with water licenses from the Orange River are still readily available for the economic development of local communities. Agricultural development has the potential to unlock the economy of this region through high value crop agriculture.

The Northern Cape Department of Agriculture Land Reform and Rural Development (henceforward referred to as the Department of Agriculture or DoA) proposes the establishment of a Mega-Agripark at Henkries in order to stimulate the economy of this region, through agriculture, in order to promote sustainable economic growth, job creation and economic empowerment of this community (Draft Henkries Development Plan, 31July 2015). The proposed Henkries development forms part of the Orange River Emerging Farmer Settlement and Development Program which centres on economic growth, the development of rural communities and economic empowerment through the development of irrigation land into intensive agricultural production units in the Northern Cape.

The scope of the Henkries project will be to develop approximately 130-150 ha of high potential arable land near Henkries. This development is designed to act as catalyst for the development of a further 3 000 ha of arable land which is located in eleven distinct areas of the Namaqualand District. The basket of products to be produced varies from cash crops such as lucerne and grains, but the bulk of the development is aimed at high value crops with export potential in order to secure significant growth on the required investment. These products will be marketed through a central distribution center and processing facility earmarked to be developed in the Springbok Industrial Zone.

The proposed development will also include the development of two reservoirs and connecting pipeline to the existing Henkries Pump Station.

1.1. BACKGROUND

Henkries Farm is well known for its date production. Over and above the approximately 60ha of dates for commercial markets, cash crops and vegetables are produced under pivot irrigation on approximately 25 ha. The existing agricultural development at Henkries focuses on economic growth, job creation and economic empowerment, through the production of dates, dry grapes (raisins) and mango's under irrigation.

The scope of this project is to expand the production of dates and dry grapes (raisins) under irrigation. The Department of Agriculture, Land Reform and Rural Development took over management of Henkries Farm from CASIDRA on 1 June 2008. Henkries farm worker component currently consists out of 14 permanent workers and 8 seasonal workers, but it also appoints an additional 20 worker during the dates and mango harvesting period. Manual labor is used to execute almost all activities on the farm. The Henkries farm workers originate from Steinkopf, Goodhouse and unemployed persons of the surrounding areas.

1.1.1. The applicant

The applicant is the Department of Agriculture, Land Reform and Rural Development.

EnviroAfrica CC has been appointed as the independent environmental assessment practitioner (EAP) responsible for undertaking the relevant EIA and the Public Participation Process required in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA). This report forms part of the EIA process.

The aim of this report is:

- to describe the proposed project and its associated activities;
- the EIA process followed to date;
- to present alternatives; and
- to list issues identified for further study and comment by specialists.

Should the EIA process be authorised, the Specialist Studies (noted in Section 8) will be undertaken and the significant issues (noted in Section 6) will be investigated and assessed during the next phase of this application.

1.1.2. Strategic consideration

The Henkries Irrigation Development is aligned to several strategic policies and imperatives:

- The New Growth Path (NGP) identified agriculture and its value chain as a catalyst for radical socio-economic transformation and focus on job creation and decent work towards the year 2020.
- The vision of the National Development Plan (NDP) is to create close to 1 million jobs in Agriculture and to reduce unemployment through:
    - Expanded irrigated agriculture (by at least 500 000ha).
    - Revitalization of underutilized land in communal areas.
    - Pick and support commercial sectors with highest potential for growth.
    - To support job creation in the upstream and downstream industries.
    - To find creative combinations between opportunities.
- The Agricultural Policy Action Plan (APAP) is aligned to the NGP, NDP and the MTSF 2014 -2019 action plan.
- The National Infrastructure Plan highlight 18 strategically integrated projects (SIPs) to fast track development and growth.

- SIP 11 deals specifically with agricultural and rural infrastructure to support the expansion of production and employment.
- Mega AgriPark Initiative of Department of Rural Development
- The River Valley Catalytic Project has also been identified as a framework to develop irrigation schemes through infrastructure, improved market access, social infrastructure and skills development.

1.2. DESCRIPTION OF THE PROPOSED ACTIVITY

The NC Department of Agriculture Land Reform and Rural Development proposes the establishment of a Mega-Agripark at Henkries in order to stimulate the economy of this region, through agriculture (Draft Henkries Development Plan, 31July 2015). The proposed Henkries development forms part of the Orange River Emerging Farmer Settlement and Development Program which centres on economic growth, the development of rural communities and economic empowerment through the development of irrigation land into intensive agricultural production units in the Northern Cape.

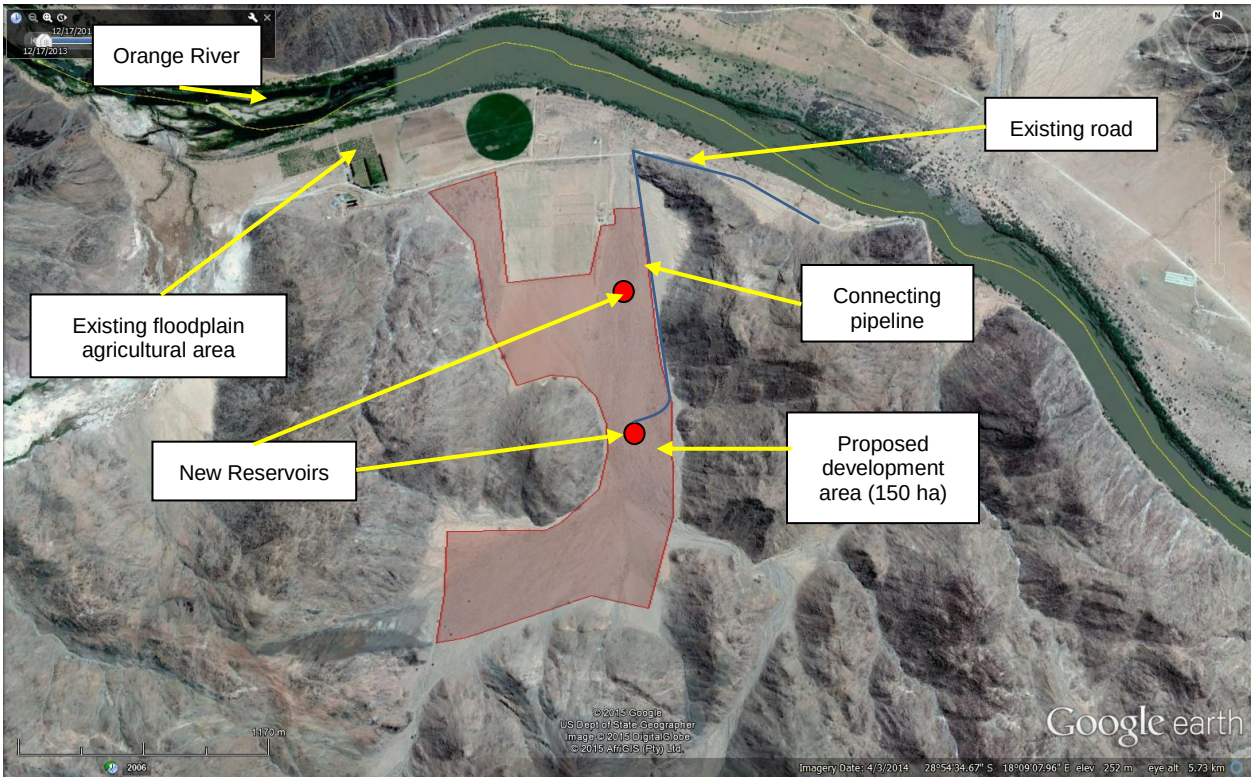


Figure 1: Proposed development area

The scope of the Henkries project will be:

- to develop a further 130 - 150 ha of agricultural land near Henkries (an additional 40 ha of existing agricultural land will also be re-vitalised – not part of this application):
- construct 2 new reservoirs for irrigation purposes with capacities as follows;
  - 6 690 m^3 and
  - 21 120 m^3 respectively;

- construct two connecting pipelines to these reservoirs with dimensions as follows:
    - a 2.014 km long, 0.35 Ø, 72.7778 l/s connecting the smaller reservoir; and
    - a 3.042 km long, 0.5 Ø, 244.444 l/s pipeline connecting the larger reservoir.

This development is designed to act as catalyst for the development of a further 3 000 ha of arable land which is located in eleven distinct areas of the Namaqualand District. The bulk of products to be produced aim at high value crops with export potential in order to secure significant growth on the required investment. These products will be marketed through a central distribution center and processing facility earmarked to be developed in the Springbok Industrial Zone.

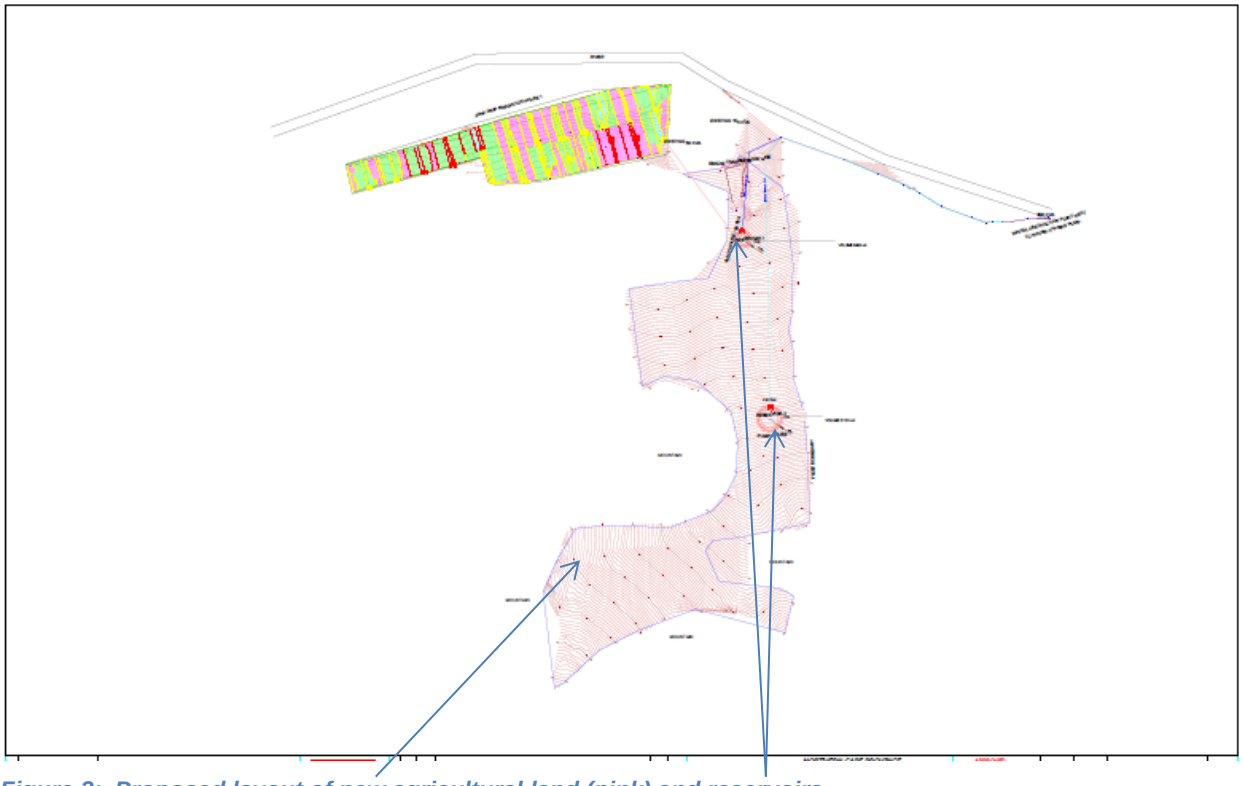


Figure 2: Proposed layout of new agricultural land (pink) and reservoirs

Access to the site will be directly off the existing Henkries / Goodhouse connection road, which borders the southern section of the proposed development.

1.3. NEED AND DESIRABILITY

In terms of the National Environmental Management Act, as amended, EIA 2010 regulations the Scoping/EIA report must provide a description of the need and desirability of the proposed activity. The consideration of "need and desirability" in EIA decision-making requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest.

While the concept of need and desirability relates to the *type* of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general

meaning of its two components in which *need* refers to *time* and *desirability* to *place* – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to *wise use of land* – i.e. the question of what is the most sustainable use of land.

1.3.1. Need

The Department of Agriculture, Land Reform and Rural Development business proposal motivates the need of the proposed development as follows:

"According to the 2002 agricultural census (the last census data on District level) Namakwa contributed 7.3% to total Gross Farm Income of the Northern Cape. The importance of production under irrigation is relatively small if compared to the rest of the Province as the District produced 2.2% of the value of field crops and 2.4 % of the value of horticulture crops in the Northern Cape.

According to Global Insight calculations, Namakwa District was the only District that indicated a decrease in GDP per Capita for the period 1996 to 2012, dropping from R 36,692 to R 36,247 in constant 2005 prices. This means that output per capita decreased marginally over this period.

