

Final Environmental Impact Report

Application for Authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, December 2014, as amended March 2017.

DENC Ref: NC/EIA,06/ZFM/KAI/AUG1/2017

PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP, FARM 1290 AND FARM 1537, AUGRABIES, NORTHERN CAPE



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EXECUTIVE SUMMARY

Locality:

The proposed properties on which the expansion of agricultural activities, pipelines and associated infrastructure will take place are situated on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies. The farms are situated on the right side of the R64 approximately 2km before you enter the small town of Augrabies in the Northern Cape Province, see Figure 1. The site lies north of the R64 (MR 359) and south and west of Renosterkop Peak, a prominent inselberg in an otherwise flat landscape, and south of the Orange/Gariep River. Small ephemeral streams cross the site. See Figure 2. Accesses to the farms are via existing gravel roads that gain access off the R64. The property is currently zoned Agriculture. The owner of the properties is Oseiland Eiendomme (PTY) Ltd and has appointed PBPS as the independent consultant to undertake the EIA process.

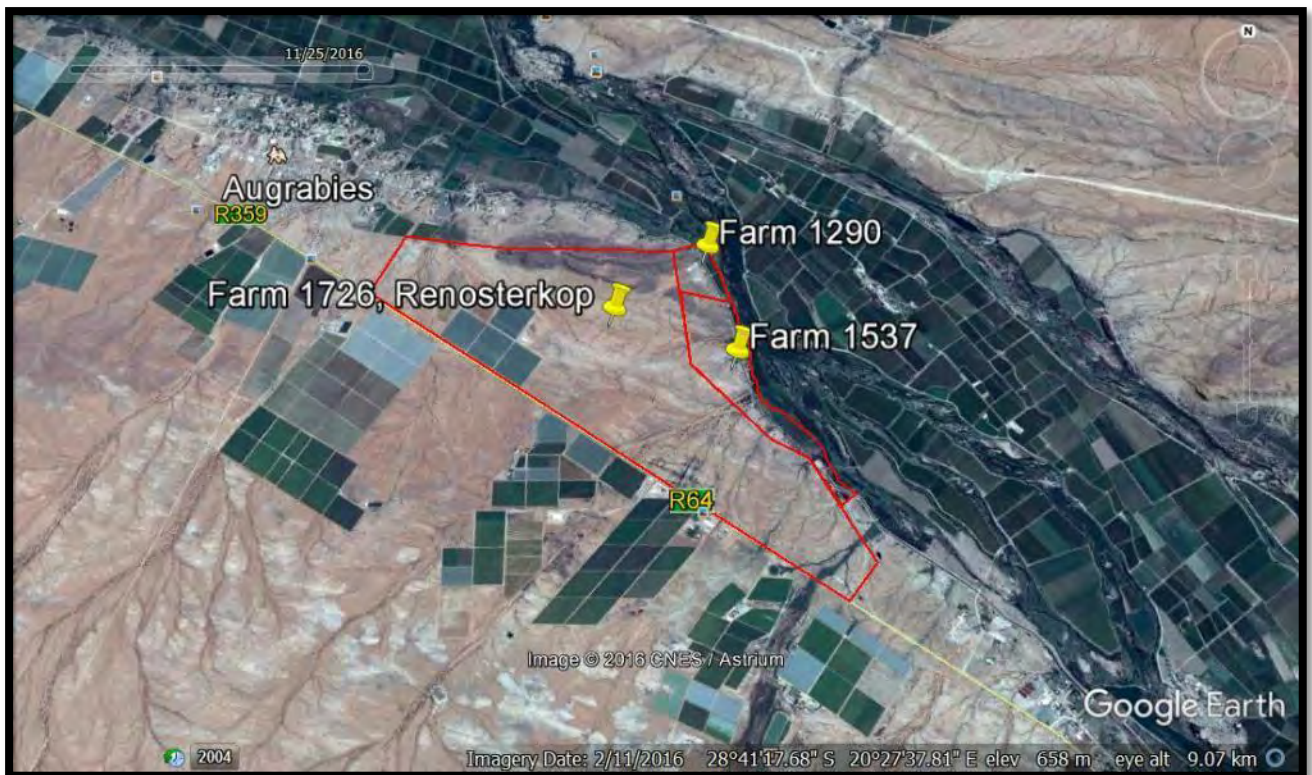


Figure 1: Locality

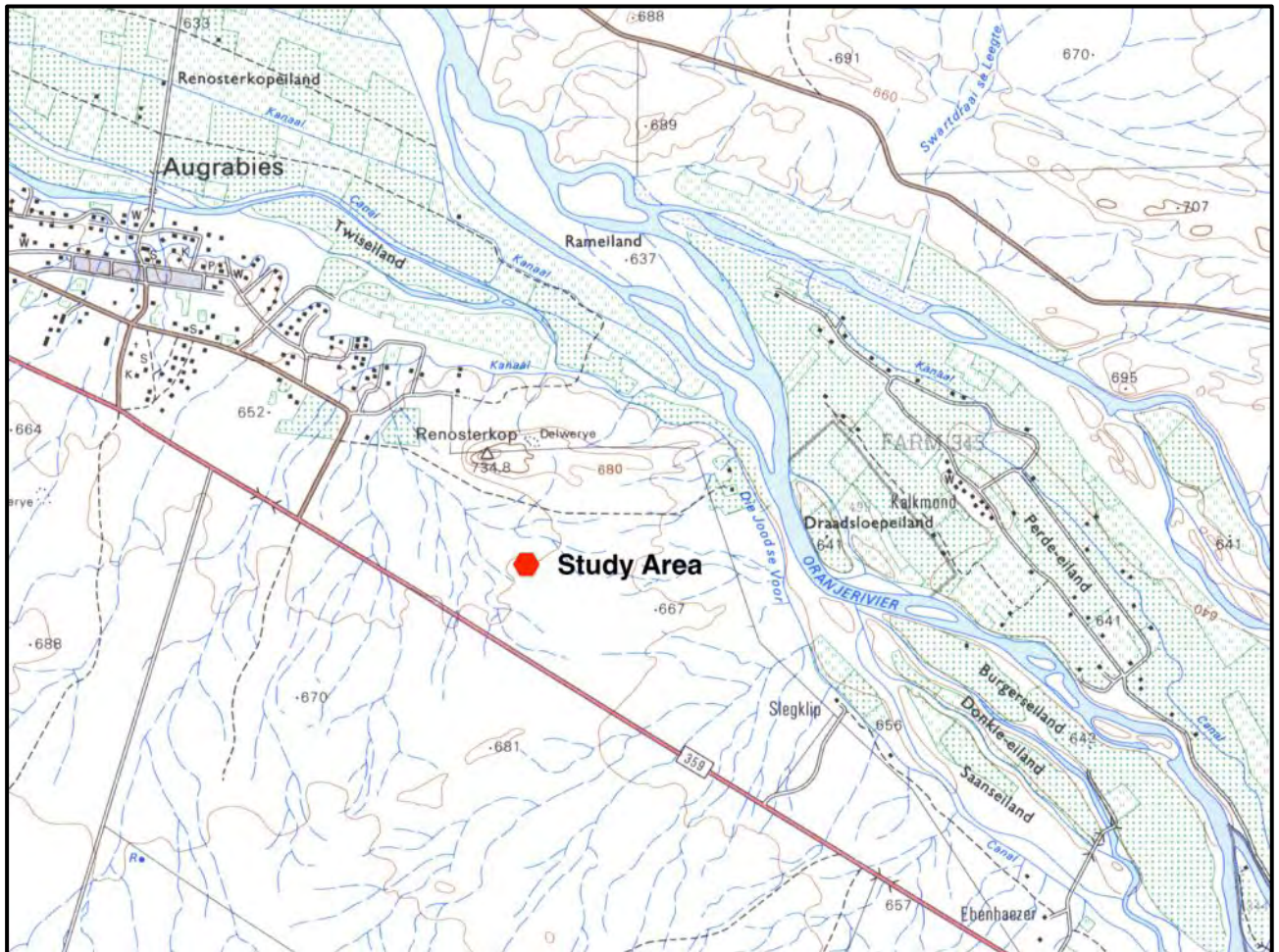


Figure 2: 1:50 000 Topographical Map.

Proposed development:

The proposed development is to establish additional agricultural areas for the cultivation of vineyards and orchards on areas with indigenous vegetation and across small streams. It is also proposed to construct additional pipelines, that will cross streams and to construct a new intake from the canal as well as a small pumping station adjacent to the Orange/Gariep River for taking, water out of the stream during periods where the canal will be closed for repairs. All proposed cultivation areas have existing access. The agricultural development is also approximately 1km from the Orange/Gariep River. The proposed agricultural areas and pipelines are shown in the Figure 3.

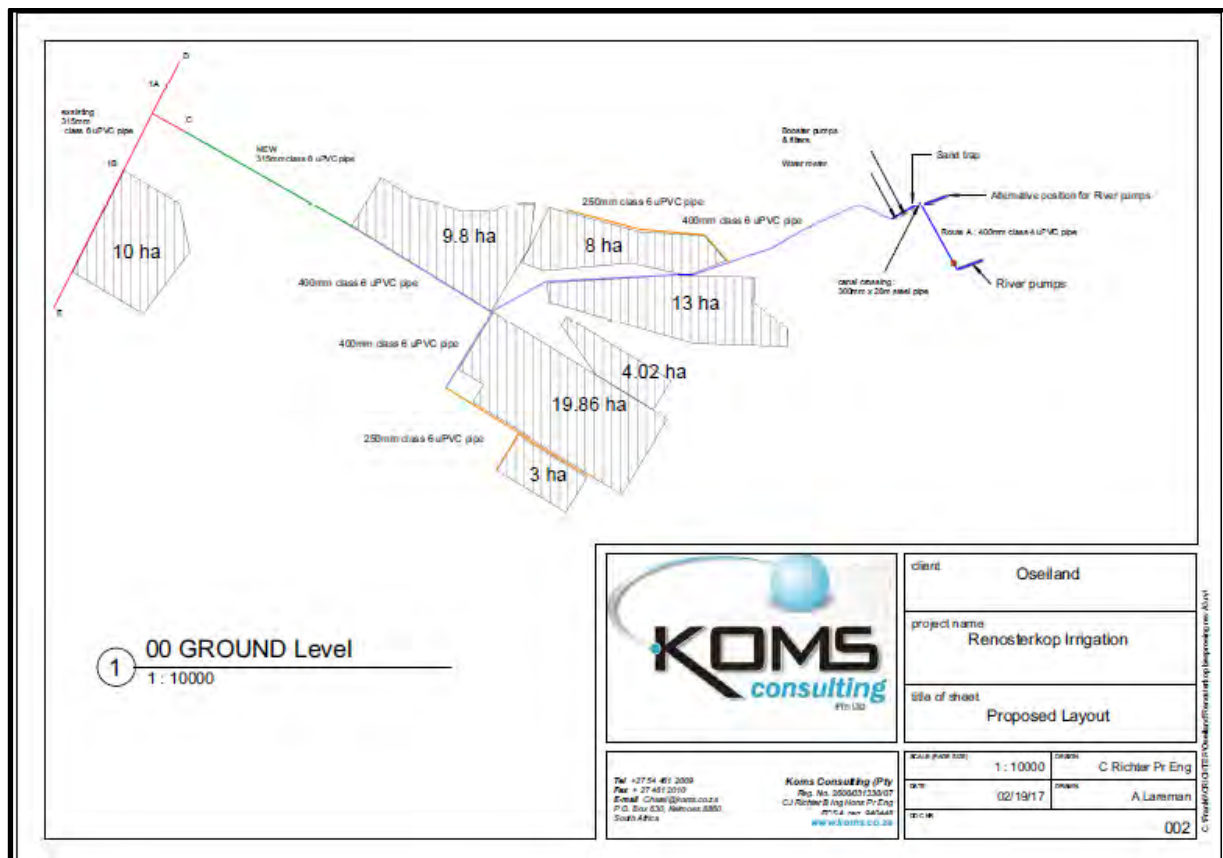


Figure 3: Proposed Agricultural areas.

As per the above Figure 3, the proposed development is for the following:

1. Transformation of approximately 67.68ha of indigenous vegetation to vineyards. This extent has been reduced from 77ha due to the confirmation of the availability of water for irrigation.
2. Construction of approximately 3km of new pipelines,
3. Construction of a pumping station adjacent to the Canal, approximately 0.1ha in size,
4. A small intake structure within the Orange/Gariep River, and
5. Construction of two pipelines crossings over the Canal.

Baseline information

- Vegetation:

The proposed development area falls within the Nama Karoo Biome, see summary below:

“The Nama Karoo Biome covers an extensive area from the north-west through the central part of South Africa to the south and southeast of the country. It is an arid zone and is subdivided into three bioregions, the Upper Karoo Bioregion, Lower Karoo Bioregion and Bushmanland Bioregion. The Augrabies study area is located in the Bushmanland Bioregion at a north-central location (Rutherford & Westfall, 1994; Rutherford et al. 2006; Mucina et al. 2006 in Mucina & Rutherford, 2006).

Critical Biodiversity Areas (CBAs) were delimited for the Namaqua District Municipality (NDM) by Desmet & Marsh (2008). The maps they compiled did not include the Augrabies area. However, more recently critical biodiversity areas and ecological support areas have been mapped for the whole of the Northern Cape Province including the Kai Garieb Municipality.

The available CBA shape files (Enrico Oosthuysen pers comm.) for the Northern Cape Province were overlaid on Google Earth™, which allowed for determining the classification of the area around Augrabies including Renosterkop (the peak). The farm Renosterkop 1726

is located in an area classified as CBA2 (Figure 5.7). The Renosterkop study area is not near any focus area of the National Protected Area Expansion Strategy nor is it close to any mountain catchment area. It is separated from the Augrabies National Park by numerous other farms.”

The Botanical Impact Assessment Report, which included reference to fauna on the project site, is attached as Appendix 11.3.1. Impacts were identified as the loss of Bushmanland Arid Grassland on the open plains, and in the drainage lines. Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the ‘eastern area’ of the farm outside the area targeted for agriculture. The ‘eastern area’ is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture.

- Heritage, Archaeology and Palaeontology

A Heritage/Archaeological specialist Dr Jonathan Kaplan was appointed to conduct an assessment of the site and his report is attached at Appendix 11.3.2. An application was lodged with SAHRA, and comments received from SAHRA is detailed further in Section 11.7.1. The proposed development will have a low negative impact, however mitigation measures will be implemented. The layout was adapted to include a 30m buffer area from the gravesite, the gravesite will also be fenced off. SAHRA indicated the need for an HMP, however as per the response from Dr Jonathan Kaplan, this is not deemed necessary. The 30m buffer area and fencing of the site, including all mitigation measures outlined by the specialist will be included as part of the Environmental Authorisation.

- Socio-Economic Environment.

Socio:

The farm Renosterkop as part of the Oseiland Eiendomme PTY Ltd is a highly commercial agricultural (farming) unit, which is currently being farmed on a commercial basis. The farms are situated within an area surrounded by other farms and farming communities. The closest town to the farm is the town of Augrabies. A very competent and motivated workforce manages the other properties as part of the company. It has many success stories, which contributes positively to the local economy and the provision of job opportunities in the region and the Northern Cape Province.

It is envisaged that Oseiland will need to create some new permanent and a number of new seasonal employee positions in the near future should the new development be approved. The entity also plans to convert some of the current seasonal positions to permanent positions should this application be successful.

As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

The new development will therefore create an immediate need to appoint more workers and supervisors.

The new development will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.

- ☐ Skilled agricultural labourers
- ☐ Specific knowledge of vineyards and citrus fruit production will be needed
- ☐ Specific knowledge of fruit packing will be needed
- ☐ Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers.

Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

Economic:

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.

Not only are the new employment opportunities important, but also the fact that:

1. Existing jobs can be secured: Enough water and farming development will directly secure existing and new job opportunities.
2. More sustainable development will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.
3. The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

The Agri-BEE report is attached at Appendix 11.3.3, as referenced: “In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities have the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.”

- Electricity

The development falls within the capacity of Eskom. Note that additional electrical capacity is necessary for the development of the pump station, however no additional capacity is necessary for the agricultural areas as existing usage is sufficient. An application was submitted to Eskom for the additional capacity, see correspondence with ESKOM in section 12.3. No further comment has been obtained from Eskom in this regard.

- Water Use License Application

Application for a license in terms of the National Water Act, 1998 (NWA) is made by the developer, Oseiland Eiendomme (PTY) Ltd for the taking of existing water rights from the Kakamas/Augrabies Canal and taking the rights from the Orange River via a new pump station during periods in which the canal is undergoing maintenance. The application is further for the transfer of water from various small properties and for the transfer of water rights to Kakamas South Settlement no 1726. Approval is also necessary for the development of agricultural areas across small ephemeral streams/drainage areas and pipelines crossing these streams.

The application is summarised for the following water usages:

| | |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) taking water from a water resource; | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| (c) impeding or diverting flow of water in a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |
| (i) altering the bed, banks, course or characteristics of a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |

The applicant, Oseiland Eiendomme PTY Ltd, wants to expand their farm by extending the existing agricultural areas with approximately 67.68ha. The applicant wishes to transfer water from various small properties owned by the applicant, which are currently due to location and size uneconomical to farm separately, to the property, Kakamas South Settlement no 1726 (Renosterkop), where the new agricultural areas will be developed.

The farm is currently irrigating their vineyards with water that is pumped directly from the canal at an existing abstraction point. The water can also be pumped from the existing pump on the canal and pumped via existing pipelines and be stored in an existing storage dam on the adjacent property. The proposal is to construct a new pump station at the canal as shown below in Figure 2, water can also be pumped directly from this new off take. The additional water allocation (879 000m³/a from the Kakamas WUA from the various properties) and (147 000m³/a from the Kakamas WUA existing rights left) will be pumped directly from the canal and irrigated onto the vineyards or pumped to the storage dam.

However, during periods in which the canal undergoes maintenance, normally three times a year, the applicant wishes to pump directly from the Orange River. Therefore a new pump will be constructed on the bank of the Orange River, note the location was selected due to existing disturbance to this section along the Orange River and the fact that it provides the best location to construct the pulley system proposed. Note the proposed abstraction point and new pump is located on Kakamas South Settlement no 1537 and the new Canal abstraction point and pump station on Kakamas South Settlement no 1290.