The situation for Nama Khoi and Khai-Ma Municipalities is even worse as the GDP per Capita decreased from R 40 593 to R 35 871 and from R 29 187 to R 24 020 for the same period. Richtersveld Municipality experienced a marginal increase from R 39 350 to R 41 279. This highlights the need for additional development in these areas to reverse this trend.

The Gross Value that was added by the agricultural sector as a percentage of the total value that was added in the Northern Cape in 2012 totalled 6.34%. The contribution of the value added by agriculture in Namakwa District (R 768 million) accounted for 10.41% of the total value added by the District.

In Nama Khoi- and Richtersveld Municipal areas agriculture employed 10% of total formal sector employment (4th highest contributing sector), but in Khai-Ma Municipal area agriculture employed 45% of total formal sector employment and is the highest contributing sector. It clearly underlines the role of agriculture as job creator in rural areas.

While there are moderate backward linkages with sectors such as manufacturing (e.g. fertilizers and chemicals), transport and services, minimum forward linkages exists with virtually no processing of agricultural products or agro-tourism ventures.

The potential for agro-tourism, agro-processing and value adding initiatives presents further opportunities for diversification of the local economy. It is recognized that successful promotion of agro-processing can impact positively on the incomes of primary producers, create employment and address market risks. It is also one of the means by which transformation of agriculture in the province can be achieved. Possible agro-processing ventures in the area include:

- *Date production*
- *Dried fruit and vegetables*
- *Animal feed products*

- *Cereals"*

There is a definite need, locally and nationally, for economic development and the creation of employment opportunities. In the Nama Khoi Municipality, the most viable formal development option, which will also relates to the most employment opportunities remains agriculture.

A draft Development plan was prepared by the Department (Appendix 2) in order to determine the economically viability of the proposed project especially in terms of beneficial use of the available resources (with emphasis on BEE).

1.3.2. Desirability

The following factors determine the desirability of the area for the proposed Henkries Mega-Agripark Development.

1.3.2.1. Land reform and black economic empowerment

The land under consideration is owned by the municipality and does not require to be procured in the open market. Income can be generated through agriculture which will significantly improve the economic situation of communities over time.

1.3.2.2. Location and Accessibility

From an agricultural point of view, the proposed locations is almost the only large enough remaining irrigation area within easy access to water at Henkries. The sites are also in close proximity to the source of water (Orange River).

1.3.2.3. Agricultural potential

Due to the dominant soil properties, inter alia, (i) topsoil horizons (ii) clay content (iii) effective root depth, (iv) dominant soil form and series, it can be concluded that the soils of Henkries on the proposed area for irrigation have low to high potential for irrigated agriculture according to the criteria of Schoeman (2004). The area cannot be considered as prime land, because prime land is defined as the best land available, primarily from national perspective. However, this area can be defined as unique agricultural land, due to specific combinations of location, climate or soil properties that make it highly suitable for a specific crop, more especially dates and grapes.

The impact on the production of annual summer and winter grain crops and pastures are probably small on a local scale. This assumption is based on the fact that raw input materials needs to be transported into the area over long distances while the raw products will have to be transported back again to far-off markets. The opportunity for value adding is relatively small. There is also no evidence of success on large lands that have been planted to summer as well as winter annual crops and pastures in the near past.

Fodder crops such as lucerne have proved to be very successful in this area, especially as a cash crop for ensuring stable income throughout the year. Lucerne produced in this area is highly suitable for milk producers as fodder and in current market conditions it is probably the most lucrative cash crop in the area.

1.3.2.4. Compatibility with the surrounding land use

The Namakwa District is the largest and least populous district in South Africa (Bourne et al., 2012). The majority of the District fall under private land tenure, with a smaller proportion under communal land use and around 3.5% of the land area are under formal conservation and 2.7% under mining permits (Todd et al. 2009).

The districts major land use is defined by livestock grazing and mining. Approximately 90% of the district's land surface is natural rangelands used for livestock grazing and the remaining 10% is a combination of mining, urban development, protected areas and crop agriculture (Todd et al. 2009; Bourne et al., 2012).

The surrounding Henkries Farm is well known for its date production. Over and above the approximately 60 ha of dates for commercial markets, cash crops and vegetables are produced under pivot irrigation on approximately 25 ha. Currently only a small portion of the date plantations produce quality fruit and are commercially viable. Infrastructures, including the packing and cooling facilities, are in a poor condition and need to be replaced and or renovated.

The scope of the project is to upgrade the packaging facilities & housing complexes, ESKOM electricity system, current irrigation infrastructure, mechanization and to expand the production of dates and dry grapes (raisins) under irrigation. The Department of Agriculture, Land Reform and Rural Development took over management of Henkries Farm from CASIDRA on 1 June 2008.

Apart from the land under management by the Department Agriculture, Land Reform and Rural Development other small farm holdings are also present along the Orange River. However, almost none of these are presently farmed to its potential (Refer to Figure 3) and it is hoped that the proposed development will act as a catalyst for improvement to these areas as well. Also evident from the aerial image is that most of the agricultural activities are concentrated along the banks of the Orange River.

The proposed activity will not be "out of character" with the surrounding land use and is expected to enhance the visual character of the area.

1.3.2.5. Job creation

The primary objective of the existing agricultural development project at Henkries Farm centres on economic growth, job creation and economic empowerment, through the production of dates, dry grapes (raisins) and mango's under irrigation.

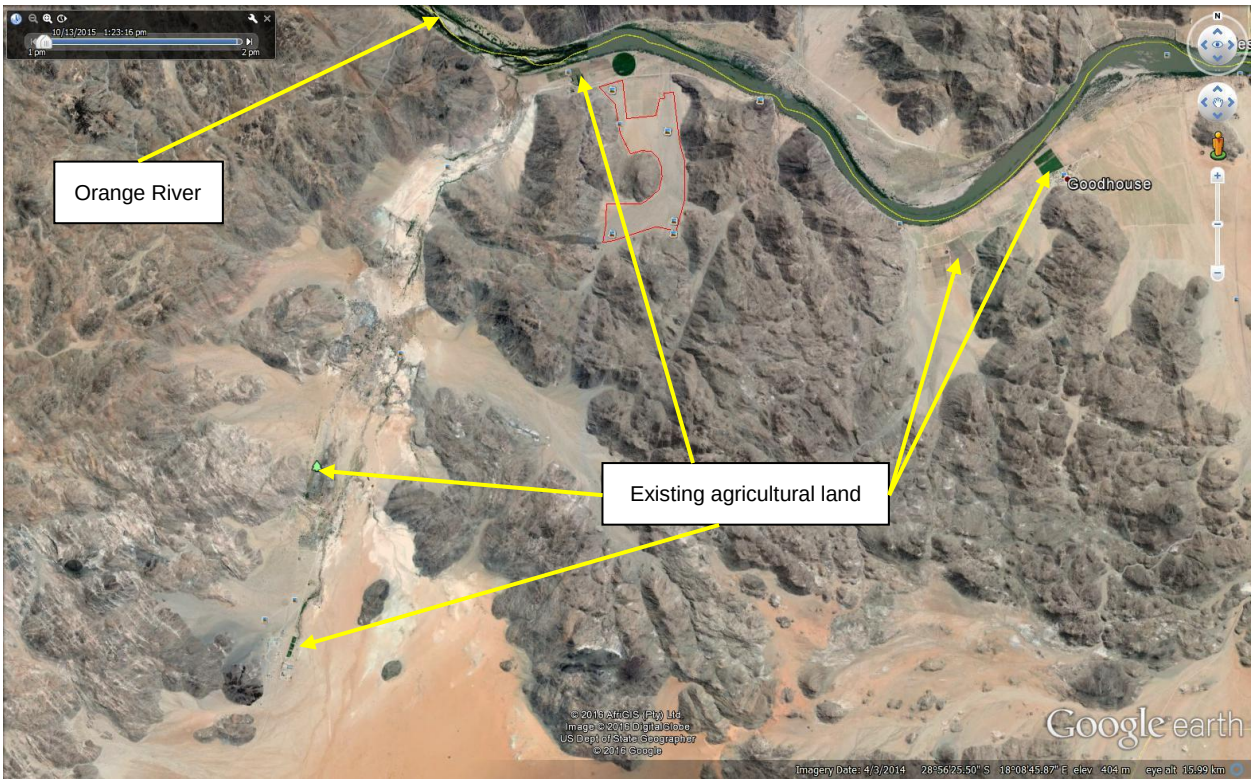


Figure 3: Aerial image showing the proposed development sites in relation to the surrounding land use

1.3.2.6. Food security

The communities of Henkries are characterized by severe poverty and a large proportion of families rely heavily on social grants for subsistence. Income from agricultural development will contribute directly and indirectly to food security, i.e. the availability of enough and affordable food for all.

1.3.2.7. Training and capacity building

The establishment of high value crops in Henkries will create a number of opportunities for schooled and unschooled individuals. Skills development though on-job and formal training will be a high priority in any development initiative.

2. LEGAL REQUIREMENTS

The current assessment is being undertaken in terms of the National Environmental Management Act (Act 107 of 1998, NEMA), to be read with section 24 (5): NEMA EIA Regulations 2014. However, the provisions of various other Acts must also be considered within this EIA.

The legislation that is relevant to this study is briefly outlined below.

2.1. THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA

The Constitution of the Republic of South Africa (Act 108 of 1996) states that everyone has a right to a non-threatening environment and that reasonable measure are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

2.2. NATIONAL ENVIORNMENTAL MANAGEMENT ACT

The National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorization from the relevant authorities based on the findings of an environmental assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA).

On the 4 December 2014 the Minister of Environmental Affairs promulgated regulations in terms of environmental impact assessments, under sections 24(5) and 44 of NEMA, namely the EIA Regulations 2014 (GN No. R 982), which consists of:

- GN No. R. 983, R. 544 (Listing Notice 1);
- GN No. R. 984 (Listing Notice 2); and
- GN No. R. 985 (Listing Notice 3).

Listing Notice 1 and 3 are for a Basic Assessment and Listing Notice 2 for a full Environmental Impact Assessment.

2.2.1. Listed activities

According to the 2014 EIA regulations the following potentially listed activities may be triggered (Refer to Table 1).

Table 1: Listed activities identified that might potentially be triggered by the proposed development

GN R983	Short description of relevant Activity(ies) in terms of Listing Notice 1	Description of specific portion of the development that might trigger the listed activity.
8	Development of Agri-industrial facilities larger than 2 000 m^2.	**Not applicable** to this application.
9	Water & storm water infrastructure.	**Applicable**: Two major pipelines to be constructed with dimension as follows: Phase 1: 2.014 km long, 0.35 Ø, 72.7778 l/s Phase 2: 3.042 km long, 0.5 Ø, 244.444 l/s
12	Development within a water course.	Likely: The proposed development is likely to impact on a number of small seasonal or ephemeral drainage areas.
13	Off stream storage of water with a combined capacity of >50 000 m^3.	Not Applicable. Two reservoirs will be constructed, but their combine capacity (6 690 + 21 120 = 27 810 m^3) will be less than the 50 000 m^3 cut-off.
19	Moving of >5m^3 of material within a water course.	The proposed development is likely to impact on a number of small seasonal or ephemeral drainage areas.
GN R984	**Short description of relevant Activity(ies) in terms of Listing Notice 2**	**Description of specific portion of the development that might trigger the listed activity.**
15	Clearance of 20 ha or more of indigenous vegetation.	The development also proposes the development of an additional agricultural land of approximately 150 ha (currently covered by indigenous vegetation).
GN R985	**Short description of relevant Activity(ies) in terms of Listing Notice 3**	**Description of specific portion of the development that might trigger the listed activity.**
2	Development of a reservoir larger than 250 m^3.	**Applicable**. Two reservoirs will be constructed, both with a capacity larger than 250 m^3 cut-off.
4	Development of roads larger than 4 m.	It is possible that the main access roads may be designed to be wider than 4m.
14	Development of infrastructure larger than 10 m^2 within a water course.	The proposed development is likely to impact on a number of small seasonal or ephemeral drainage areas and although unlikely, infrastructure may be located within the original location of such water courses.

2.2.2. Environmental impact assessment

This Scoping Process is being undertaken to identify potential environmental issues as part of the overall environmental impact assessment process as described in the 2014 EIA regulations.

2.2.3. Principles of environmental management

The principles of environmental management as set out in section 2 of NEMA have been taken into account. The principles pertinent to this activity include:

- People and their needs will be placed at the forefront while serving their physical, psychological, developmental, cultural and social interests. The activity seeks to provide additional employment and economic development opportunities, which are a local and national need – ***the proposed activity is expected to have a significant beneficial impact on the people of Henkries, especially developmental and social benefits,***

as well as providing employment and economic development opportunities (with emphasis on BEE development).