It has already been confirmed by the Kakamas WUA that the additional water allocation can be accommodated and that they have no objections to the abstraction from the Orange River and the Kakamas/Augrabies Canal. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

The establishment of these vineyards will be close to small sections of the unnamed drainage system that is located on site. The drainage system is classified as an ephemeral course as it

will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse. Please note: There will be NO planting of vineyards within these drainage channels as far as possible and a buffer of at least 20m surrounding the larger drainage systems will be kept at all times.

The proposed development areas fall within the Lower Orange River catchment area, (SANBI (BGIS Maps)). The proposed pump falls within the NEFPA outlined wetlands, however the small section of the Orange River is heavily disturbed. The ephemeral drainages systems spring from the canal and within the new proposed agricultural areas and then flows downwards towards the R64. The begin flow of these streams/areas is at the canal. However, none of this water flows into the Orange River and is therefore not supplementary flow towards to Orange River. It is therefore cut from potentially ending up in the Orange River via heavy agricultural activities, flow direction and the canal.

- Alternative energy and optimisation

The proposed development of the vineyards will in effect result in the following measures to reduce energy and water usage:

- Use water sparingly and the latest irrigation technology and scheduling methods are always implemented.
- Best practices to reduce water consumption and lowest possible electricity consumption.

Alternatives:

The development layout was developed using an opportunities and constraints analysis which included on the constraints side, mainly the suitability of the agricultural areas on the particular position from a design perspective as well as possible impacts on natural vegetation and drainage areas, which is clearly outlined in Alternative 1 (preferred alternative). From a technology perspective the suitability of the proposed agricultural activities to be established on the property, is outlined in alternative 1 and 2.

For the Scoping Process the following were considered, Alternative 1 (preferred alternative), Alternative 2 the agricultural activities alternative, Alternative 3 location alternative for the intake at the Orange/Gariep River and Alternative 4, the No-Go Option.

No site alternative was considered as this is the applicant's property, and no other properties are available with this site having close access to the Canal and the Orange River. No site alternatives are therefore available. There are also no technology alternatives available.

The alternatives considered for the development are described below:

Alternative 1 (preferred location/design and technology alternative):

This option will consist of agricultural land to be established, clearly outlined according to:

1. Transformation of approximately 67.68ha of indigenous vegetation to vineyards (the area proposed for cultivation has been reduced from 77ha due to the confirmation of available water for irrigation)
2. Construction of app. 3km of new pipelines,
3. Construction of a pumping station adjacent to the Canal, approximately 0.1ha in size,
4. A small intake structure within the Orange River and

5. Construction of two pipeline crossings over the Canal.

The layout is shown below in Figure 4.

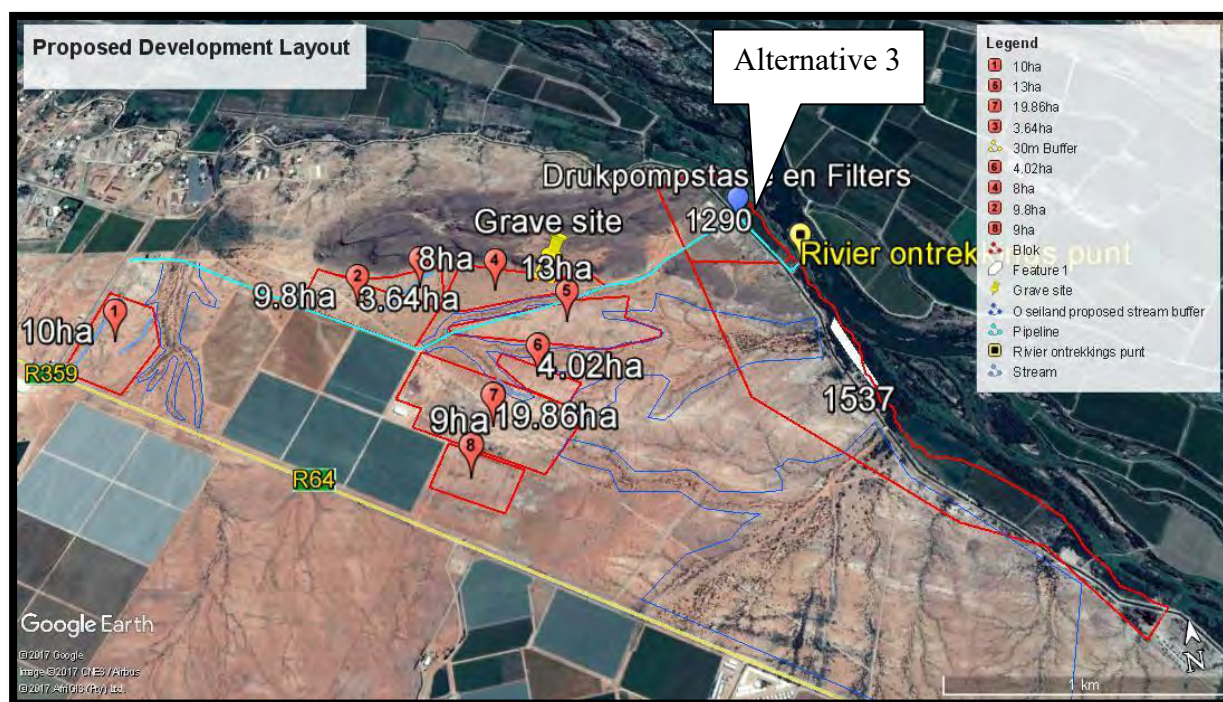


Figure 4: Alternative 1 – All proposed development areas

This alternative is considered as preferred for the following reasons:

- From a design perspective this alternative was the best option. It took into consideration design measures by establishing agricultural areas as far as possible on areas that have already been disturbed.
- From a fresh water feature perspective it took into consideration the ephemeral streams, the development was located as far as possible from the streams. Also the entire eastern section of the farm will be kept natural. The eastern section has low potential agricultural land, with high concentrations of ephemeral streams.
- This alternative also located the pump station on an area already disturbed and the intake from the Orange/Gariep River is also on an area already disturbed.
- From a financial perspective this alternative was the best option. This development will contribute to the local and international market.
- From a vegetation perspective this alternative will have a low negative impact on vegetation.
- From a heritage/archaeological perspective this alternative will not have a significant impact, and a low impact with mitigation measures. All mitigation measures outlined will be implemented.
- This alternative will also fully utilise the farms agricultural potential according to existing water use rights and additional rights to be transferred.
- This alternative will also contribute socially to the upliftment of the existing workers through additional job opportunities.

It is clear therefore that this alternative meets the requirements of the socio-economic, vegetation, fresh water ecology and design considerations and was deemed preferred.

Alternative 2 (location/design alternative):

This option will consist of agricultural land to be established, clearly outlined according to:

1. Location – Farm 1726, Renosterkop, Farm 1290 and Farm 1537
2. Size – approximately 78.7ha
3. Proposed agricultural activity – vineyards
4. Pump station of app ha
5. Pipelines of approximately 3.2km
6. Off take at the Orange River
7. Off take at the Canal

The layout is shown below in Figure 5.



Figure 5: Alternative 2

This alternative is not considered as preferred for the following reasons:

- From a design perspective this alternative was not the best option. It did not take into consideration design measures by not establishing agricultural areas as far as possible on areas that have already been disturbed.
- From a fresh water feature perspective it did not take into consideration the ephemeral streams, the development was located over the streams.
- Did not take into consideration the grave site and the 30m outlined as part of mitigation from a heritage and archaeological perspective.

This alternative is therefore not deemed preferred and not better suited than that of alternative 1.

Alternative 3: (location/design alternative)

This option will consist of a different site for the establishment of the pump station in the Orange/Gariep River. The different locations are shown in Figure 4.

This alternative is not deemed preferred as it is located on a site with a higher bank edge and with more potential to impede and divert flow, see Figure 6.

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Figure 6: Alternative 3

Alternative 4: No-go Option

This is not seen as preferred for the following reason:

- The current agricultural activities on the property are not being utilised to full potential. For this to take place additional agricultural areas would have to be established.
- From a botanical perspective the No Go alternative would be no further development of vineyards at Renosterkop 1726. The natural veld would remain as it is and there would be minimal change over time but with some low-level impacts due to human activity. The result would be a Very Low Negative impact.
- No social upliftment of existing workers and no additional job opportunities.

Therefore, this alternative is not seen as preferred as the expansion of agricultural activities will contribute to the agricultural potential of the property and if this does not take place the expansion of the farm to its full potential cannot take place, resulting in an opportunity cost for the landowner. No social upliftment and economical contribution would take place.

Alternatives considered in the EIA Phase

Following from the section above it is clear that Alternative 1 has taken into account the key concerns raised, and is therefore the most reasonable and feasible.

In conclusion, taking into consideration that Alternative 2 and 3 are not viable from a design, fresh water ecology or vegetation perspective, and the fact that Alternative 1 took into consideration inputs from relevant specialists; Alternative 1 is the Preferred Alternative.

Alternative 1 as the Preferred Option and Alternative 4 the No-Go Option, are considered further in terms of the significant ratings in this EIA phase.

Public participation included the following:

Public participation for the Draft Environmental Impact Report (fEIR):

- **Registration and advertisement**

An advertisement was placed in the Gemsbok on the 28 June 2017. This advertisement served as notice of the availability of the fEIR to provide comment as part of the public participation process in terms of the new EIA Regulations dated March 2017, and the Water Use Licence Application. The registration/comment period is from 30 June 2017 to 01 August 2017.

- **Notice Board**

Notice Boards were displayed at the entrance of the farm from 30 June 2017.

- **Information and reporting for formal process**

A notice that included the Executive Summary and draft EIR was made available and distributed by registered post to all registered I&APs and neighbours for the 30 day commenting period, from 30 June 2017 to 01 August 2017. The notice informed all I&AP's of the availability of the dEIR and WULA, which could be obtained from the EAP. Digital copies were made available on the website www.pbpscon.co.za and distributed to all I&AP's.

Hard copies of the report were also sent to the following Authorities: DENC, DWS, Dept. of Agriculture, SAHRA and Kai! Garib Municipality.

- **I&AP database**

The I&AP database was developed from registered and listed I&APs. The database was not updated following the Scoping Phase as no new I&AP's registered during the EIA phase.

All comments received on the FSR and the DEIR have been addressed in the Comments and Response sheet included at Appendix 11.1.7

Issues identified for EIA phase:

A summary of the main issues identified in the Scoping Phase are shown in Table 2. Two types of reports have been compiled for the EIA Assessment.

1. A Report on a specific technical subject.
2. Final Specialist Environmental Impact Reports as outlined in Table 2.

Table 2: Identified issues, EIA studies and reports

| Main issues identified | Reports | Final EIA studies |
|--------------------------------------|---------|-------------------|
| Heritage/Archaeology & Palaeontology | | X |
| Socio-Economic | X | |
| Vegetation | | X |
| EMP | X | |
| Water Use License Application | X | |

ENVIRONMENTAL IMPACT STATEMENT SUMMARY OF RATING

| EIA Assessment | Preferred Alternative 1 | Alternative 4 - No-Go Option |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <u>Botanical (open plains)</u> | The vegetation types found on site is of low botanical sensitivity. The proposed development on the open plains will have low negative impact on the vegetation. | No impact on vegetation if this takes place. |
| <u>Botanical (seasonal watercourses)</u> | <p>Loss of the vegetation along the seasonal watercourses will result in a greater negative impact than loss of the grassland on the open plains. It is for this reason that the assessment of impacts on the seasonal watercourses is separated from that of the open plains. It is anticipated that the loss of the seasonal watercourses would result in High Negative impact since numerous <i>B. albitrunca</i> trees would be lost at a local scale.</p> <p>This could be mitigated by a commitment to conserve and protect the eastern part of Renosterkop 1726 in perpetuity. The eastern area is highly dissected by numerous watercourses and has a high concentration of trees including many <i>Boscia albitrunca</i> trees.</p> <p>Very little scope is available for mitigation measures to compensate for the loss of natural or near natural habitat in the study area itself since, wherever there would be future cultivation, the vegetation and</p> | |

| | | |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| | <p>habitat would be lost. Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the 'eastern area' of the farm outside the area targeted for agriculture. The 'eastern area' is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture (Appendix 11.3.1).</p> <p>The specialist rated this impact as MEDIUM Negative subject to the conservation and protection of the eastern part of Renosterkop 1726 in perpetuity.</p> | |
| <u>Heritage</u> | As referenced from Appendix 11.3.2: "The study has captured a good record of the archaeological heritage present on the proposed development site. Indications are that, in terms of archaeological heritage, the affected environment is not a sensitive or threatened landscape. The impact significance of the proposed development on important archaeological heritage is therefore assessed as LOW." | No Impact |
| <u>Archaeological/ paleontological</u> | <p>The letter written by Dr John Almond is included in Appendix 11.3.2 and recommended that: "In view of the small development footprint and the very low paleontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned."</p> <p>As archaeological sites are concerned, most of the occurrences are lacking in context. While several low/medium density scatters of tools were recorded, these occur mostly outside the proposed footprint area. No evidence of any factory or workshop site, or the result of any human settlement was identified within the proposed development site. It is maintained that most of the archaeological remains comprise discarded flakes, flake debris and debitage. Overall, despite the relatively large numbers of the tools that were recorded, the isolated and mostly disturbed context in which they were found, means that the archaeological</p> | No impact |

| | | |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | resources have been graded as having low (Grade 3C) significance. | |
| <u>Visual/Cultural landscape</u> | The planting of vineyards would result in a replacement of the natural landscape by a cultural landscape. During the construction phase there would be very minor impacts to the scenic qualities of the landscape, but the site is quite far from the nearest public road so this negative impact is seen as being of very low significance. There are no fatal flaws. No mitigation or management measures are suggested aside from best practice considerations such as keeping the area free of unsightly materials, litter and the like. The vineyards of the Orange River region add scenic value and sense of place to the environment. Once the vineyards are established it is expected that the impacts to the landscape will be positive so long as the area is retained in a tidy and attractive state. | Low negative due to the land remaining undeveloped, with no vineyards and positive visual (cultural perspective) impact on the barren landscape. |
| <u>Water quality</u> | No impact on water quality, as construction will be conducted outside the rainfall season. No flow from agricultural areas as a storm water berm will be constructed. | No impact |
| <u>Impeding and diverting flow</u> | The natural drainages areas and small ephemeral stream will be filled in and vineyards established on these areas, therefore a low negative impact on surface water flow. This will however be mitigated by establishing a storm water berm surrounding the agricultural areas to prevent any contamination further downstream of these drainage areas. | No impact |
| Socio-Economic | Overall impact is medium positive | No development during the construction phase will result in no job creation and no skill development. Upliftment of permanent workers will not take place, therefore medium negative impact. |
| Air and Noise pollution | Very low negative and only during construction phase | No Impact |
| Sewage and waste disposal | Very low negative and only during construction phase | No Impact |
| Fauna | Very low negative and only during construction phase. Thereafter free movement of animals allowed and | No impact |

| | | |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| | mitigation of no hunting allowed. | |
| Overall | The development will result in an overall low negative impact, mostly due to the loss of vegetation in the watercourses, offset by the positive impacts associated with the creation of employment and empowerment opportunities. | No development will result in a medium negative impact due to the loss of opportunity for employment generation and empowerment in a poor community. |

Conclusion:

Taking into account that the purpose of scoping is “*must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process*” it can be concluded that the process has been successful. A number of issues identified in the scoping phase have been assessed in the EIA phase, including the assessment of the preferred alternative and the No-Go Alternative

The proposed development has been identified and the layout designed according to the findings of the baseline studies to ensure minimal impact on the environment. Alternative 1 addresses the key concerns with regards to design and the inputs from the specialists through the following:

- No constraints were identified from a botanical perspective that would prevent the agricultural development from proceeding as long as suitable mitigation is implemented.
- No significant impact on heritage/archaeology, suitable mitigation measures will be implemented.
- Determined the best suitable alternative through assessing the impacts on the environment, preferred alternative 1 was determined.
- Low impact on the ephemeral streams and the conservation of the eastern section.
- The farm can be utilised to its full agricultural potential.
- The land area available for the proposed cultivation has been calculated on the availability of irrigated water. The WULA addresses the transfer of water rights, and the impacts on the watercourses.
- It will also result in the social upliftment of the existing workers and create additional job opportunities.
- Financially contribute to the local and international market.

The detailed impacts and mitigation measures for Alternative 1 have been investigated and are detailed further in Section 7.

Note that the “**do nothing option**”, has been investigated as Alternative 4 and when taking into consideration that the current agricultural potential of the property is not utilising to its full potential, thus keeping the site as is, is not deemed as preferred. However, the EIA process requires that the “do nothing option” be included in the significance rating process.

Thus Alternative 1 and Alternative 4: No-Go Option has been subjected to the significance ratings in the EIA Phase, as included in the Environmental Impact Statement in Section 9.

It is required by law that projects must meet with the requirements of sustainable development. The concept is defined as follows “*the integration of social, economic and*

environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations”.

In achieving sustainable development, the focus therefore may not be restricted to environmental or nature conservation factors only. It should include economic and social realities. Social factors influence the livelihoods of people. They determine income, quality of life, social networks, and other means aimed at maintaining and improving the wellbeing of people. Economic factors deal with the affordability of processes, their potential to generate income over an extended period (into future generations) and to maintain the ability to support both the environmental and social needs of an area.

In short; if people are impoverished, there will be no environment to protect; if a project is not attractive economically, it will not be launched; but the environment is the essential basis for all development.

Overall it is clear that the preferred option best meets the above integration factors and has the biggest advantages and takes into account the NEMA principles.

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List of abbreviations

| | |
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| CA | Competent Authority |
| DENC:NC | Department of Environment and Nature Conservation: Northern Cape |
| DEAT | Department of Environmental Affairs and Tourism |
| dSR | Draft Scoping Report |
| fSR | Final Scoping Report |
| DWS | Department of Water and Sanitation |
| EA | Environmental Authorisation |
| EAP | Environmental Assessment Practitioner |
| EIA | Environmental Impact Assessment and the process to be followed in terms of the National Environmental Management Act, Act 107 of 1998 |
| EIR | Environmental Impact Report |
| EMF | Environmental Management Framework |
| EMP | Environmental Management Programme |
| GG | Government Gazette |

| | |
|-----------------|------------------------------------------------------------------|
| GN | Government Notice |
| I&AP | Interested and Affected Party |
| IAIAsa | International Association for Impact Assessment for South Africa |
| NEMA | National Environmental Management Act, Act 107 of 1998 |
| NID | Notice of Intent to Develop |
| PoSfEIA | Plan of Study for EIA |
| ROD | Record of Decision |
| SDF | Spatial Development Framework |
| SR | Scoping Report |
| TOR | Terms of Reference |

1 Introduction

1.1 Scoping Report acceptance and subsequent process

The Scoping process was completed in May 2017 and acceptance of the Final Scoping Report was received from DENC in their letter dated 9 June 2017 (attached at Appendix 11.1.6.2).