- Development will be socially, environmentally and economically sustainable. Where disturbance of ecosystems, loss of biodiversity, pollution and degradation, and landscapes and sites that constitute the nation's cultural heritage cannot be avoided, are minimised and remedied. The impact that the activity will potentially have on these will be considered, and mitigation measures will be put in place - ***potential impacts will be identified and considered, including through the public participation process. Mitigation measures will be addressed and included in the EMP***.
- Where waste cannot be avoided, it will be minimised and remedied through the implementation and adherence of the Environmental Management Programme (EMP) – ***this will be included in the EIR***.
- The use of non-renewable natural resources will be responsible and equitable.
- The negative impacts on the environment and on people's environmental rights will be anticipated, investigated and prevented, and where they cannot be prevented, will be minimised and remedied.
- The interests, needs and values of all interested and affected parties will be taken into account in any decisions through the Public Participation Process.
- The social, economic and environmental impacts of the activity will be considered, assessed and evaluated, including the disadvantages and benefits.
- The effects of decisions on all aspects of the environment and all people in the environment will be taken into account, by pursuing what is considered the best practicable environmental option.

2.2.4. EIA Guideline and information document series

The following are the latest guidelines that form part of the DEA *Environmental Impact Assessment Guideline and Information Document Series (Dated: March 2013)*:

- *Guideline on Transitional Arrangements*
- *Guideline on Alternatives*
- *Guideline on Public Participation*
- *Guideline on Exemption Applications*
- *Guideline on Appeals*
- *Guideline on Need and Desirability*
- *Information Document on the Interpretation of the Listed Activities*
- *Information Document on Generic Terms of Reference for EAPs and Project Schedules*

2.3. NATIONAL HERITAGE RESOURCES ACT

The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999). South African National Heritage Resources Agency (SAHRA) is the enforcing authority.

In terms of Section 38 of the National Heritage Resources Act, SAHRA will require a Heritage Impact Assessment (HIA) where certain categories of development are proposed. Section 38(8) also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is found to be adequate, a separate HIA is not required.

The National Heritage Resources Act requires relevant authorities to be notified regarding this proposed development, as the following activities are relevant:

- *any development or other activity which will change the character of a site exceeding 5 000 m² in extent;*

A heritage impact assessment (HIA) study was commissioned. A Notice of Intent to Develop (NID) will be submitted to SAHRA.

Furthermore, in terms of Section 34(1), no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the SAHRA, or the responsible resources authority. Nor may anyone destroy damage, alter, exhume or remove from its original position, or otherwise disturb, any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority, without a permit issued by the SAHRA, or a provincial heritage authority, in terms of Section 36 (3). In terms of Section 35 (4), no person may destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object, without a permit issued by the SAHRA, or the responsible resources authority.

2.4. NATIONAL WATER ACT

The National Water Act, Act 36 of 1998 (NWA) promotes the protection, use, development, conservation, management, and control of water resources in a sustainable and equitable manner. Besides the provisions of NEMA for this EIA process, the proposed development is likely to require authorizations under the National Water Act (Act N0. 36 of 1998).

- The Department of Water Affairs will be contacted with regards to the registration of water rights and if needed, a consultant will be appointed to facilitate the Water Use Licence Application.

The Department of Water Affairs, who administer that Act, will be a leading role-player in the EIA.

2.5. NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT

The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) is part of a suite of legislation falling under NEMA, which includes the Protected Areas Act, the Air Quality Act, the Integrated Coastal Management Act and the Waste Act. Chapter 4 of NEMBA deals with threatened and protected ecosystems and species and related threatened processes and restricted activities. The need to protect listed ecosystems is addressed (*Section 54*).

2.6. NATIONAL FORESTS ACT

The National Forests Act (NFA), Act 84 of 1998 (as amended): supports sustainable forest management and the restructuring of the forestry sector. It also made provision for the protection of nationally protected tree species in terms of Section 12(d) of the NFA. Refer to the latest list of protected tree species.

A biodiversity study was commissioned. Part of the brief of this study is to evaluate the potential impact on any tree species protected in terms of the NFA that may be present on the property and to apply for a licence in terms of the NFA, should any such tree be impacted upon.

2.7. NORTHERN CAPE NATURE CONSERVATION ACT

On the 12th of December 2011, the new Northern Cape Nature Conservation Act 9 of 2009 (NCNCA) came into effect, which provides for the sustainable utilization of wild animals, aquatic biota and plants. Schedule 1 and 2 of the act give extensive lists of specially protected and protected fauna and flora species in accordance with this act. The NCNCA is a very important Act in that it put a whole new emphasis on a number of species not previously protected in terms of legislation.

It also put a new emphasis on the importance of species, even within vegetation classified as “Least Threatened” (in accordance with GN 1002 of 9 December 20011, promulgated in terms of the National Environmental Management Biodiversity Act 10 of 2004). Thus even though a project may be located within a vegetation type or habitat previously not considered under immediate threat, special care must still be taken to ensure that listed species (fauna & flora) are managed correctly.

A biodiversity study was commissioned. Part of the brief of this study is to evaluate vegetation and plant species and to evaluate the potential impact on species protected in terms of this Act. A flora permit will be applied for if necessary.

3. ALTERNATIVES

Alternatives with regards to a proposed activity, means different means of meeting the general purposes and requirements of the activity, which may include alternatives to –

(a) the property on which, or location where, it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Henkries lies in a semi-arid region where water is a scarce resource limiting development options. However, being located next to the Orange River, gives Henkries the competitive advantage of being able to utilise this resource for irrigation agriculture. Agriculture is seen as being one of the most viable means of establishing economic growth, job creation and economic empowerment in this area. It is also recognized that successful promotion of agriculture and agro-processing can impact positively on the incomes of primary producers, create employment and address market risks. It is also one of the means by which transformation of agriculture in the province can be achieved.

The Henkries area has a further competitive advantage with its hot and sunny climate with the highest solar radiation intensity in South Africa, making it appropriate for private and large-scale solar energy generation. However, this type of development is not likely to address job creation or economic empowerment nearly as well as agriculture.

The Department of Agriculture, Land Reform & Rural Development recognised the opportunity to address transformation of agriculture, whilst at the same time creating economic growth, job creation and empowerment. As such the development focused on agricultural development and alternatives are mostly related to location and layout and crop types.

3.1. PROPERTY ALTERNATIVES

The proposed development aims at unlocking the agricultural potential of Henkries through irrigated farming. This plan includes the development of a further 150 ha of irrigation for the establishment of high value crops outside of the Orange River flood plain. At Henkries the most suitable location, remaining for development, was sourced and evaluated, which led to the current proposal.

The land under consideration (and the whole of Henkries mond), forms part of the Steinkopf Commonage (Farm Steinkopf No. 22), which is owned by the municipality and does not require to be procured in the open market. It also include all of Henkries and its surrounding areas (293 405 ha in size), and as such there is no property alternatives at Henkries mond area.

Thus property alternatives are not possible.

3.2. LAYOUT ALTERNATIVES

The overall aim of the Department is to upgrade existing facilities & housing, to revitalize existing agricultural land (± 40 ha) and to expand the production of dates and dry grapes (raisins) under irrigation by establishing a further approximately 14-150 ha of agricultural land. The expansion of infrastructure includes new pipelines and two storage reservoirs. Upgrades will also be made at the extraction point (larger and/or additional pumps to be located at the existing Henkries mond agricultural extraction point), which also supplies water to the existing farming units at Henkries.

At Henkries, layout alternatives for an approximate 150 ha development, within easy range of the existing infrastructure (irrigation system) is very limited (Figure 4). The physical characteristics of the area (topography being the main limiting factor) and soil conditions, ease of access and costs of linking it with existing infrastructure (which will also impact on costs of maintenance) are all limiting factors. Only one suitable location was sourced. Soil conditions at the other possible viable locations made them unsuitable.

Figure 4: Overview of surrounding landscape showing topographical limitations

Figure 4 shows some theoretical alternatives, but they have all being ruled out as part of the scoping and viability studies done by the Department. In essence Alternative 2 might provide some options, but will be severely limited by the Brak River (which run down this passage) and

the unfavourable (very brackish) soil conditions. Alternative 3 will significantly increase development- as well as maintenance cost as it is much further away from the Orange River.

3.2.1. Alternative 1 – The preferred alternative

The Department of Agriculture, Land Reform and Rural Development proposes invest in the revitalisation of the agricultural potential of the larger Henkries Settlement with the main aim of job creation, poverty relieve and social investment. The preferred development proposes the development of approximately 150 ha of additional agricultural land outside of the floodplain area at Henkries mond. The main drivers for choosing the preferred alternative (Alternative 1) were availability of land (under government control), suitable soil type, topography and proximity to existing infrastructure. It made Alternative 1 the most logical choice (Refer to Figure 2 & 4).

3.2.2. Alternative 2 – Layout alternative

Alternative 2 is also located relatively close to the existing infrastructure and there are quite significant tracts of open land (although the development will have to be fragmented as a result of the landscape). However, development will be severely limited by the Brak River (which run down this valley – the Henkries mond valley) and the very unfavourable (brackish) soil conditions. The fragmented development will also significantly increase development and maintenance costs (Figure 4).

3.2.3. Alternative 3 – Layout alternative

Alternative 3 is likely to be as attractive as the preferred alternative with suitable soil types and large enough available land. However, it is located significantly further away from the Orange River, which will increase development- and maintenance costs considerably (Figure 4).

3.3. ACTIVITY ALTERNATIVE

The draft viability study done by the Department (31 July 2015) evaluates the agricultural potential of the property (Refer to Paragraph 9) and also discuss other activity alternatives.

The area lies in a semi-arid region and fresh water is a scarce resource in the district. The only sustainable source of good quality irrigation water is the Orange River. Traditionally the main land use is livestock grazing. But because of the scarcity of water (unless next to the river) and desert like vegetation, the grazing capacity is very low, meaning that its potential is very low. Likewise, the cultivation of crop is limited to areas in close proximity to the Orange River. It has implications for the types of activities that can take place. In terms of agriculture the most appropriate crops and the most water-efficient irrigation technologies need to be promoted. .

In terms of biodiversity the area is rich in natural flora which can be harnessed as a unique tourism attraction.

The area has a further competitive advantage with its hot and sunny climate with the highest solar radiation intensity in South Africa, making it appropriate for private and large-scale solar energy generation.

However, none of these activity alternatives is thought to be able to address the main purpose of this project, which aims at economic growth, job creation and economic empowerment.

It concludes that the area cannot be considered as prime land, because prime land is defined as the best land available, primarily from a national perspective. However, this area can be defined as unique agricultural land, due to specific combinations of location, climate or soil properties that make it highly suitable for a specific crop.

3.4. THE NO-GO ALTERNATIVE

The Department of Agriculture, Land Reform and Rural Development proposes to invest heavily in the revitalisation of the agricultural potential of the larger Henkries Settlement with the main aim of job creation, poverty relieve and social investment.

The option of not investing in this development (expanding agricultural land), will mean that none of the potential environmental impacts will be triggered. However, it will also mean that none of the direct or indirect socio-economic benefits of the proposed development will be realised, which will remain to impact negatively on a province already struggling with high unemployment rates and poor socio-economic prospects.

4. SITE DESCRIPTION

4.1. LOCATION

Henkries is a small agricultural settlement in the Northern Cape Province next to the Orange River and in the Namakwa District Municipality (Nama Khoi Local Municipality). It is located approximately 90 km north of Springbok and, 13 km west of Goodhouse and borders on Namibia. The proposed development is located on the Remainder of Farm Steinkopf No. 22, Springbok (Figure 6).

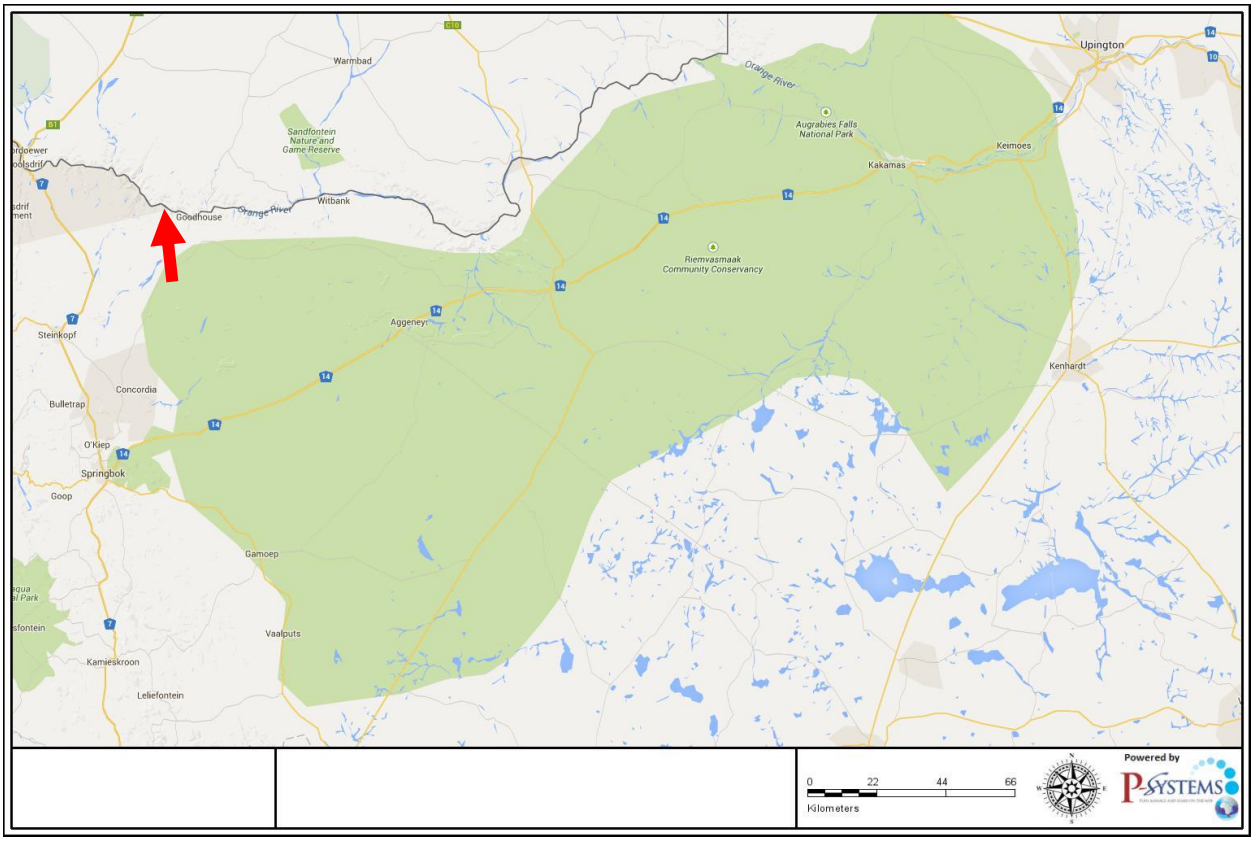


Figure 5: Showing the location of Henkries within South Africa

The proposed sites will be located away from the Orange River floodplains, in between the rocky outcrops (Refer to Figure 6).