The Final Scoping Report and the Plan of Study for EIA indicated that the Preferred Alternative and the “No go” options would be investigated in the EIA Phase. The Plan of Study for EIA required that the following impact studies be undertaken in the EIA Phase. These studies have been undertaken and are included as Appendices:

- Botanical Impact Assessment Report (Appendix 11.3.1)
- Heritage/Archaeology and Paleontological Assessment (Appendix 11.3.2)
- Socio-Economic Summary (Appendix 11.3.3)
- Water Use Licence Application (Appendix 11.3.4)

Apart from the EIA studies listed above the following report was completed:

- EMPr (Appendix 12)

This document serves as the Environmental Impact Assessment and will follow the assessments outlined in the plan of study for EIA.

1.2 Purpose of the EIR

This report has been compiled from all specialist and technical reports to capture all information in a format as required by the regulations as indicated below. The report has therefore been compiled using information, text and figures taken from the various specialists and technical reports.

Please note this process was initiated under NEMA 2014 Regulations and therefore will be completed under these regulations, as amended by the EIA Regulations dated 7 April 2017.

According to section 23 of the NEMA Regulations (GN 326 dated 7 April 2017), point 3, and an environmental impact report must contain all information set out in Appendix 3 and referenced below:

An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include-

Table 1: EIA information

| Number (not corresponding to the numbering in the Regulations of 2017) | Information necessary for EIA Report: | Section in report |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------|
| a) | details of- (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae; | [see section 1.4] |
| b) | the location of the development footprint on the approved site as contemplated in the accepted scoping report, | [see section 1.1 and 1.3] |

| | | |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| | <p>including:</p> <ul style="list-style-type: none"> (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; and (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties; | |
| c) | <p>a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is-</p> <ul style="list-style-type: none"> (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken; | [see section 2.2 and 6.2] |
| d) | <p>a description of the scope of the proposed activity, including-</p> <ul style="list-style-type: none"> (i) all listed and specified activities triggered and being applied for; and (ii) a description of the associated structures and infrastructure related to the development; | [see section 2.1 & 2.2] |
| e) | <p>a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;</p> | [see section 3] |
| f) | <p>a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report;</p> | [see section 4] |
| g) | <p>a motivation for the most ideal location of the development footprint of the approved site;</p> | [see section 6] |
| h) | <ul style="list-style-type: none"> (i) details of the development footprint alternatives considered; [see section 6] (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; [see section 8] (iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; [see section 11.1.7] (iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, | [See sections in left column] |

| | | |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| | <p>heritage and cultural aspects; [see section 5]</p> <p>(v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts-</p> <ul style="list-style-type: none"> (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated; <p>[see section 7 & 9]</p> <p>(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks; [see section 7]</p> <p>(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; [see section 7 & 9]</p> <p>(viii) the possible mitigation measures that could be applied and level of residual risk; [see section 7 & 9]</p> <p>(ix) if no alternative development locations for the activity were investigated, the motivation for not considering such; and [see section 6]</p> <p>(x) a concluding statement indicating the preferred alternative development location within the approved site; [see section 9] and</p> | |
| h) | <p>a full description of the process followed to reach the proposed development footprint within the approved site, including:</p> <p>(i) a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred location through the life of the activity, including-</p> <ul style="list-style-type: none"> (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures; | [see section 3, 7 & 9] |
| j) | <p>an assessment of each identified potentially significant impact and risk, including-</p> <ul style="list-style-type: none"> (i) cumulative impacts; (ii) the nature, significance and consequences of the | [see section 7 & 9] |

| | | |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| | <p>impact and risk;</p> <p>(iii) the extent and duration of the impact and risk;</p> <p>(iv) the probability of the impact and risk occurring;</p> <p>(v) the degree to which the impact and risk can be reversed;</p> <p>(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and</p> <p>(vii) the degree to which the impact and risk can be mitigated;</p> | |
| k) | where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report; | [see section 7 & 9] |
| l) | <p>an environmental impact statement which contains-</p> <p>(i) a summary of the key findings of the environmental impact assessment;</p> <p>(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and</p> <p>(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;</p> | [see section 9] |
| m) | based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation; | [see section 7] |
| n) | the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment; | [see section 7] |
| o) | any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation | [see section 7 and 10] |
| p) | a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed; | [see section 7] |
| q) | a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation; | [see section 10] |
| r) | where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring | [not applicable] |

| | | |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| | requirements finalised; | |
| s) | an undertaking under oath or affirmation by the EAP in relation to: <ul style="list-style-type: none"> (i) the correctness of the information provided in the reports; (ii) the inclusion of comments and inputs from stakeholders and l&APs; (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties; | [see section 13.2] |
| t) | where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts; | [not applicable, possible fine structure included in the EMP attached at Appendix 12] |
| u) | an indication of any deviation from the approved scoping report, including the plan of study, including- <ul style="list-style-type: none"> (i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and (ii) a motivation for the deviation; | [not applicable, no deviation, see section 1.1] |
| v) | any specific information that may be required by the competent authority; and | [none additional] |
| w) | any other matters required in terms of section 24(4)(a) and (b) of the Act. | [none additional] |

The report therefore summarises all available data for DENC to make the final decision.

1.2.1 Report lay-out

Section 2 of the report describes the scope of the proposed activities and section 3 provides policies and legislative context. Section 4 provides the needs and desirability. Section 5 shows a description of the environment and baseline information. Section 6 lists the alternatives with identified issues in section 7. Section 8 provides the public participation undertaken and Section 9 shows the details of the EIA phase. The conclusions are shown in section 10. The appendices are shown in Section 11. Section 12 provides the EMPr, and Section 13, other additional information.

The EIA process is shown in section 3.1. The project is in the Environmental Impact Assessment Phase following the acceptance of the Final Scoping Report by DENC:NC dated 9 June 2017 (attached at Appendix 11.1.6.2).

1.3 Property Location and Description

The proposed properties on which the expansion of agricultural activities, pipelines and associated infrastructure will take place are situated on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies. The farms are situated on the right side of the R64 approximately 2km before you enter the small town of Augrabies in the Northern Cape Province, see Figure 1.1. The site lies north of the R64 (MR 359) and south and west of Renosterkop Peak, a prominent inselberg in an otherwise flat landscape, and south of the Orange/Gariep River. Small ephemeral streams cross the site. See Figure 1.2. Access to the farms is via existing gravel roads that gain access off the R64.

The property is currently zoned Agriculture. The owner of the properties is Oseiland Eiendomme (Pty) Ltd and has appointed PBPS as the independent consultant to undertake the EIA process.



Figure 1.1: Locality of Project Site

The SG 21 Digit Codes of the 3 properties indicated in Figure 1.1 above and provided in the list below:

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 7 | 2 | 6 | 0 | 0 | 0 | 0 |
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 2 | 9 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 5 | 3 | 7 | 0 | 0 | 0 | 0 |

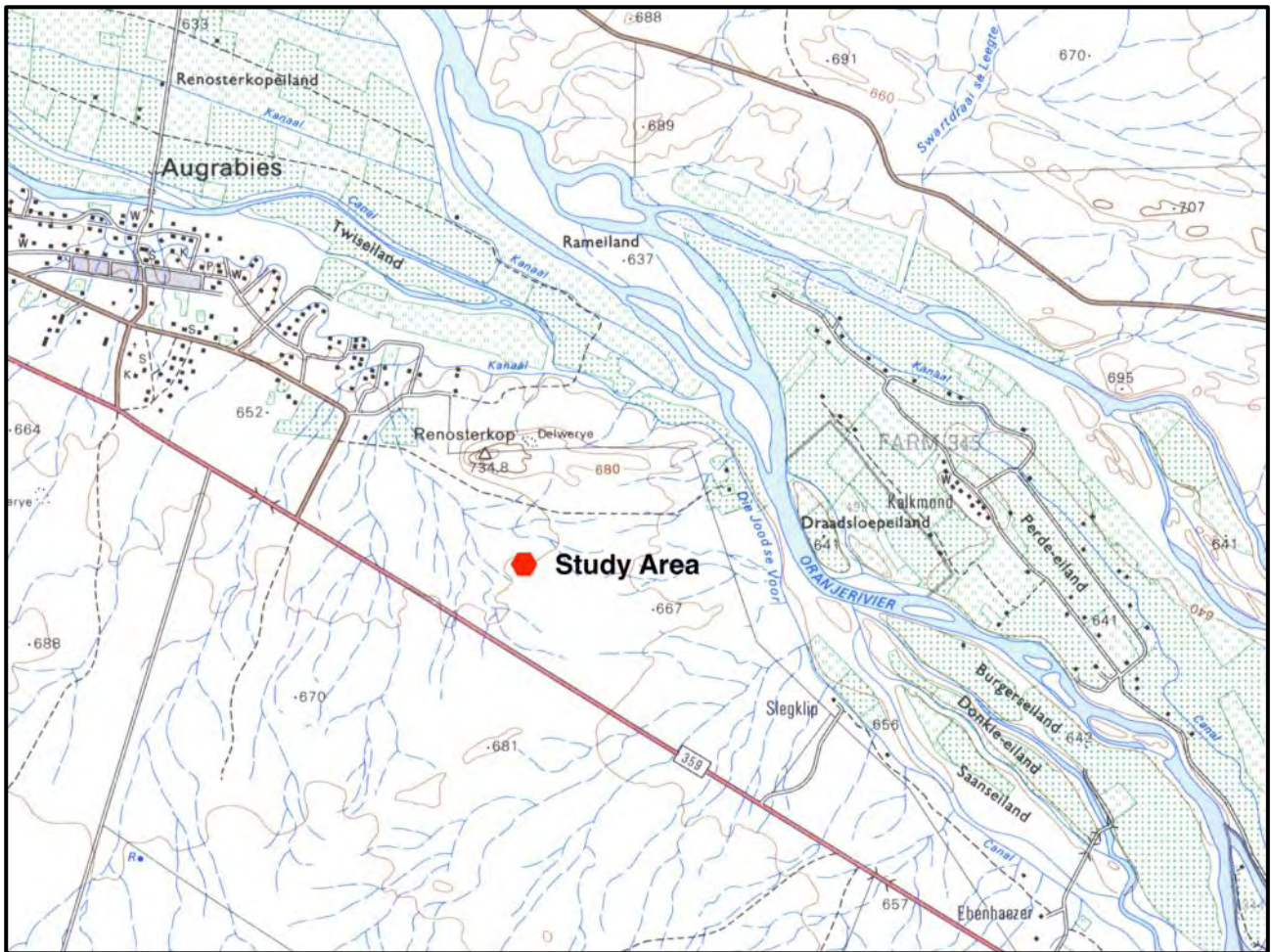


Figure 1.2: 1:50 000 Topographical Map

1.4 EAP experience

The requirements for an EIR state that the details of the EAP and relevant experience must be provided:

1.4.1 Details of the EAP

Elanie Kuhn

Pieter Badenhorst Professional Services

P. O. Box 1058

Wellington

7654

Cell: 076 584 0822

Fax: 0866721916

Website: www.pbpscon.co.za

1.4.2 Relevant Experience

Pieter Badenhorst

The consultant has more than 42 years' experience in project management and report writing. He worked at the CSIR in environmental and estuarine management for 16 years. During that time he was part of the team that developed coastal management guidelines, the first process for EIA's and undertook numerous environmental studies for DEAT in collaboration with a team of ecologists. The past couple of years he has worked mainly in environmental control and environmental impact assessments and has completed EIAs for many projects. He has also attended an EIA peer review on a major development for DEAT and is a member of IAIAsa.

The practitioner has attended or organised many meetings/workshops/open days to identify issues for similar projects at the CSIR; Blue Flag for DEAT as well as other DEAT projects. The Blue Flag and other projects required interaction with large groups of stakeholders.

Elanie Kühn

The consultant has 10 years' experience in project management and report writing. She has worked for two other environmental assessment companies prior to the present. She completed her BSc degree and gained an Honours Degree in Environmental Management from the North West University in Potchefstroom. She has been working with Pieter Badenhorst for the last six years working on environmental impact assessments.

CV attached in Section 11.

1.4.3 Applicant details

The applicant's details are as follows:

Oseiland Eiendomme (PTY) Ltd

Contact person: J. G. Du Plessis

P.O. Box 45

Augrabies

Northern Cape

8874

Email:oseiland@intecom.co.za

Tel: (054) 451 7004

Fax: (054) 451 7006

2 Description of scope of proposed activity

2.1 Project description

Proposed development:

The proposed development is to establish additional agricultural areas for the cultivation of vineyards on areas with indigenous vegetation and across small streams. It is also proposed to construct additional pipelines, that will cross streams and to construct a new intake from the canal as well as a small pumping station adjacent to the Orange/Gariep River for taking water out of the stream during periods where the canal will be closed for repairs. All proposed cultivation areas have existing access. The farm is also approximately 1km from the Orange/Gariep River. The proposed agricultural areas and pipelines are shown in the Figure 2.1 (A3 version in Section 11.4).

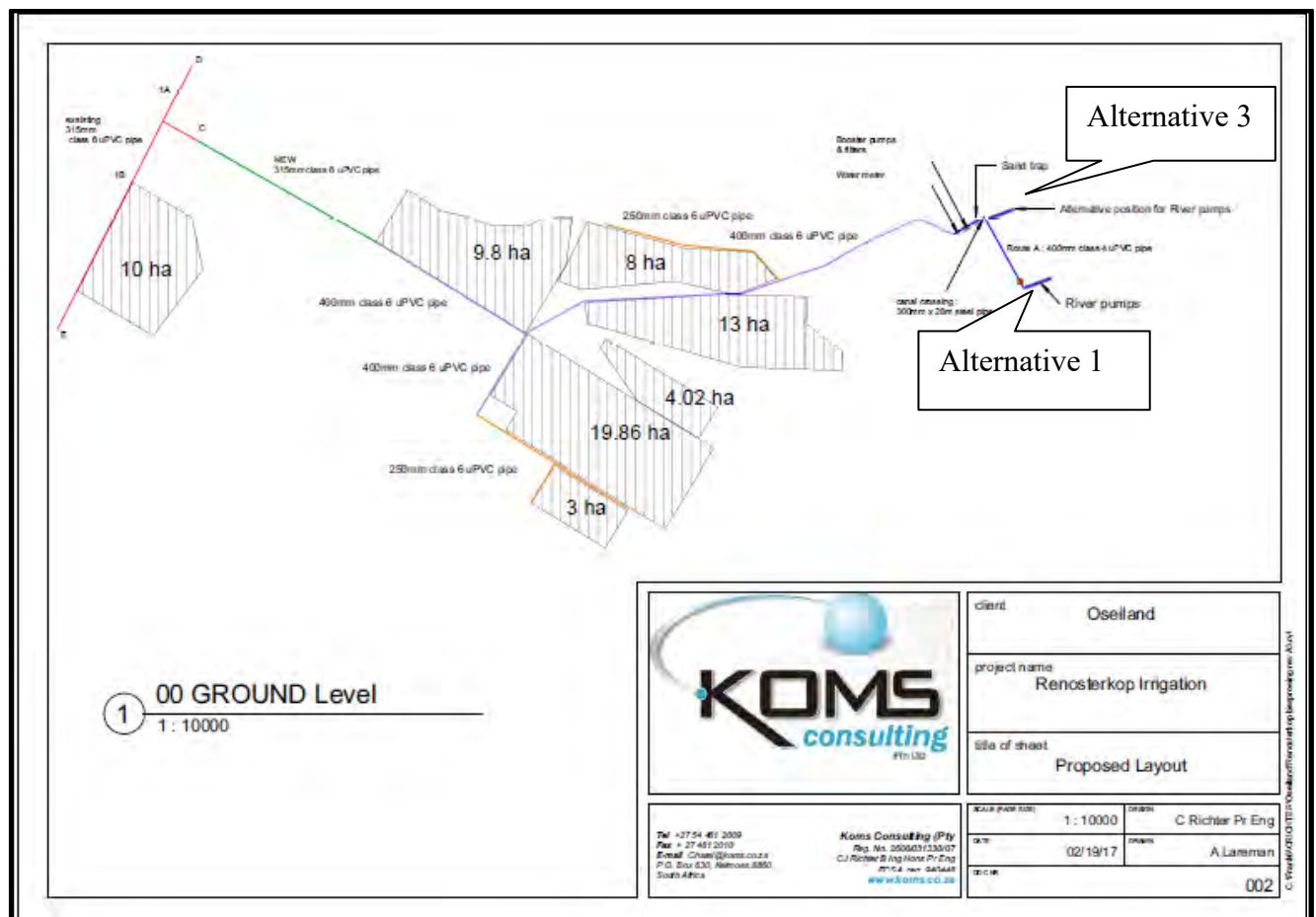


Figure 2.1: Proposed Agricultural areas.

As per the above Figure 2.1 the proposed development is for the following:

1. Transformation of approximately 67.68ha of indigenous vegetation to vineyards,
2. Construction of app. 3m of new pipelines,
3. Construction of a pumping station adjacent to the Canal, approximately 0.1ha in size,
4. A small intake structure within the Orange/Gariep River, and
5. Construction of two pipeline crossings over the Canal.

The following is a more detailed summary of the proposed development (All design layouts also included in 11.4.2 as A3's):

1. New cultivation areas:

It is proposed to construct approximately 67.68ha of new vineyards. Some of these sections have been previously cultivated, however the vegetation has re-established on site, see Figure 2.2. Eight blocks were designed on the property, see Figure 2.3. The design of the blocks took into consideration the natural constraints such as vegetation and the streams.



Figure 2.2: Proposed cultivation site

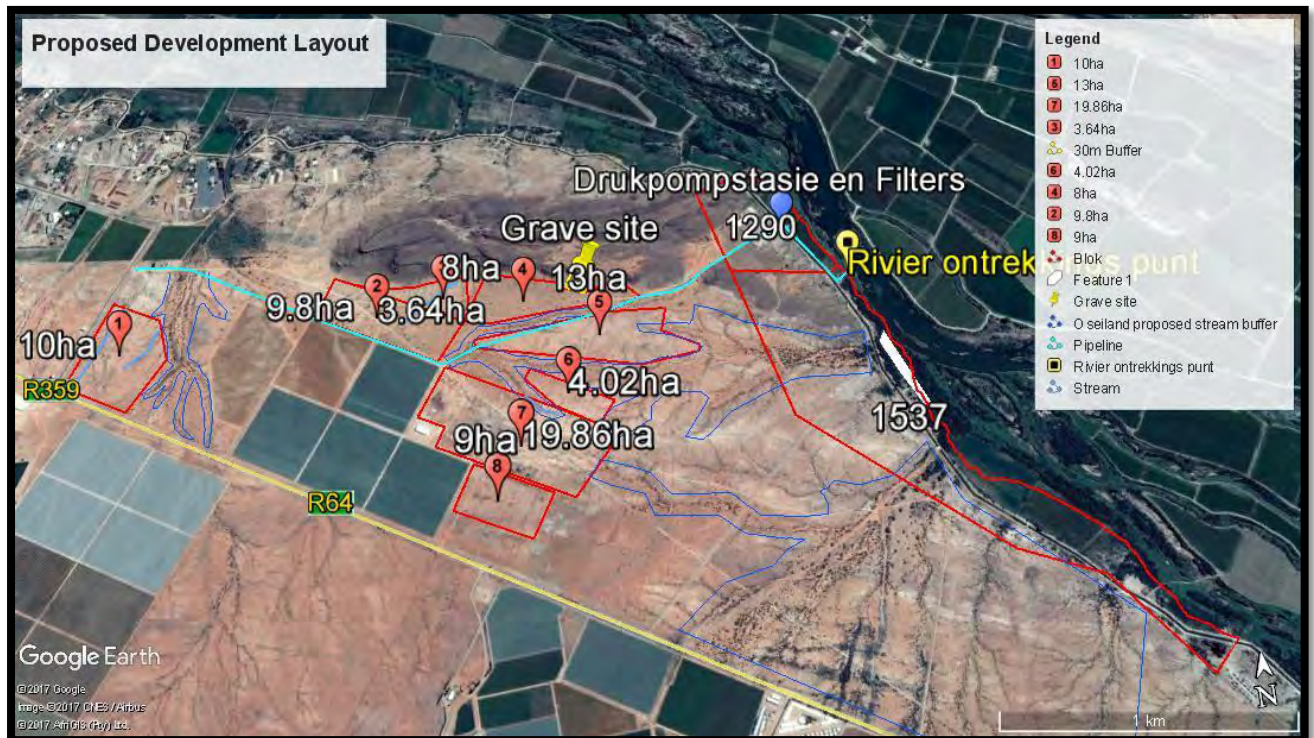


Figure 2.3: Block layout

2. Pipelines:

It is proposed to construct approximately 3km of pipelines. The pipeline material will vary from small sections of galvanised steel and mostly uPVC. The pipelines will also vary in size from 250mm to 400mm in diameter. As shown in Figure 2.4 the pipelines will cross small sections of the streams, however will as far as possible be located within the existing gravel road footprint. Note the green and red lines are existing pipelines and the purple and yellow lines the new proposed pipelines.

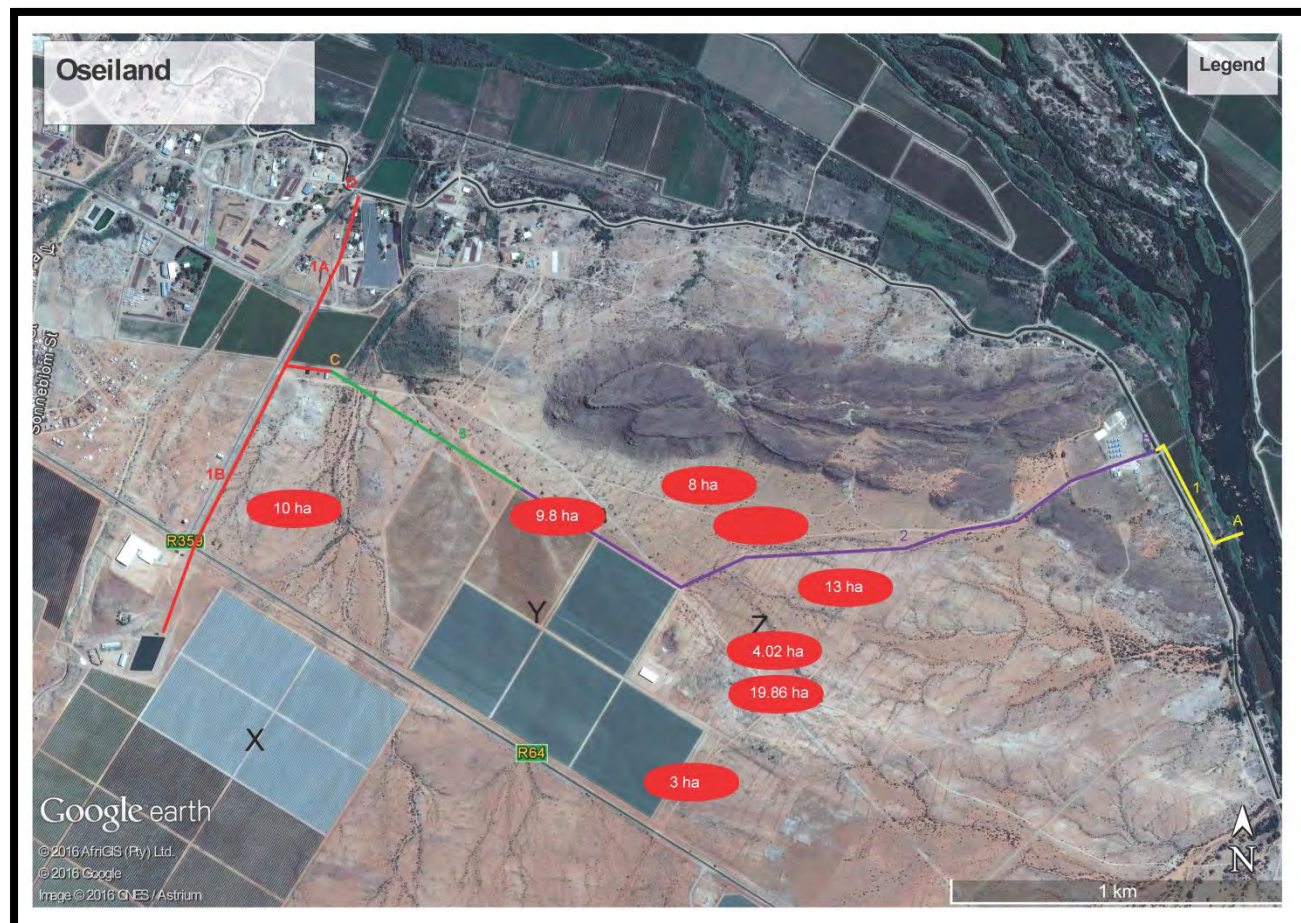


Figure 2.4: Pipelines

3. Pump station:

It is proposed to construct a pump station on a site that is adjacent to the Canal. The site is heavily disturbed and adjacent existing labour housing and existing outbuildings, see Figure 2.5. The proposal and design for the pump house (station) is shown in Figure 2.6.



Figure 2.5: Site for the proposed pump station

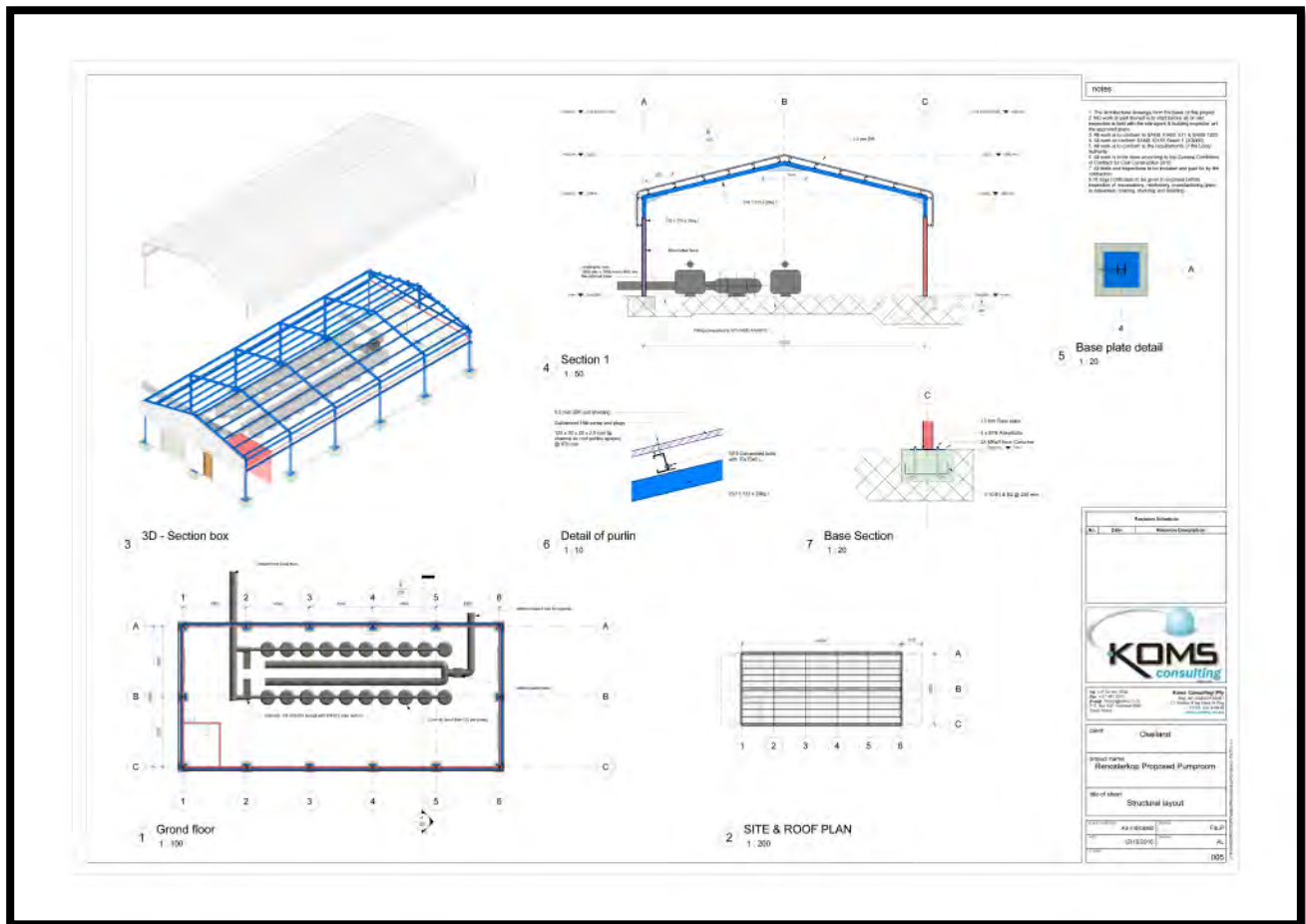


Figure 2.6: Design for pump station

4. Intake structure at Orange River:

The proposal also includes the construction of a trolley system structure on the bank of the Orange/Gariep River. The structure will be located at a section of the Orange/Gariep River that is already heavily disturbed, see Figure 2.7. This structure will only be used during the periods when the Canal is closed. See Figure 2.8 for the design of the structure. It is proposed to construct a gabion mattress, from the edge/bank of the River into the riverbed. The mattress will support the tracks on which the trolley will move up and down as the river levels vary. Located on the trolley are the pumps that will take the water from the Orange/Gariep River to the pumping station.



Figure 2.7: Locality of the intake structure

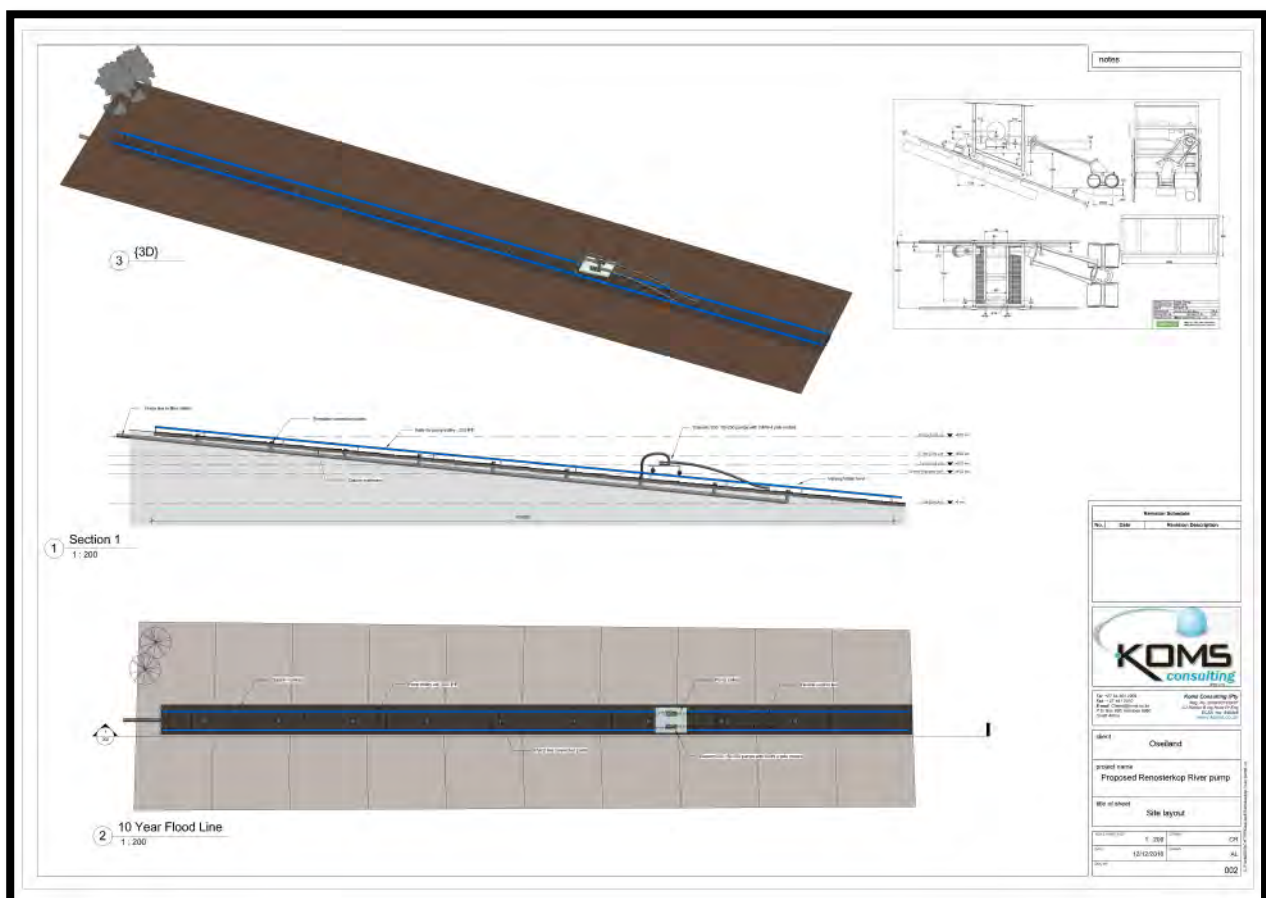


Figure 2.8: Proposed design of the intake structure

5. Intake structure at Canal and Canal crossings:

This section covers the new intake from the Canal as well as the crossings over the Canal, see Figure 2.9. The pipelines will cross the Canal at the existing small bridge and therefore will have no impact on the Canal. As shown in Figure 2.12 the pipeline will be constructed across the bridge. The new pump station with the intake off the Canal is situated just adjacent to the Canal, see Figure 2.10 and 2.11.