Table 2: GPS coordinates of the proposed development areas (Centre points only)

DESCRIPTION	Farm Name	LATITUDE AND LONGITUDE
Agri-Megapark midpoint	Rem Farm Steinkopft 22, Springbok	S28 54 41.2 E18 09 10.8
Agri-Megapark mid-north	Rem Farm Steinkopft 22, Springbok	S28 54 10.3 E18 09 10.0
Agri-Megapark mid-south	Rem Farm Steinkopft 22, Springbok	S28 55 01.6 E18 08 53.0
Small Reservoir (Phase 1)	Rem Farm Steinkopft 22, Springbok	S28 54 10.3 E18 09 10.0
Large Reservoir (Phase 2)	Rem Farm Steinkopft 22, Springbok	S28 54 41.2 E18 09 10.8

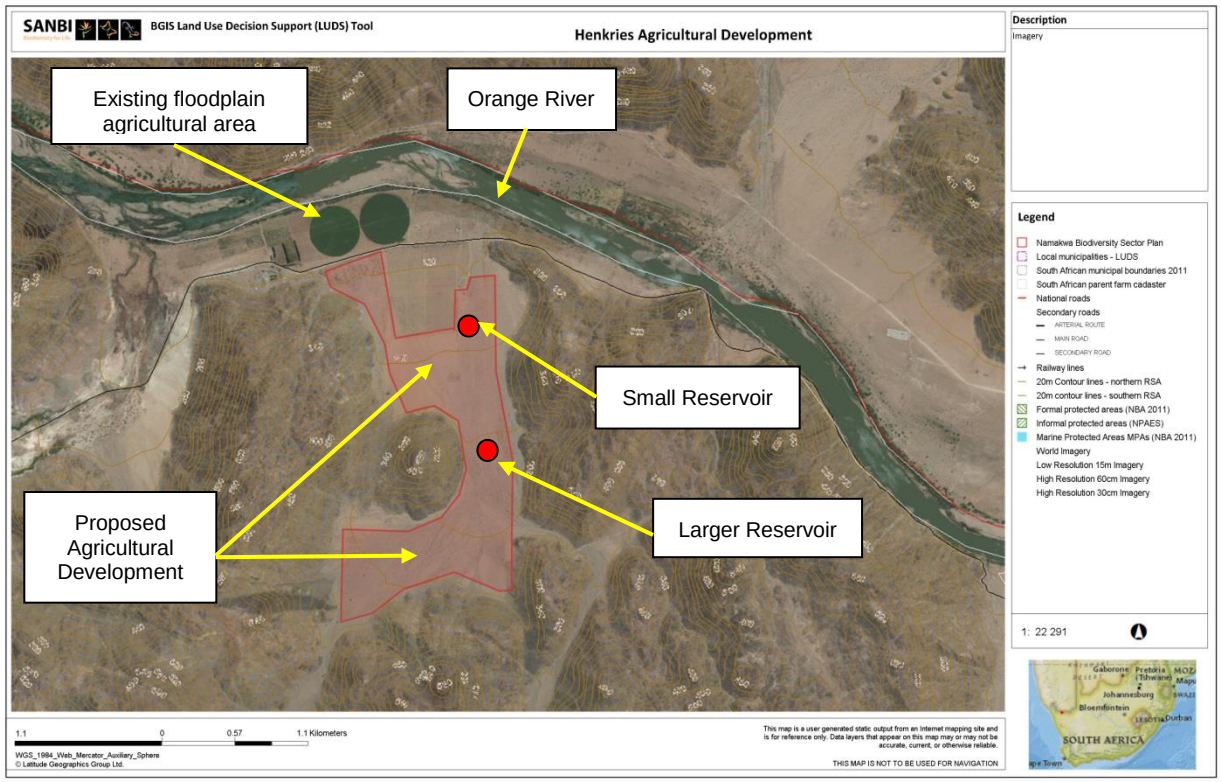


Figure 6: Proposed development areas in relation to the Henkries Settlement

4.2. VEGETATION

In accordance with the 2006 Vegetation map of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006) two broad vegetation types are expected in the vicinity of the proposed development, namely Lower Gariep Alluvial Vegetation along the Orange river alluvial plain and Eastern Gariep Rocky Desert inland of the alluvial plain. Only Eastern Gariep Rocky Desert is expected to be impacted by the proposed project (Figure 7). However, Eastern Gariep Plains Desert is normally expected in the sheet washed plains between the rocky outcrops covered with Eastern Gariep Rocky Desert vegetation (PB Consult, 2016).

According to the National list of ecosystems that are threatened and in need of protection (GN 1002, December 2011) Eastern Gariep Rocky Desert is classified as Least Threatened.

However, it is important to note that even though Eastern Gariep Rocky Desert (and Eastern Gariep Plains Desert), is classified as least threatened, it falls within the South African Desert Biome, in this case fringing on the Namibian desert. The Desert Biome is a hyperarid region of great age and one with extraordinary high diversity of organisms (including many endemics) and adaptions. It includes both winter- and summer rainfall areas, making it one of the most interesting hyperarid regions of the world. Compared with other desert regions, plant species richness is very high (especially the Richtersveld) and does not differ much from that of the Succulent Karoo (Mucina & Rutherford, 2006). However, not all parts of this biome are equally rich in species diversity. Plant species richness of the western Gariep Lowland Desert

vegetation unit, is thought to be less rich than that of for example the Richtersveld and is described by Mucina & Rutherford (2006) as moderate.

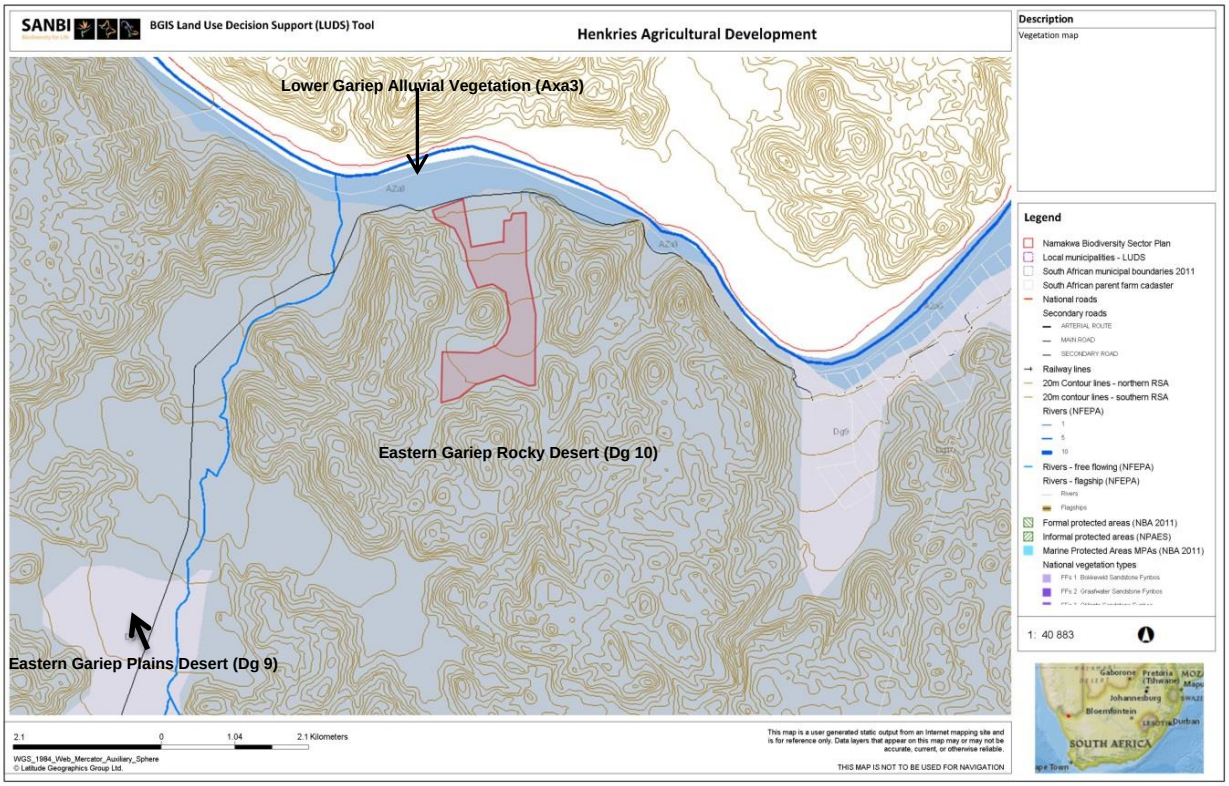


Figure 7: Desert Biome vegetation types expected at Henkries

The vegetation type is described as occurring on hills and mountains (up to 650 m of relative altitude from their base), mostly with bare rock outcrops and covered with very sparse shrubby vegetation in crevices, usually separated by broad sheet-wash plains (Eastern Gariep Plains Desert).

4.3. NAMAKWA DISTRICT BIODIVERSITY SECTOR PLAN

The Namakwa District Biodiversity Sector Plan (Figure 8) is intended to help guide land-use planning, environmental assessments and authorisations; and, natural resource management in order to promote sustainable development. It has been developed to further the awareness of the unique biodiversity in the area, the value this biodiversity represents to people and promote the management mechanisms that can ensure its protection and sustainable utilisation (Draft Namakwa District Biodiversity Sector Plan, Version 2).

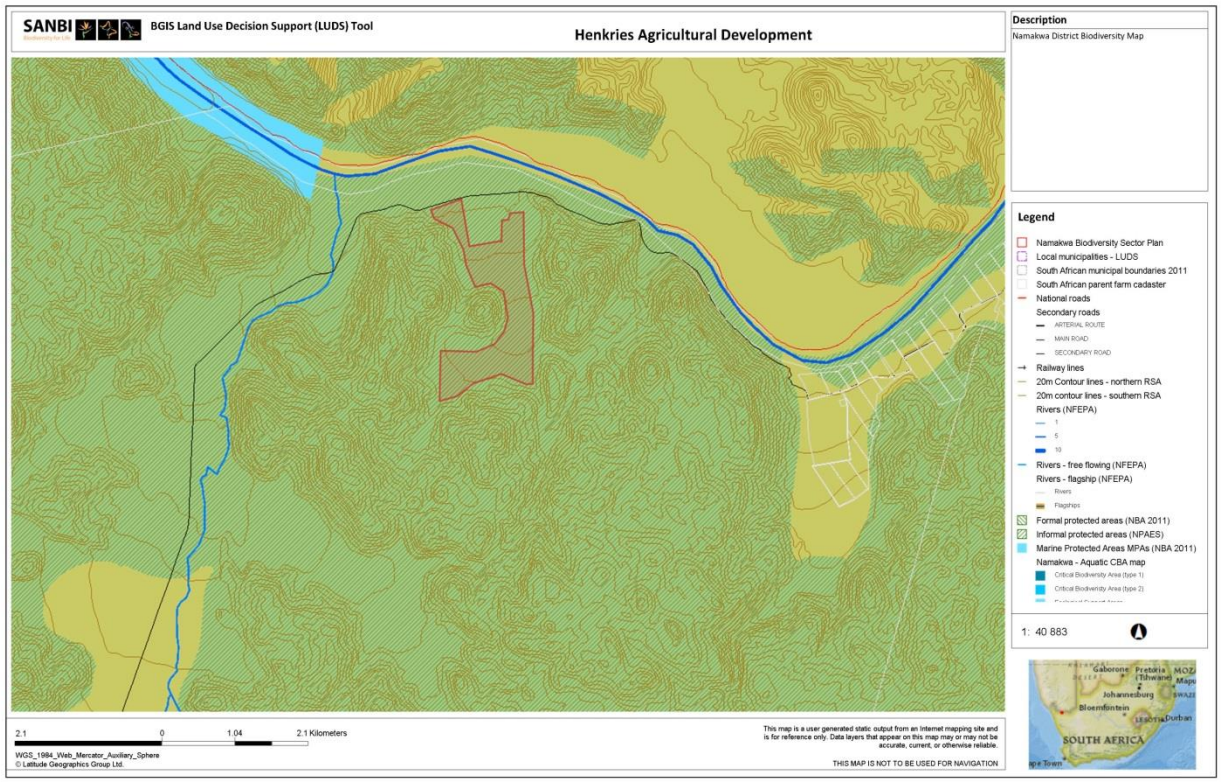


Figure 8: Namakwa District Biodiversity Plan showing the Henkries area

According to the CBA map for the Henkries area it is clear that the proposed sites as well as the whole of Henkries is located within proposed CBA 1 or CBA 2 areas. Ideally one would like to limit potential impact on such CBA areas, but in this case it will be impossible.