Figure 2.9: Canal crossing



Figure 2.10: Site for intake off the Canal and proposed pump station

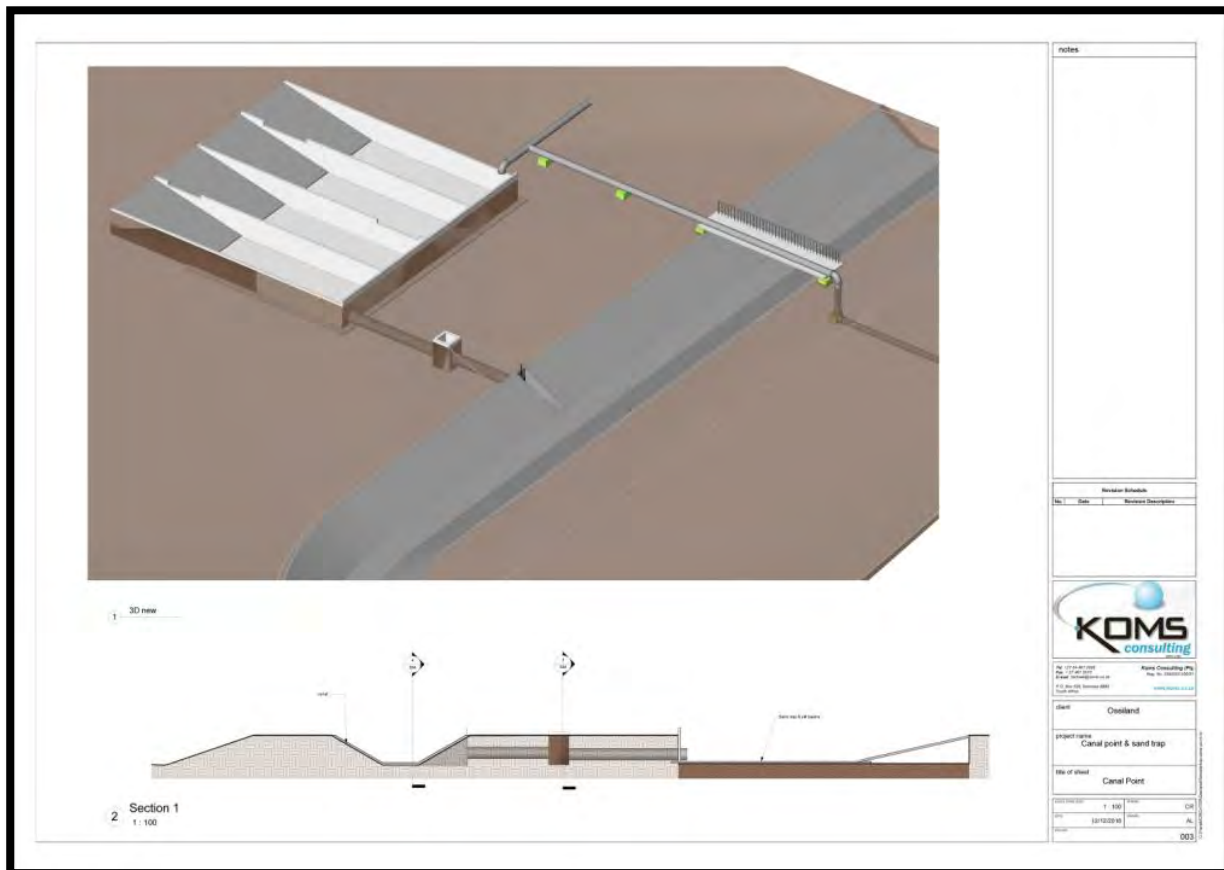


Figure 2.11: Proposed pumping station and intake structure at the canal

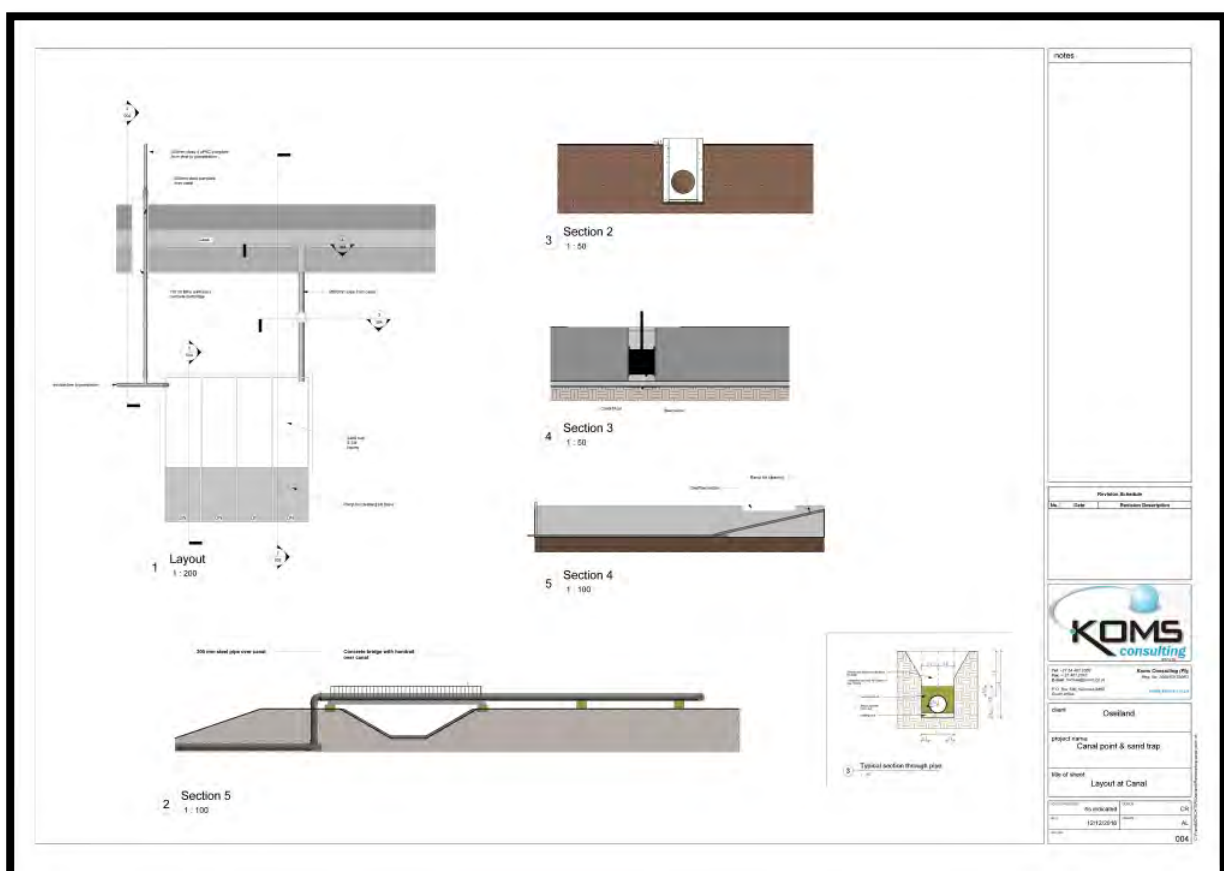


Figure 2.12: Canal crossing and intake design

2.2 Statutory requirements

According to National Environmental Management Act, 1998 (Act No. 107 of 1998), Environmental Impact Assessment Regulations, dated December 2014, as amended by GN 324, GN 3325, GN 326, and GN 327 dated 7 April 2017.

The highlighted sections are the applicable listed activities in terms of the amended EIA Regulations dated 7 April 2017.

Table 2: Listed Activities

| Government Notice R327 Activity No(s): | Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 1 (GN No. R327) | Describe the portion of the development as per the project description that relates to the applicable listed activity |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9. | <p>The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water—</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p> <p>excluding where—</p> <p>(a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or</p> <p>(b) where such development will occur within an urban area.</p> | For the construction of approximately 3.2km pipeline, with sections of 400mm uPVC pipelines for the bulk transportation of water. |
| 12. | <p>The development of—</p> <p>(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or</p> <p>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —</p> <p>excluding—</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area;</p> <p>(ee) where such development occurs within existing roads, road reserves or railway line reserves; or</p> <p>(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p> | For the construction of an off take structure in the Orange River, as well as for the construction of pipelines more than 32m from the Orange River. |
| 19 | <p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan;</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</p> | For the infilling of ephemeral streams/drainage areas. |

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| | <p>(d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>(e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p> | |
| Government Notice R324 Activity No(s): | Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 3 (GN No. R324) | Describe the portion of the development as per the project description that relates to the applicable listed activity |
| 12 | <p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>g. Northern Cape</p> <ul style="list-style-type: none"> i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuary, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning. | <p>As indicated by the Botanical Specialist the proposed development lies within two CBA's and therefore this activities is triggered for the removal of 300 square meters or more of vegetation within a CBA.</p> |
| 14 | <p>The development of—</p> <ul style="list-style-type: none"> (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; <p>where such development occurs—</p> <ul style="list-style-type: none"> (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; <p>excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p> <p>g. Northern Cape</p> <ul style="list-style-type: none"> i. In an estuary; ii. Outside urban areas: <ul style="list-style-type: none"> (aa) A protected area identified in terms of NEMPAA, excluding conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ee) Sites or areas identified in terms of an international convention; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; | <p>As indicated by the Botanical Specialist the proposed development lies within two CBA's and therefore this activities is triggered for the development off bulk storm water structures, slipways and infrastructure within 32m of the Orange River outside urban areas within a CBA, and located within 10km of the Augrabies National Park.</p> |

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| | <ul style="list-style-type: none"> (gg) Core areas in biosphere reserves; (hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; (ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or iii. Inside urban areas: <ul style="list-style-type: none"> (aa) Areas zoned for use as public open space; (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, zoned for a conservation purpose; or (cc) Areas seawards of the development setback line. | |
| Government Notice R325 Activity No(s): | Describe the relevant Scoping and EIA Activity (ies) in writing as per Listing Notice 2 (GN No. R325) | Describe the portion of the development as per the project description that relates to the applicable listed activity |
| 15 | <p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <ul style="list-style-type: none"> (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan. | For the clearance of areas in total more than 20 hectares for the development of agricultural areas. |
| <p>Please note: Only those activities for which the applicant applies will be considered for authorisation. The onus is on the applicant to ensure that all the applicable listed activities are included in the application. Failure to do so may invalidate the application.</p> | | |

3 Policies and legislative context

3.1 Environmental regulations and Acts

3.1.1 EIA regulations

REGULATIONS IN TERMS OF CHAPTER 4 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998

Environmental Impact Assessment Regulations, 2014 as amended by the Regulations dated 7 April 2017 9GN 326)

The Minister of Environmental Affairs and Tourism has in terms of section 21 and 22 read with Appendix 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), Environmental Impact Assessment Regulations, 2014 (as amended by the Regulations dated 7 April 2017 in GN 326) made the regulations set out in the schedule hereto.

The following is an extract from this legislation and explains the EIA Process. The Content of the EIR is included in Table 1.1 above, which is in terms of Appendix 3 of these EIA Regulations.

The numbering below refers to the section of the EIA Regulations.

Submission and consideration of environmental impact assessment report and environmental management programme

23. (1) The applicant must within 106 days of the acceptance of the scoping report submit to the competent authority—

- (a) an environmental impact assessment report inclusive of any specialist reports, and an EMPr, which must have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority; or
- (b) a notification in writing that the reports, and an EMPr, will be submitted within 156 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the environmental impact assessment report or EMPr, which changes or information was not contained in the reports consulted on during the initial public participation process contemplated in subregulation (1)(a), and that the revised environmental impact assessment report or EMPr will be subjected to another public participation process of at least 30 days.

(2) In the event where subregulation (1)(b) applies, the environmental impact assessment report inclusive of specialist reports, and EMPr, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 156 days of the acceptance of the scoping report by the competent authority.

(3) An environmental impact assessment report must contain all information set out in Appendix 3 to these Regulations or comply with a protocol or minimum information requirements relevant to the application as identified and *gazetted* by the Minister in a government notice and, where the application is for an environmental authorisation for prospecting, exploration, extraction of a mineral or petroleum resource, including primary processing or activities directly related thereto, the environmental impact assessment report

must contain attachments that address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, exploration, mining or production operations, made in terms of the Act.

(4) An EMPr must contain all information set out in Appendix 4 to these Regulations or must be a generic EMPr relevant to the application as identified and *gazetted* by the Minister in a government notice and, where the application for an environmental authorisation is for prospecting, exploration, or extraction of a mineral or petroleum resource, including primary processing or activities directly related thereto, the EMPr must contain attachments that address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, exploration, mining or production operations, made in terms of the Act.

(5) A specialist report must contain all information set out in Appendix 6 to these Regulations or comply with a protocol or minimum information requirements relevant to the application as identified and *gazetted* by the Minister in a government notice.

Appendix 3: Environmental impact assessment process

1. (1) The environmental impact assessment process must be undertaken in line with the approved plan of study for environmental impact assessment.
- (2) The environmental impacts, mitigation and closure outcomes as well as the residual risks of the proposed activity must be set out in the environmental impact assessment report.

Objective of the environmental impact assessment process

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

- (f) identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity;
- (g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- (h) identify residual risks that need to be managed and monitored.

Scope of assessment and content of environmental impact assessment reports

3. (1) An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include—

- (a) details of—
 - (i) the EAP who prepared the report; and
 - (ii) the expertise of the EAP, including a curriculum vitae;
- (b) the location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including:
 - (i) the 21 digit Surveyor General code of each cadastral land parcel;
 - (ii) where available, the physical address and farm name; and
 - (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;
- (c) a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is—
 - (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken;
 - (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;
- (d) a description of the scope of the proposed activity, including—
 - (i) all listed and specified activities triggered and being applied for; and
 - (ii) a description of the associated structures and infrastructure related to the development;
- (e) a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;
- (f) a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report;
- (g) a motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report;
- (h) a full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including:
 - (i) details of the development footprint alternatives considered;
 - (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;
 - (iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;

- (iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
 - (v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be avoided, managed or mitigated;
 - (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;
 - (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
 - (viii) the possible mitigation measures that could be applied and level of residual risk;
 - (ix) if no alternative development footprints for the activity were investigated, the motivation for not considering such; and
 - (x) a concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report;
- (i) a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including—
 - (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and
 - (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;
- (j) an assessment of each identified potentially significant impact and risk, including—
 - (i) cumulative impacts;
 - (ii) the nature, significance and consequences of the impact and risk;
 - (iii) the extent and duration of the impact and risk;
 - (iv) the probability of the impact and risk occurring;
 - (v) the degree to which the impact and risk can be reversed;
 - (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and
 - (vii) the degree to which the impact and risk can be mitigated;
- (k) where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;
- (l) an environmental impact statement which contains—
 - (i) a summary of the key findings of the environmental impact assessment;
 - (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities

- of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and
- (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;
 - (m) based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;
 - (n) the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;
 - (o) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;
 - (p) a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;
 - (q) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
 - (r) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;
 - (s) an undertaking under oath or affirmation by the EAP in relation to—
 - (i) the correctness of the information provided in the reports;
 - (ii) the inclusion of comments and inputs from stakeholders and I&APs;
 - (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and
 - (iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;
 - (t) where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;
 - (u) an indication of any deviation from the approved scoping report, including the plan of study, including—
 - (i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and
 - (ii) a motivation for the deviation;
 - (v) any specific information that may be required by the competent authority; and
 - (w) any other matters required in terms of section 24(4)(a) and (b) of the Act.
- (2) Where a government notice *gazetted* by the Minister provides for any protocol or minimum information requirement to be applied to an environmental impact assessment report the requirements as indicated in such notice will apply.

Terms of Reference for EIA studies

According to the NEMA 2014 Regulations as amended by the EIA Regulations of 2017 (dated 7 April 2017) in GN 326, the Specialist Reports need to be prepared in terms of Appendix 6 of these Regulations, as included below:

“Appendix 6: Specialist reports

1. (1) A specialist report prepared in terms of these Regulations must contain—
- (a) details of—
 - (i) the specialist who prepared the report; and
 - (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;
 - (b) a declaration that the specialist is independent in a form as may be specified by the competent authority;
 - (c) an indication of the scope of, and the purpose for which, the report was prepared;
 - (cA) an indication of the quality and age of base data used for the specialist report;
 - (cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;
 - (d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;
 - (e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;
 - (f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;
 - (g) an identification of any areas to be avoided, including buffers;
 - (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;
 - (i) a description of any assumptions made and any uncertainties or gaps in knowledge;
 - (j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;
 - (k) any mitigation measures for inclusion in the EMPr;
 - (l) any conditions for inclusion in the environmental authorisation;
 - (m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;
 - (n) a reasoned opinion—
 - (i) whether the proposed activity, activities or portions thereof should be authorised;
 - (iA) regarding the acceptability of the proposed activity or activities; and
 - (ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;
 - (o) a description of any consultation process that was undertaken during the course of preparing the specialist report;
 - (p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and
 - (q) any other information requested by the competent authority.

- (2) Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.”

3.1.2 Environmental process

The environmental process is shown graphically in Figure 3.1. At this stage the current process is as outlined in the Figure 3.1 below.

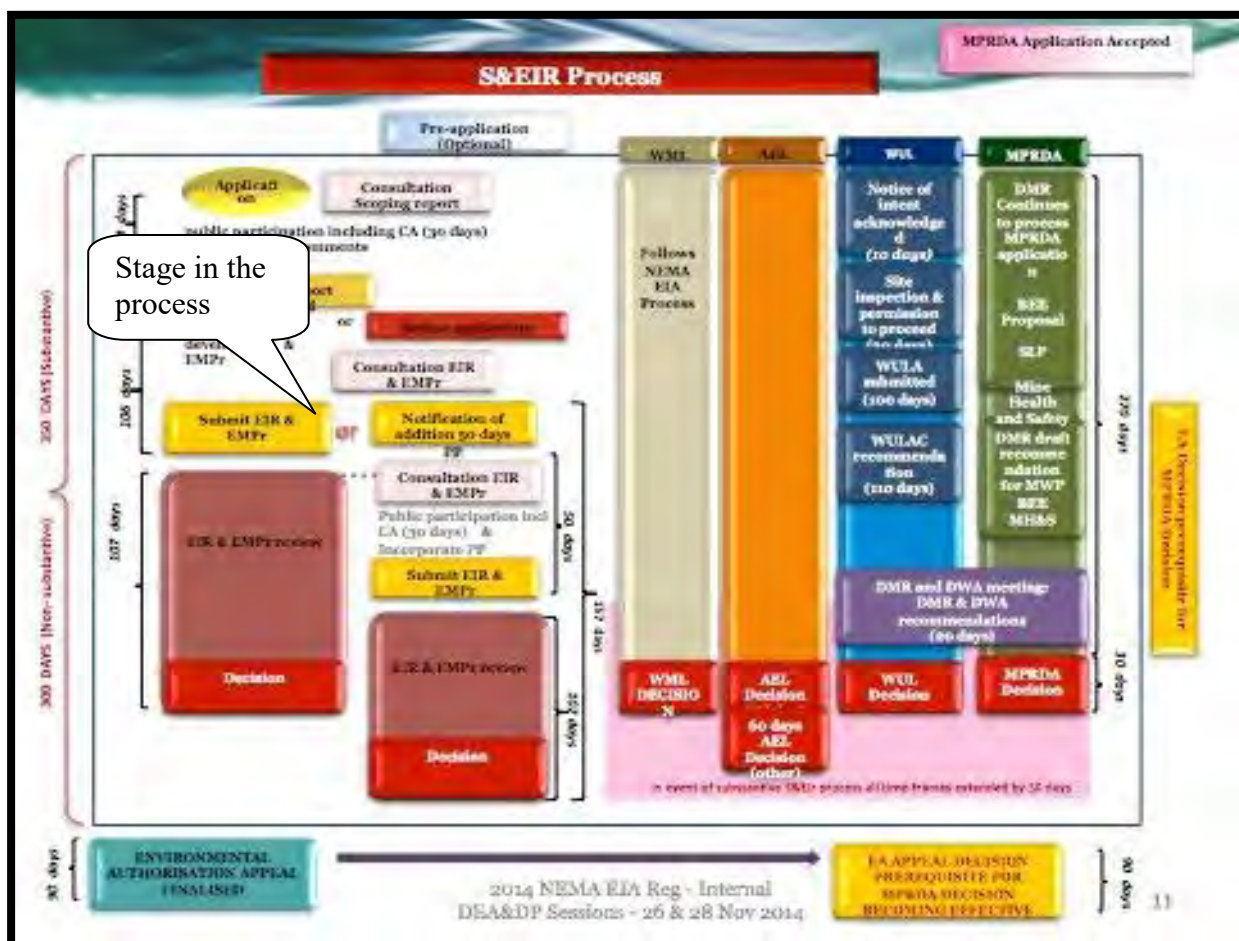


Figure 3.1: Environmental application procedure

3.1.3 NEMA

The purpose of NEMA (Chapter 1) is outlined below:

Purpose of Regulations

2. The purpose of these Regulations is to regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.

3.2 Other applicable legislation

3.2.1 National Water Act, 1998

The purpose of the National Water Act is to provide a framework for the equitable allocation and sustainable management of water resources. Both surface and groundwater sources are redefined by the Act as national resources which cannot be owned by any individual, and rights to which are not automatically coupled to land rights, but for which prospective users must apply for authorisation and register as users. The National Water Act also provides for measures to prevent, control and remedy the pollution of surface and groundwater sources.

“Regulations regarding the Procedural Requirements for Water Use Licence Applications and Appeals” (in GN No. R267 dated 24 March 2017) were recently promulgated in terms of the National Water Act (1998) in GG No. 40713.

An application for a license in terms of the National Water Act, 1998 is being made by the developer, Oseiland Boerderye for the transfer water rights, taking of water from the Orange River, in addition to the application to impede the flow of water and to alter the beds, banks and course of the watercourses on site. The water usages is summarised as the follows:

| | |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| (a) taking water from a water resource; | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| (c) impeding or diverting flow of water in a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the pump at the Orange River |
| (i) altering the bed, banks, course or characteristics of a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the pump on the Orange River |

All the necessary information is included in the WULA as part of this EIA phase of the application, attached at Appendix 11.3.4.

In addition, the Agri-BEE Report attached at Appendix 11.3.3 is submitted as a component of the WULA to report on the social and economic management of access to a new water use licence as part of this specific farm and land area.

3.2.2 Heritage Resources Act, 1999

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources as follows:

- Section 34: structures older than 60 years;
- Section 35: paleontological, prehistoric and historical material (including ruins) more than 100 years old;
- Section 36: graves and human remains older than 60 years and located outside of a formal cemetery administered by a local authority; and
- Section 37: public monuments and memorials.

Following Section 2, the definitions applicable to the above protections are as follows:

- Structures: “any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith”;
- Paleontological material: “any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace”;
- Archaeological material: a) “material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures”; b) “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation”; c) “wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation”; and d) “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found”;
- Grave: “means a place of interment and includes the contents, headstone or other marker of such a place and any other structure on or associated with such place”; and
- Public monuments and memorials: “all monuments and memorials a) “erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government”; or b) “which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.”

While landscapes with cultural significance do not have a dedicated Section in the NHRA, they are protected under the definition of the National Estate (Section 3). Section 3(2)(c) and (d) list “historical settlements and townscapes” and “landscapes and natural features of cultural significance” as part of the National Estate. Furthermore, Section 3(3) describes the reasons a place or object may have cultural heritage value.

Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted.

For this proposed development the following is applicable:

1. Legal requirements

In terms of Section 38 (1) (c) (iii) of the National Heritage Resources Act 1999 (Act 25 of 1999), a Heritage Impact Assessment (HIA) of the proposed project is required if the footprint area of the proposed development is more than 5000m² in extent.

Section 38 (1) (a) of the Act also indicates that any person constructing a powerline, pipeline or road, or similar linear development or barrier exceeding 300m in length is required to notify the responsible heritage resources authority, who will in turn advise whether an impact assessment report is needed before development can take place.

2. Aim of the AIA

The overall purpose of the AIA is to assess the sensitivity of archaeological resources in the affected areas, to determine the potential impacts on such resources, and to avoid and/or minimize such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of

4 Need and Desirability

As stated in the NEMA 2014 Guidelines on Needs and Desirability “....the need for and desirability of an proposed activity must specifically and explicitly be addressed throughout the EIA process (screening, "scoping", and assessment) when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to inter alia the following questions...”

“it is therefore assumed that for the EIA Phase, the Need and Desirability has been adequately addressed within the table below, which includes all the questions outlined in the Guidelines.

Table 3: Questions and answers pertaining to Need and Desirability of the Proposed Development

| Question | Answer |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?</p> <p>1.1. How were the following ecological integrity considerations taken into account?:</p> <p>1.1.1. Threatened Ecosystems,</p> <p>1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,</p> <p>1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),</p> <p>1.1.4. Conservation targets,</p> <p>1.1.5. Ecological drivers of the ecosystem,</p> <p>1.1.6. Environmental Management Framework,</p> <p>1.1.7. Spatial Development Framework, and</p> <p>1.1.8. Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).</p> | <p>The proposed development will not significantly impact on the ecological integrity of the area, although the proposed development of the agricultural areas will be in a CBA. The farm Renosterkop 1726 is located in an area classified as CBA2. The Renosterkop study area is not near any focus area of the National Protected Area Expansion Strategy nor is it close to any mountain catchment area. It is separated from the Augrabies National Park by numerous other farms. The ‘Eastern Area’ is proposed for conservation in perpetuity.</p> <p>The expected impact on the ‘open plains’ Bushmanland Arid Grassland would be Low Negative without mitigation and Very Low Negative with mitigation. The impact on the seasonal watercourses would be High Negative without mitigation and Medium Negative with mitigation.</p> |
| <p>1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?</p> | <p>These areas were selected for cultivation due to their location within the earmarked property. The ‘Eastern Area’ is proposed for conservation in perpetuity. Areas with larger connecting ephemeral streams were excluded from the proposed agricultural development. The structure in the River is a mattress from the riverbanks to the riverbed. Caution will be taken to not detrimentally impact on the ecosystem or biological diversity.</p> |
| <p>1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?</p> | <p>This development will not pollute or degrade the biophysical environment. The EMPr addresses the management of pollution, and care will be taken during construction to prevent any pollution or degradation.</p> |
| <p>1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?</p> | <p>It is an agricultural activity and no waste will be generated.</p> |
| <p>1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and</p> | <p>The planned development is situated within a purely agricultural area with no other land uses in close proximity. The proposed development will therefore</p> |

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| <p>where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?</p> | <p>have no impact on any of the surrounding land uses in the area.</p> <p>With reference to:</p> <p>Cultural/Heritage/Archaeologically: Overall, the results of the study indicate that the proposed activity (i.e. a vineyard development), including associated activities (i.e. pump station & water pipeline), will not have an impact of great significance on the archaeological heritage, as these are expected to be limited. While a relatively large number of tools were documented, the majority occur in a disturbed context (or ex-situ), while many of the more coherent scatters fall outside the revised development footprint. The study has captured a good record of the archaeological heritage present on the proposed development site. Indications are that, in terms of archaeological heritage, the receiving environment is not a very sensitive or threatened landscape. The impact significance of the proposed development on important archaeological heritage was therefore assessed as LOW. A 30m buffer surrounding the grave site, which will be fenced off under the supervision of the archaeological specialist.</p> |
| <p>1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?</p> | <p>The only non-renewable natural resource to be used is water. This resource will be used for irrigational purposes and therefore contributes to the economy. It is therefore not a negative impact as it will be used sparingly in a water wise approach to its full potential. Note existing water rights will be used for the establishment of these areas. A water use license application is submitted to transfer the rights from other properties owned by the applicant. See Appendix 11.3.4.</p> <p>A small amount of electricity will be used for irrigation within the existing system. This will however be further assessed and if an application to ESKOM is necessary will be included as part of the EIA phase.</p> |
| <p>1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds?</p> <p>What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?</p> <p>1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without</p> | <p>The proposed development of expansion of agricultural activities in itself is a renewable resource. Therefore, this development will have a positive impact on the resource and will not negatively impact or jeopardise the integrity of the existing resources. The proposed development will make use of an existing resource (water). However, it will reduce the resource dependency by making use of water wise technology. It is also a great use of the soil and water as a resource as it will provide a new resource (food) and contribute to the economy as well as food security.</p> |

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| <p>compromising their quest to improve their quality of life)</p> <p>1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources for the proposed development alternative?)</p> <p>1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?</p> | |
| <p>1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts?:</p> <p>1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?</p> <p>1.8.2. What is the level of risk associated with the limits of current knowledge?</p> <p>1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?</p> | <p><u>Gaps, uncertainties and assumptions:</u></p> <p><u>Botanical:</u></p> <p>The environment was extremely dry at the time of the site visit so many of the herbaceous plants were not in a condition that allowed for positive identification. However, apart from grasses most herbaceous plant species do not make up a significant component of the composition of the plant communities. The indicator species are mainly shrubs or small trees that were easily identified even with the prevailing dry conditions.</p> <p><u>Cultural/Heritage/Archaeologically:</u></p> <p>Access to the site was easy and archaeological visibility was very good.</p> <p>It is important to note that the layout of the proposed vineyard development was changed since the field assessment was done in August 2016. An 11.4ha area of land alongside the R359 (i. e. Block 1) was not searched for archaeological remains. However, given the overall results of the study, and the disturbed context in which most of the archaeological resources were recorded, indications are that the affected piece of land is not likely to be a sensitive archaeological landscape. The possibility that a grave(s) may occur on the proposed site cannot be discounted. However, this is considered to be unlikely as the soils here are made up of extremely hard gravels and not conducive for internment of bodies.</p> <p>A 30m buffer surrounding the grave site, which will be fenced off under the supervision of the archaeological specialist.</p> |
| <p>1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following:</p> <p>1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?</p> <p>1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance?</p> | <p>The proposed development will not impact on the rights of other people.</p> <p>The proposed development might have a small impact on air quality as during construction of the agricultural areas dust may be generated. This will, however, be mitigated.</p> <p>Visually there is no impact on surrounding landowners because the activity is similar to neighbouring developments.</p> <p>Positive impacts can be access to renewable resources such as agricultural lands, food, socio-economically providing additional job opportunities.</p> |
| <p>1.10. Describe the linkages and dependencies between human</p> | <p>The proposed development will not negatively</p> |

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| wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)? | impact on livelihoods or heritage sites, a pre-colonial grave was found on site, however appropriate mitigation measures will be provided to not impact on the site. It will however, provide additional job opportunities for local workers. |
| 1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area? | Overall, the proposed development will have a low negative impact on vegetation after mitigation. The impact significance of the proposed development on important archaeological heritage is assessed as low. The development will have a positive impact from a socio-economic perspective through job creations and contributions to the economy. |
| 1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations? | The preferred alternative has a low negative impact on vegetation, low impact negative on heritage/archaeological indicators and has a positive impact from a socio-economic perspective through job creations and contributions to the economy, best location, most accessible to existing infrastructure and best technology alternative. |
| 1.13. Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area? | Positive economic impact with the enlargement of the agricultural produce to be exported. Impact due to additional water resource; this is, however, an existing use, positive impact due to enhancement of production of agricultural produce. |
| <p>2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?</p> <p>2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,</p> <p>2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),</p> <p>2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and</p> <p>2.1.4. Municipal Economic Development Strategy ("LED Strategy").</p> | <p>The farm Renosterkop as part of Oseiland Boerderye PTY Ltd, is a highly commercial agricultural (farming) unit in the area and is being surrounded by other similar farms and communities. The proposed development does not fall within an urban area, however, does fall within the boundaries of the Kai! Garib Municipality.</p> <p>The closest communities are that of Augrabies and Marchand. The farm is situated approximately 1km outside of Augrabies. People working on the farm will be sourced locally. Portions of this farm will be developed intensively as indicated in this application but some large areas will at present remain undeveloped.</p> <p>The proposed development will contribute positively to the local economy and the provision of job opportunities in the region and the Northern Cape Province.</p> <p>The planned development is situated within a purely agricultural area with no other land uses in close proximity. The proposed development will therefore have no impact on any surrounding land uses in the area.</p> |
| <p>2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?</p> <p>2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?</p> | <p>It is envisaged that Oseiland will need to create some new permanent and a number of new seasonal employee positions in the near future should the new water use be allocated. The entity also plans to convert some of the current seasonal positions to permanent positions should this water licence use application be successful.</p> <p>As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per</p> |

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| | <p>hectare.</p> <p>The new water use licence will therefore create an immediate need to appoint more workers and supervisors.</p> <p>The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Skilled agricultural labourers <input type="checkbox"/> Specific knowledge of vineyards and citrus fruit production will be needed <input type="checkbox"/> Specific knowledge of fruit packing will be needed <input type="checkbox"/> Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers. <p>Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.</p> <p>Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.</p> |
| 2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities? | <p>The proposed development will greatly and positively impact on skills development as part of the company's BBBEE initiatives. Refer to the Agri-BEE Report attached at Appendix 11.3.3.</p> <p>In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere. Not only are the new employment opportunities important, but also the fact that:</p> <ol style="list-style-type: none"> 1. Existing jobs can be secured: Enough water will directly secure existing and new job opportunities. 2. More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume. 3. The increase in production of export produce will bring more foreign capital to |

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| | <p>South Africa which is much needed to strengthen our economy and as such fully supported by Government.</p> <p>SOCIAL PROVISION</p> <p>1 Measures to address housing and living conditions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Most permanent employees live on the farm in subsidised housing with subsidised water and electricity. <input type="checkbox"/> Workers not living on the farm and seasonal workers live in the nearby town and are transported daily to and from work. <input type="checkbox"/> To increase the income of households, spouses of farm workers are used whenever possible for extra temporary and/or seasonal work on the farm. <input type="checkbox"/> Workers are encouraged to establish vegetable gardens at their homes. <p>2 Measures to provide medical assistance:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All employees have easy access to medical clinic services. There is a permanent clinic on the farm and the farm has contracted a qualified nurse to visit this clinic every week. <input type="checkbox"/> If more medical attention is needed than the clinic can supply, employees are taken to doctor/hospital. Oseiland subsidises medical cost by paying the service provider upfront and the workers can then pay back interest free. <input type="checkbox"/> HIV/Aids and TB are a problem in the community, so regular information and training sessions are held on the farm by the nurse as a preventative measure. <p>3 Measures to address educational facilities and opportunities</p> <ul style="list-style-type: none"> <input type="checkbox"/> Children have easy access to a crèche on the farm. <input type="checkbox"/> There are two Primary Schools in the nearby town Augrabies. Augrabies is only 5km from the farm and a Government subsidised bus transport primary school children from the farm on a daily basis to and from school. <input type="checkbox"/> The nearest High school is in Kakamas, about 30km from the farm. A subsidised bus service also transport these high school learners on a daily basis to and from school. |
| 2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term? | Yes. |
| 2.5. In terms of location, describe how the placement of the proposed development will: 2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other, 2.5.2. reduce the need for transport of people and goods, 2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport), | <p>Workers not residing on the property will be provided with transport to and from the site. Not in close proximity to public transport. No bulk services infrastructure will be required</p> <p>The development took into consideration favourable spatial factors as the property has access to water. The development will not negatively affect the sense of history or heritage/archaeological indicators.</p> |

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| <p>2.5.4. compliment other uses in the area, 2.5.5. be in line with the planning for the area, 2.5.6. for urban related development, make use of underutilised land available with the urban edge, 2.5.7. optimise the use of existing resources and infrastructure, 2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement), 2.5.9. discourage "urban sprawl" and contribute to compaction/densification, 2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, 2.5.11. encourage environmentally sustainable land development practices and processes, 2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.), 2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential), 2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and 2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?</p> | |
| <p>2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?: 2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? 2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?</p> | <p>Gaps, uncertainties and assumptions: <u>Botanical:</u> The environment was extremely dry at the time of the site visit so many of the herbaceous plants were not in a condition that allowed for positive identification. However, apart from grasses most herbaceous plant species do not make up a significant component of the composition of the plant communities. The indicator species are mainly shrubs or small trees that were easily identified even with the prevailing dry conditions.</p> <p><u>Cultural/Heritage/Archaeologically:</u> Access to the site was easy and archaeological visibility was very good.</p> <p>It is important to note that the layout of the proposed vineyard development was changed since the field assessment was done in August 2016. An 11.4ha area of land alongside the R359 (i. e. Block 1) was not searched for archaeological remains. However, given the overall results of the study, and the disturbed context in which most of the archaeological resources were recorded, indications are that the affected piece of land is not likely to be a sensitive archaeological landscape. The possibility that a grave(s) may occur on the proposed site cannot be discounted. However, this is considered to be unlikely as the soils here are made up of extremely hard gravels and not conducive for internment of bodies.</p> |

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| <p>2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:</p> <p>2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?</p> <p>2.7.2. Positive impacts. What measures were taken to enhance positive impacts?</p> | <p>Table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.</p> <p>The new water use licence will therefore create an immediate need to appoint more workers and supervisors.</p> <p>The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Skilled agricultural labourers <input type="checkbox"/> Specific knowledge of vineyards and citrus fruit production will be needed <input type="checkbox"/> Specific knowledge of fruit packing will be needed <input type="checkbox"/> Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers. <p>Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.</p> <p>Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.</p> |
| <p>2.8. Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?</p> | <p>The proposed development is for agricultural development in an area not sensitive to ecological impacts with positive socio economic impacts on the local community.</p> |
| <p>2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?</p> | <p>Design, comments, location, technology alternatives were considered to determine the best option.</p> |
| <p>2.10. What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?</p> | <p>The project is expansion of an existing farm with existing water. No discrimination will therefore takes place.</p> |
| <p>2.11. What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?</p> | <p>The proposed development will occur according to the specific needs of the site and the contractor will have to make use of trained staff.</p> |
| <p>2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?</p> | <p>Where local communities are employed, it will be the responsibility of the applicant to ensure their safety and to provide the relevant training for the execution of their tasks.</p> |
| <p>2.13. What measures were taken to:</p> <p>2.13.1. ensure the participation of all interested and affected parties,</p> <p>2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,</p> <p>2.13.3. ensure participation by vulnerable and disadvantaged persons,</p> <p>2.13.4. promote community wellbeing and empowerment</p> | <p>Public participation was done in accordance to the NEMA 2014 Regulations specifications.</p> <p>Skills development will be undertaken for staff.</p> |

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| <p>through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,</p> <p>2.13.5. ensure openness and transparency, and access to information in terms of the process,</p> <p>2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and</p> <p>2.13.7. ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?</p> | |
| <p>2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?</p> | <p>The proposed development will provide job opportunities for low and middle-income groups and will provide foreign capital for high-income groups.</p> |
| <p>2.15. What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?</p> | <p>Where local communities are employed, it will be the responsibility of the applicant to ensure their safety and to provide the relevant training for the execution of their tasks.</p> |
| <p>2.16. Describe how the development will impact on job creation in terms of, amongst other aspects:</p> <p>2.16.1. the number of temporary versus permanent jobs that will be created,</p> <p>2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),</p> <p>2.16.3. the distance from where labourers will have to travel,</p> <p>2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and</p> <p>2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).</p> | <p>Table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.</p> <p>The new water use licence will therefore create an immediate need to appoint more workers and supervisors.</p> <p>The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Skilled agricultural labourers <input type="checkbox"/> Specific knowledge of vineyards and citrus fruit production will be needed <input type="checkbox"/> Specific knowledge of fruit packing will be needed <input type="checkbox"/> Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers. <p>Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.</p> <p>Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.</p> <p>As already stated, the proposed development is approximately 2km from Augrabies and Marchand and approximately 30km from Kakamas.</p> |
| <p>2.17. What measures were taken to ensure:</p> <p>2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and</p> <p>2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?</p> | <p>All policies and legislation were taken into account; all relevant governmental institutions applicable to the applications were requested to comment on the process.</p> |

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| 2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage? | Various mitigation measures to be implemented as part of the EA issued. |
| 2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left? | The mitigation measures will be provided by specialists during the EIA phase and will therefore be realistic. |
| 2.20. What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment? | The development is agricultural in nature similar to the present usage of the farm. |
| 2.21. Considering the need to secure ecological integrity and a healthy, biophysical, environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations? | <p>In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere. Not only are the new employment opportunities important, but also the fact that:</p> <ol style="list-style-type: none"> 1. Existing jobs can be secured: Enough water will directly secure existing and new job opportunities. 2. More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume. 3. The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government. <p>The Agri-BEE report is attached at Appendix 11.3.3.</p> |
| 2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area? | Only a positive cumulative socio-economic impact in the form of job creation and foreign capital. |

5 Description of the environment and baseline conditions

5.1 Property description

5.1.1 Location in landscape

The characteristic of the area is typical of a farm being used for the cultivation of table grapes. The area where the proposed development will take place consists mainly of natural veld with the remains of previous livestock farming and cultivation, see Figure 5.1. Small ephemeral streams cross the site. The proposed new pump station will be developed on a site close to existing old outbuildings/labour housing and with no natural vegetation on site, see Figure 5.2. There is existing infrastructure at the proposed development areas and all areas have existing roads and infrastructure to link into. Therefore, no new roads would have to be constructed. The pipelines and linkages will be within the road reserves until it connects with the Orange River. The trolley system that will lower the pumps into the River at the new off take will be at an existing disturbed section of the River, see below in Figure 5.3.