4.4. FRESHWATER

No freshwater assessment impact study was commissioned.

4.5. CLIMATE

This Namakwa District of the Northern Cape Province is known for its semi-desert climate with extreme temperatures ranging from up to 45˚C in summer to - 2˚C in winter. The climate is variable due to its position in the transitional area between winter and summer rainfall. The winters are short and the area is well known for its high summer temperatures. All regions with a rainfall of less than 400 mm per year are regarded as arid. The Henkries area falls within the desert biome or **hyperarid region** of fringing the western South African shoreline, Southern Angola and Namibia. The desert biome is characterised by ecological extremes and of all the biomes in SA it has the lowest amount of and the variability in rainfall. Henkries normally receives about 82.5 mm of rain per year, with most rainfall occurring mainly during autumn. Table 2, below, shows the average rainfall values for Henkries as measured between January 2000 and December 2008 (www.weatheronline.co.uk). It receives the lowest rainfall (0.3 mm) in November and the highest (26.4 mm) in April.

Table 3: Average precipitation for Henkries mond as measured from January 2000 to December 2008

Jan	Feb	Mar	Apr	May	Jun	
8.4	**9.8**	**11.6**	**26.4**	**4.8**	**5.4**	[mm]
83	90	90	94	87	92	Data availability[%]

Jul	Aug	Sep	Oct	Nov	Dec	
2.5	**7.1**	**0.9**	**4.2**	**0.3**	**1.0**	[mm]
91	89	93	89	85	87	Data availability[%]
Averaged Value (January 2000 - December 2008) : **82.5 mm**						

4.6. SOCIO-ECONOMIC CONTEXT

According to the 2002 agricultural census (the last census data on District level) Namakwa contributed 7.3% to total Gross Farm Income of the Northern Cape. The importance of production under irrigation is relatively small if compared to the rest of the Province as the District produced 2.2% of the value of field crops and 2.4 % of the value of horticulture crops in the Northern Cape.

According to Global Insight calculations, Namakwa District was the only District that indicated a decrease in GDP per Capita for the period 1996 to 2012, dropping from R 36,692 to R 36,247 in constant 2005 prices. This means that output per capita decreased marginally over this period. The situation for Nama Khoi and Khai-Ma Municipalities is even worse as the GDP per Capita decreased from R40, 593 to R35, 871 and from R29, 187 to R24, 020 for the same period. Richtersveld Municipality experienced a marginal increase from R39, 350 to R41, 279. This highlights the need for additional development in these areas to reverse this trend.

The Gross Value that was added by the agricultural sector as a percentage of the total value that was added in the Northern Cape in 2012 totalled 6.34%. The contribution of the value added by agriculture in Namakwa District (R 768 million) accounted for 10.41% of the total value added by the District.

In Nama Khoi- and Richtersveld Municipal areas agriculture employed 10% of total formal sector employment (4th highest contributing sector), but in Khai-Ma Municipal area agriculture employed 45% of total formal sector employment and is the highest contributing sector. It clearly underlines the role of agriculture as job creator in rural areas.

While there are moderate backward linkages with sectors such as manufacturing (e.g. fertilizers and chemicals), transport and services, minimum forward linkages exists with virtually no processing of agricultural products or agro-tourism ventures.

The potential for agro-tourism, agro-processing and value adding initiatives presents further opportunities for diversification of the local economy. It is recognized that successful promotion of agro-processing can impact positively on the incomes of primary producers, create employment and address market risks. It is also one of the means by which transformation of

agriculture in the province can be achieved. Possible agro-processing ventures in the area include:

- Date production
- Dried fruit and vegetables
- Animal feed products
- Cereals

4.6.1. Demographic Profile of Namakwa District

Total Population	124 940
As Percentage of South Africa	0.25%
As Percentage of Northern Cape	11.65%
Population Density (people per km^2)	0.9
South Africa	3.91
Northern Cape	2.62

4.7. HERITAGE FEATURES

In terms of Section 38 of the National Heritage Resources Act (Act No. 25 of 1999) (NHRA), SAHRA require an impact assessment where certain categories of development are proposed. Since the footprint of the proposed development will exceed 5 000 m² in extent it triggers the NHRA.

An Archaeological Impact Assessment (AIA) has been commissioned (Refer to Appendix 3) in order to evaluate the possible impacts on heritage or archeologically and to advise SAHRA of the likelihood of impacts on existing heritage as well as recommendations for impact minimisation (if required).

4.7.1. HIA report findings

The following is based on the findings of the heritage impact assessment done by the Agency for Cultural Resource Management (March 2016).

A small handful of isolated archaeological remains were recorded during the field assessment. These included a few quartz chunks (Site 656) and a banded ironstone miscellaneous retouched piece (Site 657) found at base of the cliff in the north western corner of the proposed development site. A possible quartzite Middle Stone Age flake (Site 668), a flaked cortex cobble (Site 669) and a few milky white and vein quartz flakes were recorded on heavily washed sands in the south eastern corner of the site. The tools most likely represent discarded flakes and

flake debris. The very small numbers mean that the archaeological remains have been graded as having *Low* (Grade 3C) significance.

The remains of a small kraal (Site 664), and a possible grave (Site 665) were recorded about 20 m south of a large sandstone outcrop in the north western corner of the proposed development site (Figures 13-15). The grave comprises a few loose rocks intentionally placed in a partial circle. There is a possible headstone, but the grave seems to have been disturbed as some of the stones have been moved around. Burials are rated as having *Moderate-High* (Grade 3B) significance.

No old buildings, structures or features are present in the application area.

The HIA has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to the proposed development activities commencing. Indications are that the receiving environment is not a sensitive or threatened archaeological landscape. From a heritage perspective there are no objections to the authorization of the proposed agri-development. However, measures must be put in place to protect the grave (Site 665).

4.7.2. AIA recommendations

With regard to the proposed Henkries agricultural development on Remainder of Farm Steinkopf No. 22 (Springbok), the following recommendations are made:

1. No archaeological mitigation is required.
2. The grave (Site 665) must be fenced off prior to site preparation commencing. Alternatively a buffer of 30m must be established around the site, which includes the modern kraal (Site 664).
3. Should any (other) human remains or graves be found or uncovered during agricultural operations these must be immediately reported to the South African Heritage Resources Agency (Natasha Higgit 021 462 4502021 462 4502), or Jonathan Kaplan (082 321 0172).
4. The recommendations must be included in the Environmental Management (EMP) Plan for the proposed project.

5. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

Environmental issues were raised through informal discussions with the project team, specialists and authorities, as well as through the PPP. All issues raised will be assessed in the specialist reports and will form part of the Environmental Impact Report. Additional issues raised during the public participation will be listed in the Final Scoping Report.

The following potential issues have been identified:

5.1. BIODIVERSITY

A Biodiversity scoping report was commissioned to determine if there are any sensitive or endangered vegetation types on the proposed site (Please refer to Appendix 4). The terms of reference for this study required a baseline analysis of the flora of the property, including the broad ecological characteristics of the site. It must also address the significance of the vegetation in terms of local and national biodiversity targets, ecological corridors and connectivity.

5.1.1. Land use

According to the Biodiversity study (PB Consult, 2016), Henkries lies in a hyperarid region and fresh water is a scarce resource in the district. It has implications for the types of agricultural activities that can take place, in that the most appropriate crops and the most water-efficient irrigation technologies need to be promoted. The only sustainable source of good quality irrigation water is the Orange River. In terms of biodiversity the area is rich in natural flora which can be harnessed as a unique tourism attraction. The area has a hot and sunny climate with the highest solar radiation intensity in South Africa, making it appropriate for private and large-scale solar energy generation (Draft Henkries Mega-Agripark Development Report, 2015).

The Namaqualand's major land use is defined by livestock grazing and mining. Approximately 90% of the district's land surface is natural rangelands used for livestock grazing and the remaining 10% is a combination of mining, urban development, protected areas and crop agriculture (Todd et al. 2009; Bourne et al., 2012).

The proposed site is located in a sheet washed plains between the rocky mountain outcrops. There are no free flowing streams or wetlands on the proposed site, but run-off drainage lines have established in order to drain the flat land during thunderstorm events.

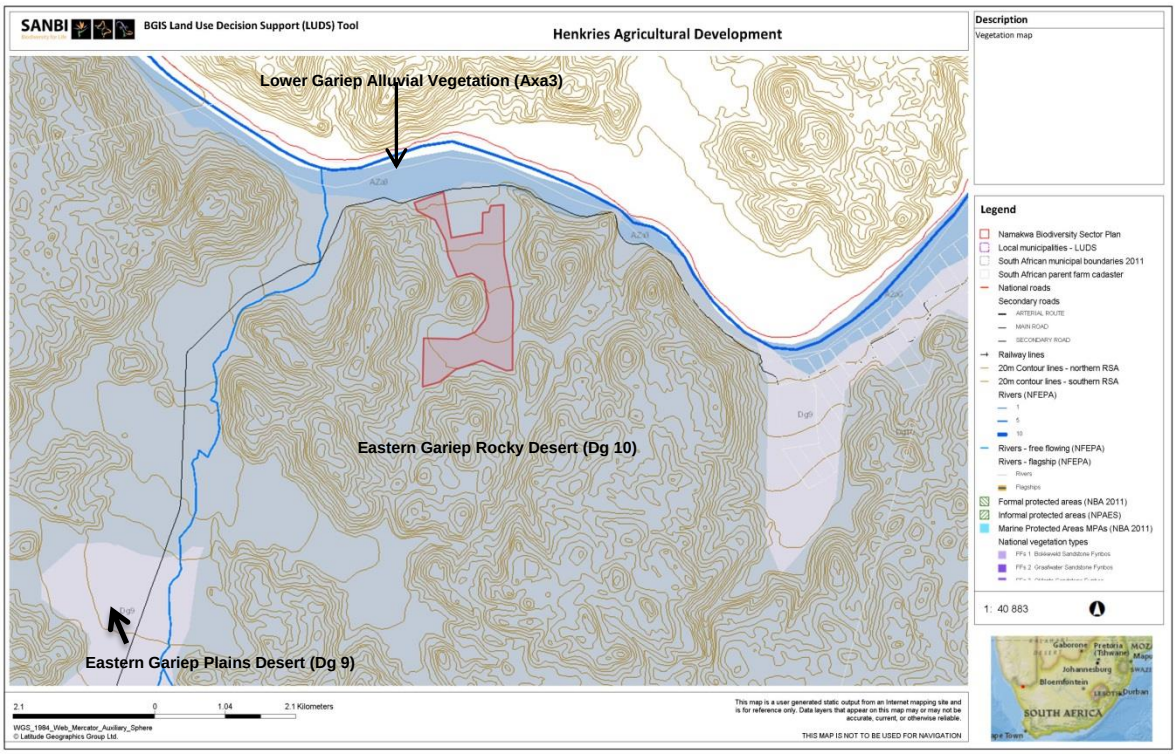
The proposed project will be located on communal land owned by the Municipality, and is currently used as grazing for goats by local inhabitants (at least two families). It is a fact that this area has a very low carrying capacity and that the proposed project should result in significant social investment and job creation. However, the families relying on this land for its grazing will have to be given alternative grazing areas or will have to benefit in some other way from this project.

Mitigation should entail, relocating the families onto similar grazing land or compensating them in some other way.

5.1.2. Botanical

The proposed development will involve most of the sleet washed plains area locked in between the rocky outcrops of the site. Please note that portions of this valley (next to the Henkries road) have already been developed. According the vegetation map of South Africa (Mucina & Rutherford, 2006) the proposed Agri-Megapark and reservoirs will be located within a vegetation type mapped as Eastern Gariep Rocky Desert vegetation (Refer to Figure 9). However, while Eastern Gariep Rocky Desert vegetation is expected on the rocky outcrops and the foothill of the rocky outcrops, Eastern Gariep Plains Desert vegetation is normally expected in the sheet washed plains which separates the rocky outcrops.