Figure 5.1: Natural veld



Figure 5.2: Pump station site



Figure 5.3: Orange River Intake

The application area is situated on land with a relatively even surface except for some individual rocky areas and small ephemeral streams. The area where the development will take place is therefore suitable for a development of this nature, see Figure 5.1 and 5.4.

As outlined in the SANBI (BGIS Maps), see Figure 5.7, the site is situated in an area outlined as a Critical Biodiversity Area 2. Note, however, that these areas were previously used for livestock farming and other cultivation.



Figure 5.4: Location in the landscape

5.1.2 Climate

Renosterkop 1726 falls within the Nama-Karoo Biome and has an arid climate. Rainfall peaks in March (autumn) with 10 mm or more occurring in January, February, March, April and October. Augrabies, the nearest town with measured rainfall and temperatures has a mean annual rainfall of 251 mm (Figure 5.5), mean summer daytime temperature (October to March) of 35 °C and mean winter night temperature (April to September) of 5 °C.

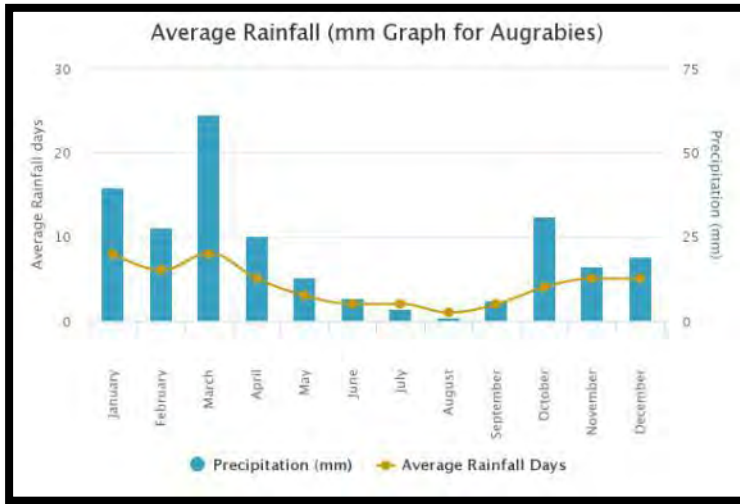


Figure 5.5: Average rainfall.

5.1.3 Topography, Geology and Soils

The terrain studied is on the lowlands south and south-east of Renosterkop. The elevation is approximately 640 m above mean seal level. The landscape is generally flat but is dissected by numerous dendritic drainage lines over most of the site. Soils generally consist of red sandy topsoil with dense weathered granite-gneiss subsoils across the whole site. The land-type is classified as Ag2 for the whole property, described as, “Migmatite, gneiss and granite predominantly; small outcrops of ultrametamorphic rocks in places (Namaqualand Metamorphic Complex). Occasional small seif dunes; dorbank at many places; very dense subdendritic drainage and dissection pattern; occasional lime nodules and calcrete.” (Figure 5.6) (Land Type Survey Staff, 1972-2006).

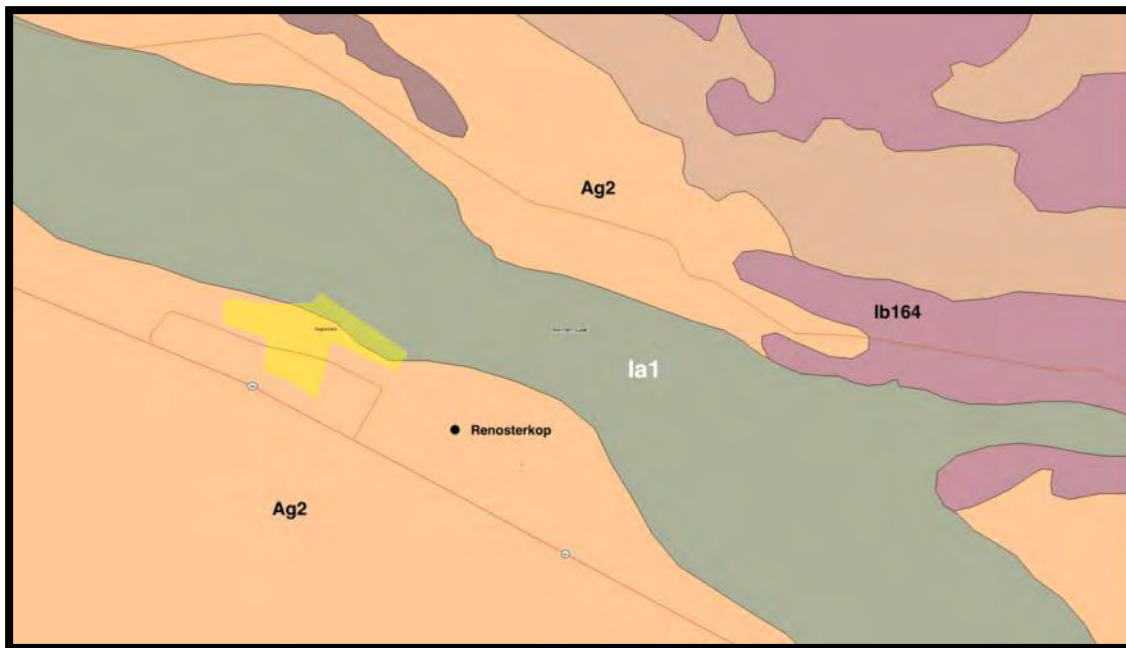


Figure 5.6: Land type map showing that the study area (Renosterkop) is all within the Ag2 land type (Source: <http://www.agis.agric.za/agisweb/viewer.htm/pn=2015>).

5.1.4 Vegetation

Refer to the Specialist Botanical Impact Assessment Report attached at Appendix 11.3.1 prepared by Dr Dave McDonald.

The proposed development area will fall within the Nama Karoo Biome, see summary below:

“The Nama Karoo Biome covers an extensive area from the north-west through the central part of South Africa to the south and southeast of the country. It is an arid zone and is subdivided into three bioregions, the Upper Karoo Bioregion, Lower Karoo Bioregion and Bushmanland Bioregion. The Augrabies study area is located in the Bushmanland Bioregion at a north-central location (Rutherford & Westfall, 1994; Rutherford et al. 2006; Mucina et al. 2006 in Mucina & Rutherford, 2006).

Critical Biodiversity Areas (CBAs) were delimited for the Namaqua District Municipality (NDM) by Desmet & Marsh (2008). The maps they compiled did not include the Augrabies area. However, more recently critical biodiversity areas and ecological support areas have been mapped for the whole of the Northern Cape Province including the Kai Garib Municipality.

The available CBA shapefiles (Enrico Oosthuysen pers comm.) for the Northern Cape Province were overlaid on Google Earth™, which allowed for determining the classification of the area around Augrabies including Renosterkop (the peak). The farm Renosterkop 1726 is located in an area classified as CBA2 (Figure 5.7). The Renosterkop study area is not near any focus area of the National Protected Area Expansion Strategy nor is it close to any mountain catchment area. It is separated from the Augrabies National Park by numerous other farms. “



Figure 5.7: Portion of the Critical Biodiversity Areas map for the Northern Cape Province showing indicating that the Renosterkop 1726 study area falls within a CBA2. The ‘Eastern Area’ is proposed for conservation in perpetuity.

The entire Renosterkop study area was mapped by Mucina et al. (2005) and SANBI (2012) as Bushmanland Arid Grassland, see Figure 5.8. The section of the pipelines along the Orange River, and the proposed pump station site falls within the Lower Gariep Alluvial vegetation. It should however be noted that the pipeline will run within the road reserve and the pump station will be developed on an area already cleared and disturbed surrounded by existing outbuildings and labour accommodation.



Figure 5.8: Typical Bushmanland Arid Grassland

5.1.5 Fresh Water Features

The drainage lines for most of the year are dry and sandy and flow for short periods after relatively heavy rains. They are mostly ephemeral streams. The flow of water along the main drainage lines should not be impeded and prevention of erosion should be a high priority if the area is to be developed, see Figure 5.9 (dark blue lines).

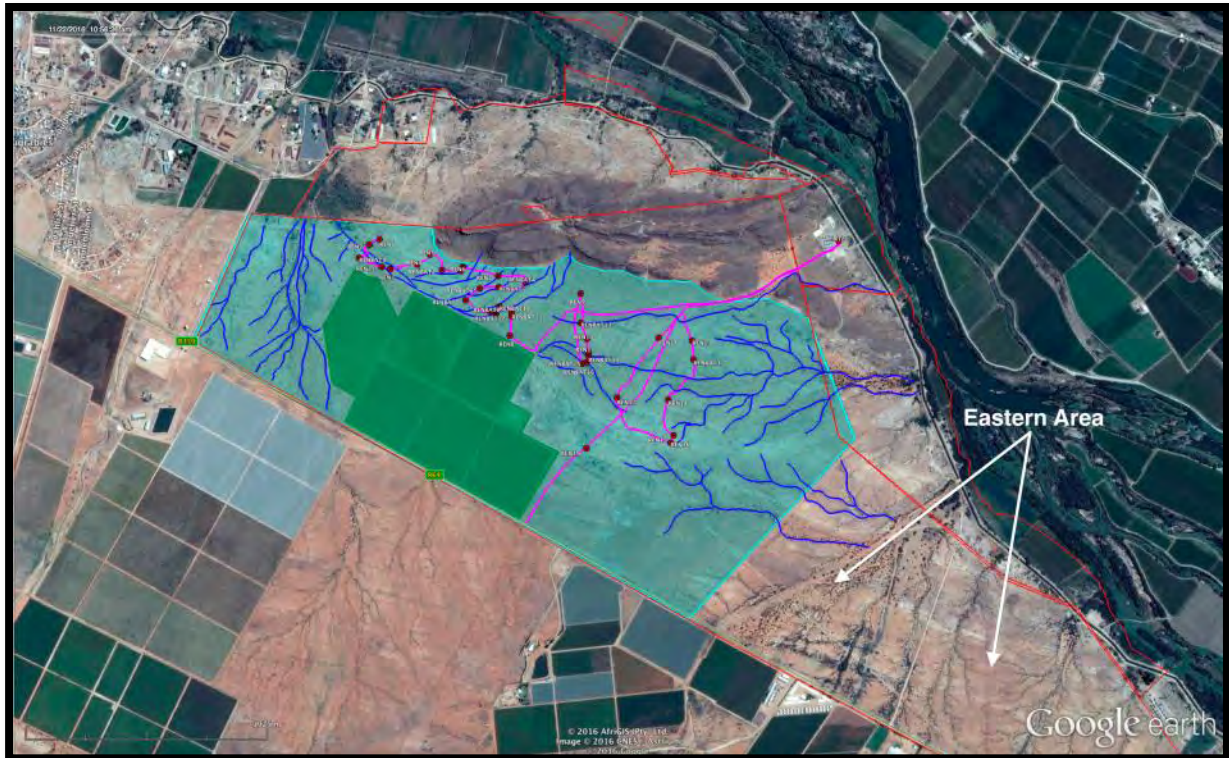


Figure 5.9: Drainage areas

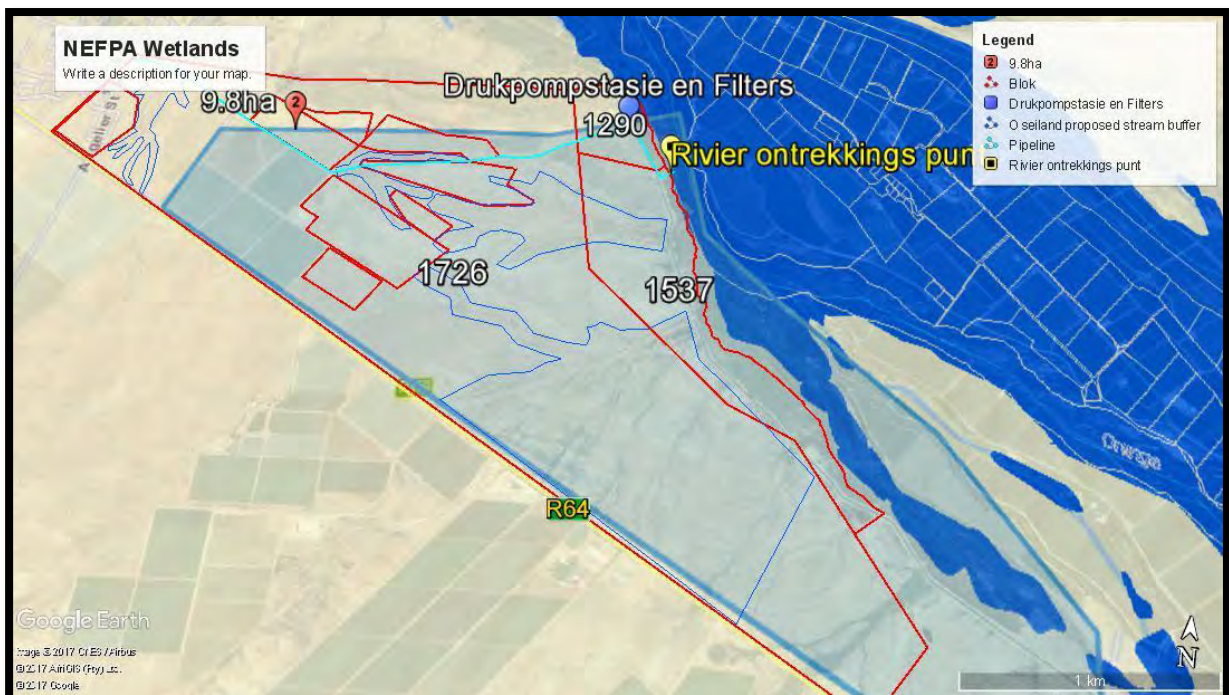


Figure 5.10: NEFPA Wetlands

advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.”

5.2.4 Electricity

The development falls within the capacity of Eskom. Note that additional electrical capacity is necessary for the development of the pump station, however no additional capacity necessary for the agricultural areas as existing usage is sufficient. An application was submitted to Eskom for the additional capacity, see correspondence with ESKOM in section 12.3.

5.2.5 Water Use License Application

Application for a license in terms of the National Water Act, 1998 (NWA) is made by the developer, Oseiland Eiendomme (PTY) Ltd for the taking of existing water rights from the Kakamas/Augrabies Canal and taking the rights from the Orange River via a new pump station during periods in which the canal is undergoing maintenance. The application is further for the transfer of water from various small properties and for the transfer of water rights to Kakamas South Settlement no 1726. Approval is also necessary for the development of agricultural areas across small ephemeral streams/drainage areas and pipelines crossing these streams.

The application is summarised for the following water usages:

| | |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) taking water from a water resource; | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| (c) impeding or diverting flow of water in a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |
| (i) altering the bed, banks, course or characteristics of a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |

The applicant, Oseiland Eiendomme PTY Ltd, wants to expand their farm by extending the existing agricultural areas with approximately 67.68ha. The applicant wishes to transfer water from various small properties owned by the applicant, which are currently due to location and size uneconomical to farm separately, to the property, Kakamas South Settlement no 1726 (Renosterkop), where the new agricultural areas will be developed.

The farm is currently irrigating their vineyards with water that is pumped directly from the canal at an existing abstraction point. The water can also be pumped from the existing pump on the canal and pumped via existing pipelines and be stored in an existing storage dam on the adjacent property. The proposal is to construct a new pump station at the canal as shown

below in Figure 2, water can also be pumped directly from this new off take. The additional water allocation (879 000m³/a from the Kakamas WUA from the various properties) and (147 000m³/a from the Kakamas WUA existing rights left) will be pumped directly from the canal and irrigated onto the vineyards or pumped to the storage dam.

However, during periods in which the canal undergoes maintenance, normally three times a year, the applicant wishes to pump directly from the Orange River. Therefore a new pump will be constructed on the bank of the Orange River, note the location was selected due to existing disturbance to this section along the Orange River and the fact that it provides the best location to construct the pulley system proposed. Note the proposed abstraction point and new pump is located on Kakamas South Settlement no 1537 and the new Canal abstraction point and pump station on Kakamas South Settlement no 1290.

It has already been confirmed by the Kakamas WUA that the additional water allocation can be accommodated and that they have no objections to the abstraction from the Orange River and the Kakamas/Augrabies Canal. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

The establishment of these vineyards will be close to small sections of the unnamed drainage system that is located on site. The drainage system is classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse. Please note: There will be NO planting of vineyards within these drainage channels as far as possible and a buffer of at least 20m surrounding the larger drainage systems will be kept at all times.