Figure 9: Vegetation map of SA, Lesotho and Swaziland (2006)



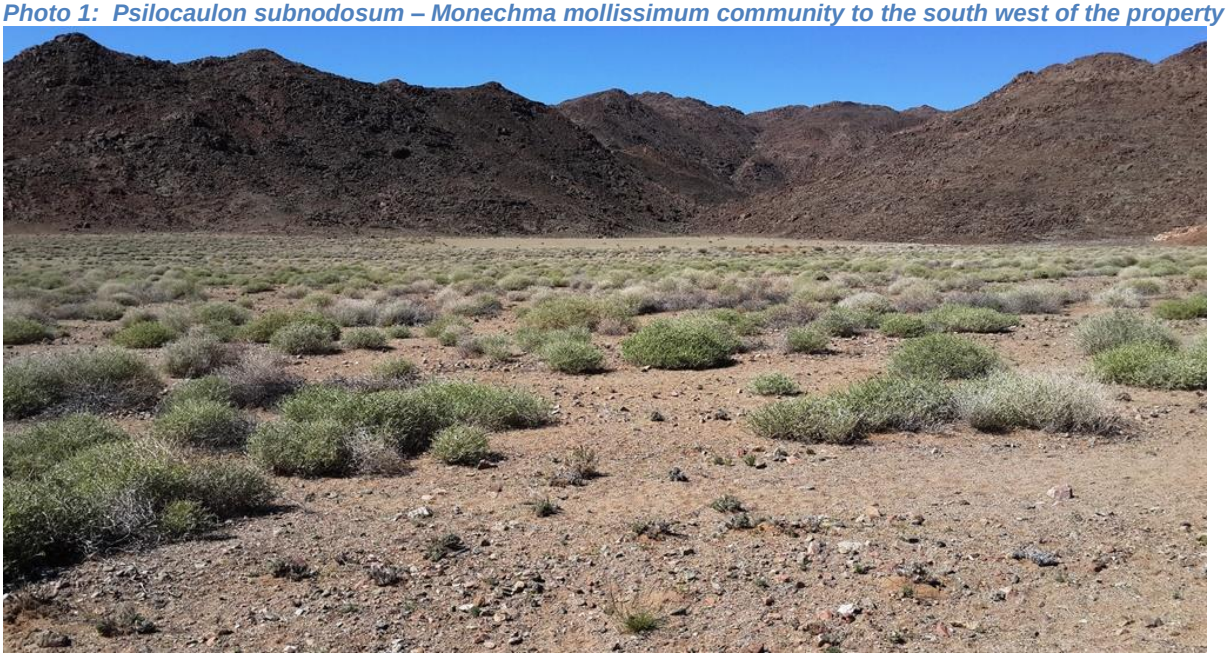
The vegetation encountered shows little of the white grass dominated vegetation type normally expected with plains desert, but rather showed shrubby vegetation dominated by *Petalidium*, *Sisyndite*, *Psilocaulon*, *Monechma* and sometimes open plains. The grassy component was poorly represented and very likely reduced as a result of past and present grazing practices (sheep and goat farmers), coupled with low and infrequent rainfall events.

Two vegetation communities was encountered namely a *Psilocaulon subnodosum – Monechma mollissimum* low shrub community, which covered most of the open plains area, while areas associated with drainage channels where mostly associated with a *Stipagrostis namaquensis – Petalidium setosum* grassy community.

5.1.2.1. Psilocaulon subnodosum – Monechma mollissimum low shrub community

The *Psilocaulon subnodosum – Monechma mollissimum* low shrub community were encountered on the valley floor for most of the sheet washed terrain (Photo 1). The vegetation comprises a single layer of vegetation (reaching 0.5 m in height) dominated by the low succulent shrub, *Psilocaulon subnodosum,* with *Monechma mollissimum* and *Sisyndite spartea* also prominent. In combination with *Psilocaulon subnodosum, Monechma mollissimum* was sometimes more prominent while in other instances *Sisyndite spartea* may be more prominent, with *Monechma* less so.

Photo 1: Psilocaulon subnodosum – Monechma mollissimum community to the south west of the property



Within this community the small tree *Boscia albitrunca* was occasionally encountered (sometimes also associated with drainage channel vegetation). Other species encountered within this vegetation type were: *Acanthopsis carduifolia*, *Acanthopsis* cf. *disperma*, *Amellus nanus*, *Aptosimum spinescens*, *Cleome foliosa*, *Codon royenii*, *Forsskaolea candida*, *Helichrysum cerastioides*, *Hirpicium echinus*, *Maerua gilgii* (associated with drainage lines), *Monsonia parvifolia, Ornithoglossum vulgare, Petalidium setosum*, a *Ruschia* species, *Rogeria longiflora*, *Sisyndite spartea*, *Stipagrostis ciliata, Trianthema parvifolia, Tribulus zeyheri* and *Zygophyllum decumbens*.

5.1.2.2. Stipagrostis namaquensis – Petalidium setosum grassy community

The *Stipagrostis namaquensis – Petalidium setosum* community was associated with the drainage channels, which cut through the *Psilocaulon* dominated shrubland. The grass *Stipagrostis namaquensis* dominated this vegetation type with *Petalidium setosum* also very prominent (Photo 3).

Photo 2: Maerua gilgii (River bush-cherry)

This was mostly also a mono-stratum community reaching approximately 0.7 m in height. However, shrubs and small trees like *Cadaba aphylla, Gaillonia crocyllis* and *Sisyndite spartea* can form a second layer reaching 1.5 m. Small trees like *Boscia albitrunca* and *Maerua gilgii* (small tree) were also occasionally encountered. Other species associated with this community include: *Aptosimum spinescens*, *Cleome foliosa*, *Didelta carnosa*, *Heliophila arenaria, Hemimeris montana, Hermannia stricta, Ornithoglossum vulgare, Mesembryanthemum guerichianum, Psilocaulon subnodosum, Prosopis* species*, Rogeria longiflora, Tetragonia* cf. *echinata, Trianthema parvifolia, Tribulus zeyheri* and *Zygophyllum decumbens*

Photo 3: Stipagrostis namaquensis – Petalidium setosum grassy community

5.1.2.3. Rocky outcrops

Apart from the plant communities above, the following plants were also encountered, but only in close association with the rocky outcrops (Photo 4), namely: *Dyerophytum africanum*, *Fagonia*

capensis, Jamesbrittenia glutinosa, Kissenia capensis, Searsia populifolia and *Zygophyllum macrocarpon.*

Photo 4: Vegetation encountered along rocky edges, showing a Boscia albitrunca tree and herbs at its base

5.1.3. Threatened and protected plant species

South Africa has become the first country to fully assess the status of its entire flora. Major threats to the South African flora are identified in terms of the number of plant taxa Red-Listed as threatened with extinction as a result of threats like, habitat loss (e.g. infrastructure development, urban expansion, crop cultivation and mines), invasive alien plant infestation (e.g. outcompeting indigenous plant species), habitat degradation (e.g. overgrazing, inappropriate fire management etc.), unsustainable harvesting, demographic factors, pollution, loss of pollinators or dispersers, climate change and natural disasters (e.g. such as droughts and floods).

In the Northern Cape, species of conservation concern are also protected in terms of national and provincial legislation, namely:

- The National Environmental Management: Biodiversity Act, Act 10 of 2004, provides for the protection of species through the "*Lists of critically endangered, endangered, vulnerable and protected species*" (GN. R. 152 of 23 February 2007).
- National Forest Act, Act 84 of 1998, provides for the protection of forests as well as specific tree species through the "*List of protected tree species*" (GN 908 of 21 November 2014).
- Northern Cape Nature Conservation Act, Act of 2009, provides for the protection of "*specially protected species*" (Schedule 1), "*protected species*" (Schedule 2) and "*common indigenous species"* (Schedule 3).

5.1.3.1. NEM: BA Protected species

The National Environmental Management: Biodiversity Act, Act 10 of 2004, provides for the protection of species through the "Lists of critically endangered, endangered, vulnerable and protected species" (GN. R. 152 of 23 February 2007).

- No species protected in terms of NEM: BA was encountered.

5.1.3.2. National Forest Act protected species

Only two tree species were encountered on the site, namely *Boscia albitrunca* and *Maerua gilgii.* Both of these species are important in their own right (as any indigenous larger tree should be regarded in any semi-desert or desert area). Maerua gilgii is also endemic to this area and has a relative small distribution.

However, only the *Boscia albitrunca* is protected in terms of the NFA. Sixteen (16) individual *Boscia albitrunca* trees and two (2) *Maerua gilgii* trees were observed within or near to the footprint of the proposed development (Refer to Table 4). Of the sixteen *Boscia* trees, only 7 are directly within the proposed footprint. It should be possible to safe all trees on the edge or outside the footprint. Final layout designs should take the locations of these protected trees in consideration, aiming at minimising impact.

Table 4: List of trees encountered at the site with ones likely to be impacted highlighted

SPECIES NAME	COORDINATES	DESCRIPTION	SPECIES NAME	COORDINATES	DESCRIPTION
052 Boscia albitrunca	S28 54 55.4 E18 08 56.0	Mature tree at base of rocky outcrop.	**053 Boscia albitrunca**	S28 54 56.1 E18 08 39.9	Mature tree (3m) within footprint.
054 Maerua gilgii	S28 54 55.7 E18 08 38.2	Mature tree (3m) outside footprint.	**055 Boscia albitrunca**	S28 54 54.1 E18 08 36.0	Mature tree (3m) outside footprint.
056 Boscia albitrunca	S28 55 02.0 E18 08 44.3	Mature tree (2.5m) within footprint.	**057 Boscia albitrunca**	S28 55 12.0 E18 08 32.7	Mature tree (2m) within footprint.
058 Boscia albitrunca	S28 55 12.0 E18 08 32.7	Mature tree (4m) on edge of footprint.	**059 Boscia albitrunca**	S28 55 11.9 E18 08 32.6	Mature tree (4m) on edge of footprint.
060 Boscia albitrunca	S28 55 12.8 E18 08 31.0	Mature tree (2.5m) ouside footprint.	**061 Boscia albitrunca**	S28 55 12.8 E18 08 33.9	Mature tree (3m) within footprint.
062 Boscia albitrunca	S28 55 13.3 E18 08 34.7	Mature tree (2m) within footprint.	**063 Boscia albitrunca**	S28 55 14.2 E18 08 35.1	Mature tree (3m) within footprint.
064 Boscia albitrunca	S28 55 19.0 E18 08 32.0	Mature tree (3m) outside footprint.	**065 Boscia albitrunca**	S28 55 09.3 E18 08 56.8	Mature tree (2.5m) next to rocky outcrop within footprint.
066 Boscia albitrunca	S28 54 55.8 E18 09 17.0	Mature tree (2.5m) on edge of footprint.	**067 Maurea gilgii**	S28 54 55.4 E18 09 17.5	Mature tree (3m) outside of footprint.
068 Boscia albitrunca	S28 54 54.6 E18 09 14.3	Mature tree (3m) within footprint.	**069 Boscia albitrunca**	S28 54 34.7 E18 09 16.0	Mature tree (2m) on edge of footprint.

5.1.3.3. Northern Cape Nature Conservation Act, protected species

Seven plant species protected in terms of the NCNCA was encountered within the proposed footprint. They are:

- ***Mesembryanthemum guerichianum***: Only two individuals were encountered, but this is a pioneer species and expected to be widespread (especially after disturbance).
- ***Psilocaulon subnodosum*** (Recently renamed to *Mesembryanthemum subnodosum*): A common species that was observed in great numbers on the site. Also considered a pioneer species.
- ***Ruschia*** species. Occasionally observed throughout the site.
- ***Tetragonia*** cf. ***echinata***: A pioneer species observed occasionally within the footprint.
- ***Trianthema parvifolia***: Occasionally observed throughout the site.
- ***Boscia albitrunca****:* Please refer to table 7 above.
- ***Jamesbrittenia glutinosa****:* Only single individuals observed at the foothills of the rocky area.

Apart from the *Boscia*-, *Ruschia*-, and *Jamesbrittenia* species all of the above can be considered pioneer species which is normally associated with disturbance. However, since all species of the Aizoaceae family is protected in terms of Schedule 2 of the NCNCA it means that even these common pioneer species are protected.

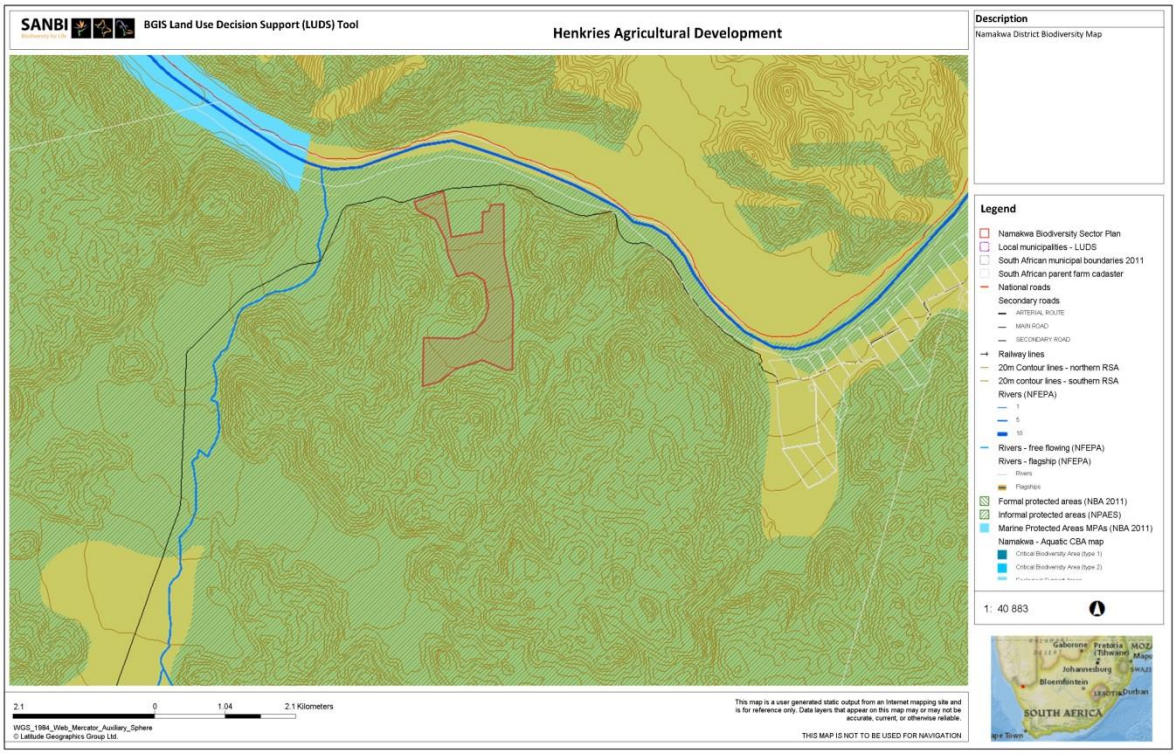
5.1.4. Critical Biodiversity Areas

The Namakwa District Biodiversity Sector Plan (Desmet & Marsh, 2008) is intended to help guide land-use planning, environmental assessments and authorisations; and, natural resource management in order to promote sustainable development. It has been developed to further the awareness of the unique biodiversity in the area, the value this biodiversity represents to people and promote the management mechanisms that can ensure its protection and sustainable utilisation (Draft Namakwa District Biodiversity Sector Plan, Version 2).

According to the CBA map for the Henkries area (Figure 10) it is clear that the proposed site and almost the whole of Henkries are located within proposed CBA 1. It must be noted that this map is not up to date, since all of the already developed areas will then also fall within a CBA 1 area (Refer to the land use maps). Ideally the proposed site should have been placed outside of these CBA areas.

In this case there is no land available at Henkries that will place a development of this size outside of the proposed CBA areas and still within easy access of irrigation.

Figure 10: Namakwa District Biodiversity Sector plan indicating identified CBA area in and around Henkries



5.1.5. Fauna

Although natural fauna and avi-fauna is likely to still be present, it is expected that it would be limited to smaller game, avi-fauna, insects and maybe some reptile's species, because of its proximity to existing agricultural land (and the fact that this property is grazed by at least two families). It is a known fact that many animal and bird species associate with larger indigenous trees such as *Boscia albitrunca* and the removal of mature trees will have an impact on such wildlife (even though very localised). However, because of the current status of the site and the proximity to the Henkries settlement it is not expected that the project will have a significant impact on fauna species. The impact on reptiles will be localised and may result in species being displaced (snakes and lizards) but not significant permanent impact on species is expected.

Mammals: The site falls within the distribution range of approximately 50 mammal species indicating moderate diversity. Human activity in the area is medium-high and it is highly unlikely that a fair representation of these mammals will be found on the property. The site is actively grazed by at least two families, which will also have a negative impact on the presence of even small game. The site visit also showed very little evidence of the presence of game species (e.g. droppings, skeletons etc.) Also take into account that the Henkries area encompasses a very large range of natural veld and it is highly unlikely that the proposed development will have a significant impact on habitat or migration routes.

It is thus considered highly unlikely that the development will pose a significant impact on mammal species and as a result the impact is deemed negligible.

Reptiles: The site falls within the distribution range of approximately 30 reptile species, indicating low diversity. The open sandy plains, is not expected to house great numbers of reptile species (limited cover). The surrounding rocky outcrops, on the other hand, will have much more cover and habitat features favoured by a larger variety of reptile species. Species that are likely to be found in (or pass through) this type of habitat includes snakes, lizards and geckos. However, because of the lack of shelter, the aridity and subsequent lack of food coupled with existing human activity it is highly unlikely that large numbers of these species will be present on site at any one time. As a result, the impact on reptiles should be negligible.

Amphibians: The site falls within the distribution range of approximately 10 amphibian species. However, no suitable breeding places were observed on the proposed site and it is highly unlikely that the proposed development will have any significant impact on amphibian species. In addition, most amphibians require perennial water and will thus not be affected at all.

Avi-fauna: The site falls within the distribution range of approximately 200 bird species known from the broad area. The open sandy open plain is likely to provide a habitat for certain bird species as will the small number of full grown indigenous trees that were encountered on site, which will provide a micro-habitat more favourable for certain bird species. However, shelter, food and the number of trees and other edibles is a rarity and unlikely to attract bird species in great numbers.

The proposed development is not expected to have a significant impact on indigenous avi-fauna. The planting of vineyards and date palms, on the other hand, is likely to attract a number of fruit and insect eating bird species (and their predators).

5.1.6. Freshwater

No freshwater report was commissioned at this stage, due to the very low impact on freshwater ecosystems.

5.2. AGRICULTURE – LOSS OF GRAZING LAND

One of the issues raised during the initial public participation process for a similar project at Onseepkans was the fact that some land owners depend on the communal land ("meent gronde"), for grazing.

At Henkries the area proposed for development is currently used as grazing for goats by at least two local families. The carrying capacity of the natural veld at Henkries and surroundings is

very low and the proposed project should result in significant social investment and job creation. However, the families relying on this land for its grazing will have to be given alternative grazing areas or will have to benefit in some other way from this project.

Mitigation should entail, relocating the families onto similar grazing land or compensating them in some other way.

5.3. HERITAGE AND ARCHAEOLOGICAL IMPACTS

In terms of Section 38 of the National Heritage Resources Act (Act No. 25 of 1999) (NHRA), SAHRA require an impact assessment where certain categories of development are proposed. Since the footprint of the proposed development will exceed 5 000 m² and will thus trigger the NHRA. An Archaeological Impact Assessment (AIA) has been commissioned in order to evaluate the possible impacts on heritage or archeologically and to advise SAHRA of the likelihood of impacts on existing heritage as well as recommendations for impact minimisation (if required).

Refer to Paragraph 4.7.1 for findings of the specialist report.

5.4. VISUAL IMPACT

The potential impact on the sense of place of the proposed development was also considered. The surrounding area is characterised by agricultural activities (Refer to par. 5.1.1– Land Use). Henkries is in fact almost totally dependent on agriculture for its economic survival. Agricultural practices mainly consist of the production of high value irrigation crops and grazing (however, the grazing potential of the very arid natural veld is very low).

Since the proposed development is very much in character with the existing land use and is not expected to impact negatively on the visual character of the area no visual impact studies are suggested.

5.5. SOCIO-ECONOMIC IMPACT

The primary objective of the proposed irrigation development project at Henkries centres on economic growth, job creation and economic empowerment. It is on the hand of socio-economic evaluations that this project has proposed and approved by the Department of Agriculture, Land Reform and Urban Development.

The communities of Henkries are characterized by severe poverty and a large proportion of families rely heavily on social grants for subsistence. It is expected that income can be generated through agriculture which will significantly improve the economic situation of the Henkries communities over time (especially focusing on previously disadvantage individuals).

Agricultural production will directly contribute to increased employment opportunities for community members and especially the youth. Small business opportunities will also be created in especially the services industry. The establishment of high value crops in Henkries will create a number of opportunities for schooled and unschooled individuals. Skills development though on-job and formal training will be a high priority in any development initiative. The potential for agro-tourism, agro-processing and value adding initiatives presents further opportunities for diversification of the local economy. It is recognized that successful promotion of agro-processing can impact positively on the incomes of primary producers, create employment and address market risks. It is also one of the means by which transformation of agriculture in the province can be achieved.

5.6. OTHER ISSUES IDENTIFIED

Any further issues raised during the public participation process or by the Competent Authority not mentioned in this section, will be dealt with during the EIA phase.

6. DETAILS OF THE PUBLIC PARTICIPATION PROCESS

Interested and Affected Parties (I&APs) were identified throughout the process. Landowners adjacent to the proposed site, relevant organs of state, organizations, ward councillors and the Local and District Municipality were added to this database. A complete list of organisations and individual groups identified to date is shown in **Appendix 5.1.**

Public Participation was conducted for this proposed development in accordance with the requirements outlined in Regulation 54 and 55 and 56 of the NEMA EIA Regulations, as well as the Department of Environmental Affairs and Development Planning's guideline on Public Participation 2011. The issues and concerns raised during the scoping phase will be dealt with in the EIA phase of this application.

As such each subsection of Regulation 54 contained in Chapter 6 of the NEMA EIA Regulations will be addressed separately to thereby demonstrate that all potential Interested and Affected Parties (I&AP's) were notified of the proposed development.

R54 (2) (a):

- **R54 (2) (a) (i):** Posters was displayed on the property fence at both entrances to the site, next to the Henkries – Goodhouse road. Posters were also placed at the Henkries café, the Department of Agriculture Offices and at the Steinkopf Municipal building (please refer to **Appendix 5.4**).

- The posters contained all details as prescribed by R56 (3) (a) & (b) and the size of the on-site poster were 60cm by 42cm as prescribed by section 56 (4) (a).

- **R54 (2) (a) (ii):** N/A. There is no alternative site.

R54 (2)(b):

- **R54(2)(b)(i):** The person in control of the land: An initial notification letter was posted to the landowner (please refer to **Appendix 5.3** for proof of notification letters sent).

- **R54(2)(b)(ii):** The land owner: An initial notification letter was posted to the land owner (Nama Khoi Municipality) **Appendix 5.3**.

- **R54(2)(b)(iii):** Initial notification letters were delivered to landowners and occupiers adjacent to the site, Please refer to **Appendix 5.3** for the signed register

- **R54(2)(b)(iv):** An initial notification letter was sent to the municipal Ward councillor, for Henkries (please refer to **Appendix 5.3** for proof of notification letters sent).

- **R54(2)(b)(v):** An initial notification letter was sent to the Municipal Manager of the Municipality, who is also the land owner (please refer to **Appendix 5.3** for proof of notification letters sent).

- **R54(2)(b)(vi):** An initial notification letter (please refer to **Appendix 5.3** for proof of notification letters sent) was sent to the following organs of state having jurisdiction in respect of any aspect of the activity:
    - Department of Water Affairs
    - DENC (Department of Environment and Nature Conservation
    - DAFF (Department of Agriculture, Forestry & Fisheries)
    - SAHRA (South African Heritage Recourse Agency)

- **R54(2)(c)(i):** An advertisement was placed in the local newspaper, (please refer to **Appendix 5.2** for proof of advertisement).

- **R54(2)(d):** N/A

R54(7):

- **R54(7)(a):** All relevant facts in respect of the application were made available to potential I&AP's.

- **R54(7)(b):** I&AP's were given more than a 21-day registration and initial comment period on the proposed application during the first round of public participation.

- **R55(1)(a), (b), (c) and R56(2):** A register of interested and affected parties was opened and are being maintained (please refer to **Appendix 5.1** for the list of Interested and Affected Parties.

Please find attached as **Appendix 5.6 and 5.7**:

- Comments received on initial public participation
- Comments and response report

7. PLAN OF STUDY FOR THE EIA

7.1. TASKS TO BE UNDERTAKEN

In terms of the NEMA EIA process the Scoping process must follow certain prescribed process or steps.

7.1.1. Pre-application phase

In terms of the 2014 EIA requirements, this application is now in what is termed the "Pre-Application Phase", which included the following steps:

- Project preparation, site visits and meetings with client;
- Preparation of draft background information document;
- The National Application process does not require a "Notification of Intend" to develop and as a result no pre-application meeting was scheduled with the Department of Environmental Affairs (DEA).
- Initial public participation was done (Refer to Appendix 4);
- Register of interested and affected parties was compiled (Refer to Appendix 4.1):
- A comments and response report was established (Appendix 4.8):
- specialist was appointed;
- Preparation of Draft Scoping Report for comment (this document).

The Draft Scoping Report will be advertised for a 30-day comment period. Comments received during the Public Participation Process will be incorporated into the Final Scoping Report.

7.1.2. Application phase

The process will now enter the formal application process. The NEMA EIA (2014) process prescribes the following tasks (Refer to Table 5).

Table 5: Summary of the NEMA EIA (2014) process that will be followed

TASKS	DAYS	TARGET DATE
Scoping phase	**44 days maximum**	
Prepare and submit Application document		
DEA to acknowledge application and provide formal reference number	10	
Submit Scoping Report for comment	30	23 Nov 2016 To 21 Jan2017
Prepare comments and response report	2	Jan 2017
Prepare Final Scoping Report	2	Feb 2017
Submit Final Scoping Report to DEA for decision on scoping process	43	Feb 2017

TASKS	DAYS	TARGET DATE
Impact assessment phase *(Note this phase can only start after decision from CA)*	**106 days maximum**	
Compile Impact Report	30	March 2017
Submit Impact Report to Competent Authority		31 Mar 2017 to 30 Apr 2017
Submit Impact Report (IR) to interested and affected parties for comments	30	
Update comments & Response report	30	May 2017
Prepare Final Impact Report	16	May 2017
Submit Final Impact Report to DEA for decision	107	May 2017

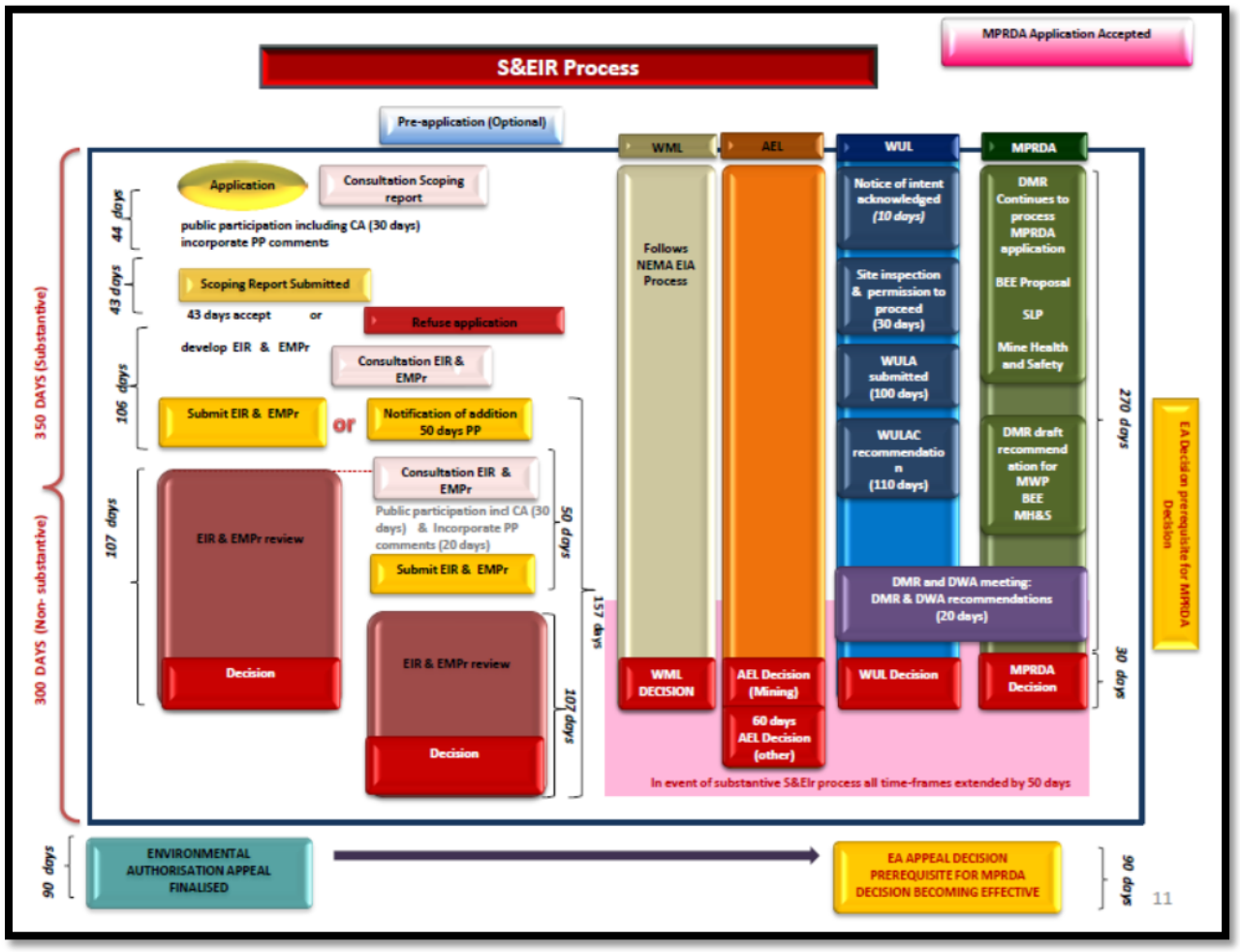


Figure 11: Summary of the Scoping and EIA 2014 process

7.2. PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES

Please refer to Figure 11 to see where the public participation process is present in the environmental impact assessment. The Interested and Affected Parties will have a chance to view and comment on all the reports that are submitted. The figures also indicated what

timeframes are applicable to what stage in the process. If required, meetings with key stakeholders will be held.

At the end of the comment period, the environmental impact report (EIR) will be revised in response to feedback received from interested and affected parties (I&AP's). All comments received and responses to the comments will be incorporated into the Final EIR. The Final EIR will then be submitted to the Competent Authority (CA) for consideration and decision-making.

Correspondence with I&AP's will be *via* post, fax, telephone, email and newspaper advertisements.

Should it be required, this process may be adapted depending on input received during the on-going process and as a result of public input. The Competent Authority will be informed of any changes in the process.

7.3. CRITERIA FOR SPECIALIST ASSESSMENT

As a result of the environmental issues and potential impacts identified in *Section 5*, the need for the following specialist studies has been identified:

- Biodiversity Assessment
- Archaeological impact assessment

The impacts of the proposed activity on the various components of the receiving environment will be evaluated in terms of duration (time scale), extent (spatial scale), magnitude and significance as outlined in Table 6. These impacts could either be positive or negative.

The magnitude of an impact is a judgment value that rests with the individual assessor while the determination of significance rests on a combination of the criteria for duration, extent and magnitude. Significance thus is also a judgment value made by the individual assessor.

In addition to determining the individual impacts against the various criteria, the element of mitigation, where relevant, will also be brought into the assessment. In such instances the impact will be assessed with a statement on the mitigation measure that could/should be applied. An indication of the certainty of a mitigation measure considered, achieving the end result to the extent indicated, is given on a scale of 1-5 (1 being totally uncertain and 5 being absolutely certain), taking into consideration uncertainties, assumptions and gaps in knowledge.

Table 6: Criteria to be used for impact evaluation

Criteria	Category
Nature of impact	This is an evaluation of the effect that the construction, operation and maintenance of a proposed development would have on the affected environment. This description should include what is to be affected and how.
Duration (Predict whether the lifetime of the Impact will be temporary (less than 1 year) short term (0 to 5 years); medium term (5 to 15 years); long term (more than 15 years, with the Impact ceasing after full implementation of all development components with mitigations); or permanent.	**Temporary:** < 1 year (not including construction) **Short-term:** 1 – 5 years **Medium term:** 5 – 15 years **Long-term:** >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) **Permanent:** Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary
Extent (Describe whether the impact occurs on a scale limited to the site area; limited to broader area; or on a wider scale)	**Site Specific:** Expanding only as far as the activity itself *(onsite)* **Small:** restricted to the site's immediate environment within 1 km of the site *(limited)* **Medium:** Within 5 km of the site *(local)* **Large:** Beyond 5 km of the site *(regional)*
Intensity (Describe whether the magnitude (scale/size) of the Impact is high; medium; low; or negligible. The specialist study must attempt to quantify the magnitude of impacts, with the rationale used explained)	**Very low:** Affects the environment in such a way that natural and/or social functions/processes are not affected **Low:** Natural and/or social functions/processes are slightly altered **Medium:** Natural and/or social functions/processes are notably altered in a modified way **High:** Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
Probability of occurrence Describe the probability of the Impact actually occurring as definite (Impact will occur regardless of mitigations	**Improbable:** Not at all likely **Probable:** Distinctive possibility **Highly probable:** Most likely to happen **Definite:** Impact will occur regardless of any prevention measures
Status of the Impact Describe whether the Impact is positive, negative (or neutral).	**Positive:** The activity will have a social/ economical/ environmental benefit **Neutral:** The activity will have no affect **Negative:** The activity will be socially/ economically/ environmentally harmful
Degree of Confidence in predictions State the degree of confidence in predictions based on availability of information and specialist knowledge	**Unsure/Low:** Little confidence regarding information available (<40%) **Probable/Med:** Moderate confidence regarding information available (40-80%) **Definite/High:** Great confidence regarding information available (>80%)
Significance (The impact on each component is determined by a combination of the above criteria and defined as follows) The significance of impacts shall be assessed with and without mitigations. The significance of identified impacts on components of the affected biophysical or socio-economic environment (and, where relevant, with respect to potential legal requirement/s) shall be described as follows:	**No change:** A potential concern which was found to have no impact when evaluated **Very low:** Impacts will be site specific and temporary with no mitigation necessary. **Low:** The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures **Moderate:** Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures. **High:** Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.

Table 7: Format to be used for presenting assessment of each impact

Impact Statement:		
Mitigation:		
Ratings	Duration	
	Extent	
	Intensity	
	Probability of impact	
	Status of Impact (Positive/negative)	
	Degree of confidence	
Significances	Significance **without** Mitigation	
	Significance ***WITH*** Mitigation	
Indication of the certainty of a mitigation measure considered, achieving the end result to the extent indicated, is given on a scale of 1-5 (1 being totally uncertain and 5 being absolutely certain), taking into consideration uncertainties, assumptions and gaps in knowledge		
Legal Requirements (Identify and list the specific legislation and permit requirements which are relevant to this development):		

8. CONCLUSION AND RECOMMENDATIONS

A scoping exercise is being undertaken to present the proposed activities to interested and affected parties in order to present identified environmental issues and to identify potential additional issues, other than those already identified, and to identify concerns that might be applicable as a result of the proposed development. The issues and concerns raised by I&APs, authorities, the project team as well as specialist input, are based on baseline studies undertaken to date.

This Draft Scoping Report, being undertaken in terms of NEMA, summarises the process undertaken, the alternatives presented and the issues and concerns raised.

As a result of the above, the need for the following specialist studies, have been identified:

- Botanical Assessment
- Agricultural soil potential analysis

Any further issues raised as a result of the Public Participation Process will be dealt with during the EIA phase.

The significance of the impacts associated with the alternatives proposed will be assessed in these specialist studies, as part of the EIA. Once the specialist studies have been completed, they will be summarised in an Environmental Impact Report (EIR), which integrates the findings of the assessment phase of the EIA.

9. DETAILS AND EXPERTISE OF THE EAP

This Draft Scoping Report was prepared by Peet Botes. Mr. Botes holds a BSc. (Hons.) degree in Plant Ecology from the University of Stellenbosch (Nature Conservation III & IV as extra subjects). He has been employed for more than 20 years in the environmental management field, first at the Overberg Test Range (a Division of Denel) managing the environmental department of OTB and being responsible for developing and implementing an ISO14001 environmental management system, ensuring environmental compliance, performing environmental risk assessments with regards to missile tests and planning the management of the 26 000 ha of natural veld, working closely with CapeNature (De Hoop Nature Reserve). In 2005 he joined Enviroscientific, an independent environmental consultancy specializing in wastewater management, botanical assessments and developing environmental management plans and strategies, environmental control work as well as doing environmental compliance audits. He was also responsible for helping develop the biodiversity section of the Farming for the Future audit system implemented by Woolworths. During his time with Enviroscientific he performed more than 400 biodiversity and environmental legal compliance audits. He is currently employed by EnviroAfrica. Experience with EnviroAfrica includes NEMA applications, biodiversity- and botanical assessments, environmental compliance audits and environmental control work.

Mr. Botes is also a registered Professional Environmental and Ecological Scientists at SACNASP (South African Council for Natural Scientific Professions) as required in terms of Section 18(1)(a) of the Natural Scientific Professions Act, 2003, since 2005.

The whole process and report was supervised by Bernard de Witt who has more than 20 years' experience in environmental impact assessment applications.

(----------END----------)

Appendix 1. Location maps

1.1 Site location
1.2 Google overview
1.3 Layout map of proposed development
1.4 Vegetation map
1.5 Namakwa District Biodiversity Sector Plan – CBA maps

Appendix 2. Overview photos

Appendix 3. Archaeological study

Appendix 4. Biodiversity study

Appendix 5. Public participation

5.1 Initial PPP

5.1.1 I&AP's Register

5.1.2 Proof of Newspaper advertisement

5.1.3 Initial notification letters

5.1.4 Proof of Posters and letter drops

5.1.5 Proof of Landowner notification

5.1.6 Comments received (Initial PPP)

- None

5.1.7 Comments and response report (Initial PPP)

5.2 PPP on Scoping Report

5.2.1 I&AP's Register (updated)

5.2.2 Proof of Scoping Report PPP

5.2.3 Comments received

5.2.3.1 Comments from DAFF

5.2.4 Comments and response report (updated)