The proposed development areas fall within the Lower Orange River catchment area, (SANBI (BGIS Maps)). The proposed pump falls within the NEFPA outlined wetlands, however the small section of the Orange River is heavily disturbed. The ephemeral drainages systems spring from the canal and within the new proposed agricultural areas and then flows downwards towards the R64. The begin flow of these streams/areas is at the canal. However, none of this water flows into the Orange River and is therefore not supplementary flow towards to Orange River. It is therefore cut from potentially ending up in the Orange River via heavy agricultural activities, flow direction and the canal.

Refer to Appendix 11.3.4 for the WULA.

5.2.6 Alternative energy and optimisation

The proposed development of the vineyards will in effect result in the following measures to reduce energy and water usage:

- Use water sparingly and the latest irrigation technology and scheduling methods are always implemented.
- Best practices to reduce water consumption and lowest possible electricity consumption.

6 Alternatives

6.1 Alternative development

The development layout was developed using an opportunities and constraints analysis which included on the constraints side, mainly the suitability of the agricultural areas on the particular position from a design perspective as well as possible impacts on natural vegetation and drainage areas, this is clearly outlined in Alternative 1 (preferred alternative). From a technology perspective the suitability of the proposed agricultural activities to be established on the property, this is outlined in alternative 1 and 2. For the Scoping Process the following were considered, Alternative 1 (preferred alternative), Alternative 2 the agricultural activities alternative, Alternative 3 location alternative for the intake at the Orange/Gariep River and Alternative 4 the No-Go Option.

For A3 Layouts see section 11.4.1.

No site alternative was considered as this is the applicant's property, no other properties available and this site has close access to the Canal and the Orange River. No site alternatives available and no technology alternatives are available.

The alternatives considered for the development are described below:

Alternative 1 (preferred location/design and technology alternative):

This option will consist of agricultural land to be established, clearly outlined according to:

- Transformation of approximately 67.68ha of indigenous vegetation to vineyards,
- Construction of app. 3km of new pipelines,
- Construction of a pumping station adjacent to the Canal, approximately 0.1ha in size,
- A small intake structure within the Orange River and
- Construction of two pipeline crossings over the Canal.

The layout is shown below in Figure 6.1 (A3 version included in Appendix 11.4.1.1).

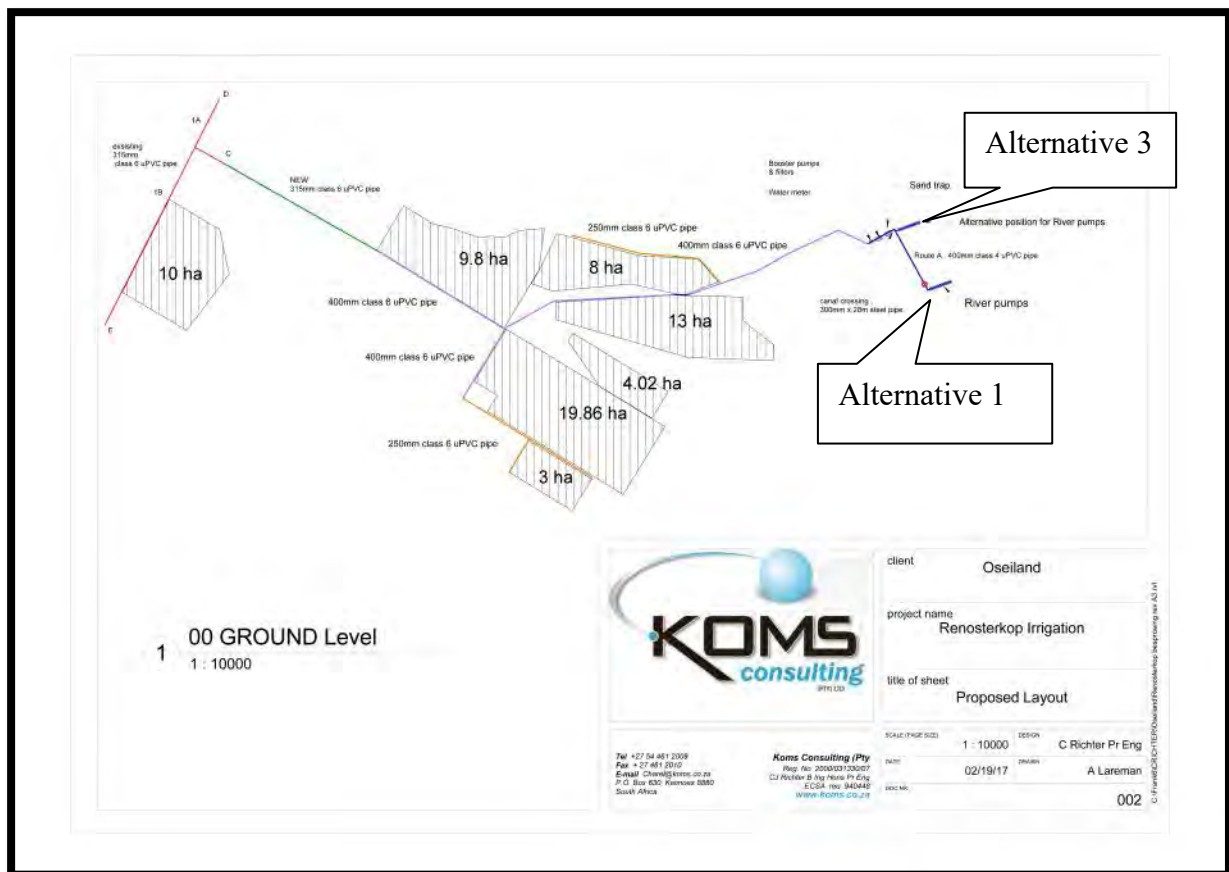


Figure 6.1: Alternative 1 – All proposed development areas

Alternative 1 is considered as preferred for the following reasons:

- From a design perspective this alternative was the best option. It took into consideration design measures by establishing agricultural areas as far as possible on areas that have already been disturbed.
- From a fresh water feature perspective it took into consideration the ephemeral streams, the development was located as far as possible from the streams. Also the entire eastern section of the farm will be kept natural. The eastern section has low potential agricultural land, with high concentrations of ephemeral streams.
- This alternative also located the pump station on an area already disturbed and the intake from the Orange/Gariep River is also on an area already disturbed.
- From a financial perspective this alternative was the best option. This development will contribute to the local and international market.
- From a vegetation perspective this alternative will have a low negative impact on vegetation.
- From a heritage/archaeological perspective this alternative will not have a significant impact, most probably a low impact with mitigation measures.
- This alternative will also fully utilise the farms agricultural potential according to existing water use rights and additional rights to be transferred.

- This alternative will also contribute socially to the upliftment of the existing workers through additional job opportunities.

It is clear therefore that this alternative meets the requirements of the socio-economic, vegetation, fresh water ecology and design considerations and was deemed preferred.

Alternative 2 (location/design alternative):

This option will consist of agricultural land to be established, clearly outlined according to:

- Location – Farm 1726, Renosterkop, Farm 1290 and Farm 1537
- Size – approximately 78.7ha
- Proposed agricultural activity – vineyards
- Pump station of app 1ha
- Pipelines of approximately 3.2km
- Off take at the Orange River
- Off take at the Canal

The layout is shown below in Figure 6.2.



Figure 6.2: Alternative 2

This alternative is not considered as preferred for the following reasons:

- From a design perspective this alternative was not the best option. It did not take into consideration design measures by not establishing agricultural areas as far as possible on areas that have already been disturbed.
- From a fresh water feature perspective it did not take into consideration the ephemeral streams, the development was located over the streams.

- Did not take into consideration the grave site and the 30m outlined as part of mitigation from a heritage and archaeological perspective.

This alternative is therefore not deemed preferred and not better suited than that of alternative 1.

Alternative 3: (location/design alternative)

This option will consist of a different site for the establishment of the pump in the Orange/Gariep River. The different locations are shown in Figure 6.1.

This alternative is not deemed preferred as it is located on a site with a higher bank edge and with more potential to impede and divert flow, see Figure 6.3.



Figure 6.3: Alternative 3

Alternative 4: No-go Option

This is not seen as preferred for the following reason:

- The current agricultural activities on the property are not being utilised to full potential. For this to take place additional agricultural areas would have to be established.
- From a botanical perspective the No Go alternative would be no further development of vineyards at Renosterkop 1726. The natural veld would remain as it is and there would be

minimal change over time but with some low-level impacts due to human activity. The result would be a Very Low Negative impact.

- No social upliftment of existing workers and no additional job opportunities.

Therefore, this alternative is not seen as preferred as the expansion of agricultural activities will contribute to the agricultural potential of the property and if this does not take place the expansion of the farm to its full potential cannot take place. No upliftment and economical contribution can take place.

6.2 **Alternatives Confirmed for Further Assessment**

Following from section 4.1 it is clear that Alternative 1 addresses the key concerns raised.

In conclusion, taking into consideration that Alternative 2 and 3 is not viable from a design, fresh water ecology or vegetation perspective and the fact that Alternative 1 took into consideration inputs from relevant specialists and inputs during public participation, this development of alternative 1 is seen as preferred,

Alternative 1 as the preferred option and Alternative 4 the No-go Option, has been assessed to determine the significance of the impacts associated with these alternatives.

7 Assessment of Alternatives and Impacts

A summary of the main issues identified in the Scoping Phase is shown in Table 7. Two types of reports have been compiled to address these issues.

1. A report on a specific technical subject – identified by shading and an X under “Reports” in Table 7.
2. Final specialist environmental impact reports.

Table 4: Identified issues, EIA Studies and Reports

| Main issues identified | Reports | Final EIA studies |
|------------------------|---------|-------------------|
| Heritage/Archaeology | | X |
| Socio-Economic | X | |
| Vegetation | | X |
| EMP | X | |
| WULA | X | |

7.1 Summary of findings and mitigation measures

7.1.1 Heritage and Archaeology

A Heritage/Archaeological specialist Dr Jonathan Kaplan was appointed to conduct an assessment of the site and his report is attached at Appendix 11.3.2. It was outlined by the specialist that the impact of significance of the proposed development on important archaeological heritage is therefore assessed as LOW. If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution. A buffer of 10m must be established around the recorded grave (Pre-colonial grave). Alternatively, the grave must be fenced off prior to development commencing.

An application was lodged with SAHRA, and comment received from SAHRA is detailed further in Section 11.1.7, which provided recommendations and referenced the need for the Letter from the Palaeontologist (which was pending at the time).

The letter written by Dr John Almond is included in Appendix 11.3.2 and recommended that: *“In view of the small development footprint and the very low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned.”*

The mitigation recommendations should be incorporated into the Environmental Management Programme (EMPr) for this agricultural project. Please note that:

- *All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;*

- *The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);*
- *All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).*

The proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, including associated infrastructure (i.e. pump station & water pipeline), is expected that archaeological impacts will occur during the implementation phase of the project, but that the overall impact on archaeological resources are rated as LOW as shown in the table below (Table 2 extracted from Appendix 11.3.2).

Table 6: Potential impacts on archaeological heritage

| Potential impacts on archaeological heritage | |
|-----------------------------------------------------|---------------|
| Extent of impact: | Site specific |
| Duration of impact; | Permanent |
| Intensity | Low |
| Probability of occurrence: | Probable |
| Significance without mitigation | Low |
| Significance with mitigation | Negative |
| Confidence: | High |

The following comments from SAHRA was received on 31-07-2017, see in section 11.1.7 with the following recommendations:

- *A 30 m no-go buffer must be maintained around the identified grave. It must be fenced with an access gate and a Heritage Management Plan (HMP) must be developed to be implemented as part of the EMP. The HMP must be developed via the consulting process in terms of section 36 of the National Heritage Resources Act, Act No 25 of 1999 (NHRA) and the Chapter XI of the NHRA Regulations. The HMP must include monitoring and maintenance protocols, as well as access arrangements;*
- *The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes;*
- *If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and If the development receives an Environmental*

» » » » » » » » » » » » » » »
Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.

The specialist Dr Jonathan Kaplan had the following recommendations with regards to SAHRA's final comment:

- *The pre-colonial grave (Site 891) is located 10m outside the northern boundary of Block 4, and will not be directly impacted by the proposed agricultural development (refer to Figure 1). The grave will therefore not be damaged or altered as a result of the proposed activities.*
- *The applicant (Oseiland Eiendomme (Pty) Ltd) agrees to maintain a 30m protective buffer around the grave, with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. Fencing will prevent any damage that may occur during the operational phase of the proposed development.*
- *We do not agree that an access gate is required. A small sign will be erected indicating the presence of a protected grave site.*
- *All of the above will be included in the Environmental Management Plan (EMP) for the proposed development.*
- *We further do not believe a Heritage Management Plan is required, as the grave will be located 30m outside the boundary of the development footprint, and the above proposed management actions will ensure its long term protection.*

With regard to the proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, the following final recommendations are made:

1. No mitigation is required prior to proposed development activities commencing.
2. The applicant (Oseiland Eiendomme (Pty) Ltd) agrees to maintain a 30m protective buffer around the grave, with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. Fencing will prevent any damage that may occur during the operational phase of the proposed development.
3. A small sign will be erected indicating the presence of a protected grave site.
4. The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes;
5. If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and
6. If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.
7. The above recommendations must be incorporated into the Environmental Management Plan (EMP) for the proposed development.

7.1.2 Vegetation

As outlined in Section 5.2.1 an impact assessment Report has been compiled by a specialist as attached at Appendix 11.3.1. The vegetation types found on site is of low botanical sensitivity, however the proposed development will probably have low negative impact on the vegetation if the appropriate mitigation measures are implemented.

Mitigation:

Mitigation during the planning, construction and operation phases of this proposed development are as follows:

“Very little scope is available for mitigation measures to compensate for the loss of natural or near natural habitat in the study area itself since, wherever there would be future cultivation, the vegetation and habitat would be lost. Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the ‘eastern area’ of the farm outside the area targeted for agriculture. The ‘eastern area’ is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture.”

7.1.3 Botanical Impact Rating

Reference is made to Appendix 11.3.1: “The proposed agricultural development of Renosterkop 1726 for vineyards would be of such a nature that the natural vegetation where the vineyards would be located would all be lost. It would also be such that the vineyards would not be confined to the less botanically sensitive open plains but would negatively impact at least some of the drainage lines as well. This means that there would be inevitable and unavoidable loss of protected *Boscia albitrunca* trees. This has been taken into account in the impact assessment below:

Assessed impacts

The assessment of the impacts is considered for agricultural development of Renosterkop 1726 (preferred alternative) and the ‘No Go’ alternative which would be ‘no further development’.

‘No Go’ Alternative

The No Go alternative would be no further development of vineyards at Renosterkop 1726. The natural veld would remain as it is and there would be minimal change over time but with some low-level impacts due to human activity. The result would be a **Very Low Negative** impact.

Direct Impacts

The impacts of the development of agriculture in the study are considered for the loss of natural vegetation and habitat i.e. loss of Bushmanland Arid Grassland with two sub-types; open plains and seasonal watercourses.

1. Loss of vegetation and habitat of the ‘open plains’

The open plains support typical Bushmanland Arid Grassland and as noted above, this widespread vegetation type, as found at Renosterkop 1726, has low botanical sensitivity. Development of vineyards on the open plains would have **Medium Negative** impact without mitigation and **Low Negative** impact with mitigation (Table 7 below). This rating is applied since the CBA2 status is taken into account.

Table 7: Impact and Significance – Loss of Bushmanland Arid Grassland vegetation due to conversion of the ‘open plains’ to vineyards

| CRITERIA | ‘NO GO’ ALTERNATIVE | | PREFERRED ALTERNATIVE | |
|------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|
| Nature of impact | Loss of Bushmanland Arid Grassland vegetation: open plains | | | |
| | WITHOUT MITIGATION | WITH MITIGATION | WITHOUT MITIGATION | WITH MITIGATION |
| Extent | Local | Local | Local | Local |
| Duration | Long-term | Long-term | Long-term | Long-term |
| Intensity | Low | Low | Medium | Low |
| Probability of occurrence | Unlikely | Unlikely | Probable | Probable |
| Confidence | High | High | High | High |
| Significance | Very Low negative | Very low negative | Medium negative | Low negative |
| | | | | |
| Nature of Cumulative impact | Loss of Bushmanland Arid Grassland | | | |
| Cumulative impact prior to mitigation | Very Low Negative | | Low negative | |
| Degree to which impact can be reversed | Not reversible | | | |
| Degree to which impact may cause irreplaceable loss of resources | Low | | | |
| Degree to which impact can be mitigated | Medium | | | |
| Proposed mitigation | Conservation of the eastern part of the farm Renosterkop 1726 in perpetuity. | | | |
| Cumulative impact post mitigation | Low negative | | | |
| Significance after mitigation | Low negative | | | |

2. Loss of vegetation and habitat of the seasonal drainage lines

The seasonal drainage lines are not true grassland but rather an azonal aspect of Bushmanland Arid Grassland where shrubs and trees dominate. The seasonal watercourses are important for at least two reasons; firstly, they have a concentration of *Boscia albitrunca* (witgatboom) and secondly they are ecological corridors that provide cover for movement of birds and small mammals. Loss of the vegetation along the seasonal watercourses will therefore result in a greater negative impact than loss of the grassland on the open plains. It is for this reason that the assessment of impacts on the seasonal watercourses is separated from that of the open plains.

It is anticipated that the loss of the seasonal watercourses would result in **High Negative** impact since numerous *B. albitrunca* trees would be lost at a local scale (Table 8 below). This could be mitigated by a commitment to conserve and protect the eastern part of Renosterkop 1726 in perpetuity. The eastern area is highly dissected by numerous watercourses and has a high concentration of trees including many *Boscia albitrunca* trees. Conservation of the 'eastern area' could then be considered to be an 'on-site offset' that would serve as mitigation for loss of seasonal watercourses in the study area.

Table 8: Impact and Significance – Loss of Bushmanland Arid Grassland vegetation due to conversion of the seasonal drainage lines to vineyards

| CRITERIA | 'NO GO' ALTERNATIVE | | PREFERRED ALTERNATIVE | |
|------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|
| Nature of impact | Loss of Bushmanland Arid grassland vegetation: drainage lines | | | |
| | WITHOUT MITIGATION | WITH MITIGATION | WITHOUT MITIGATION | WITH MITIGATION |
| Extent | Local | Local | Local | Local |
| Duration | Long-term | Long-term | Long-term | Long-term |
| Intensity | Low | Low | High | Medium |
| Probability of occurrence | Probable | Probable | Highly Probable | Highly Probable |
| Confidence | High | High | High | High |
| Significance | Very Low negative | Very low negative | High negative | Medium negative |
| | | | | |
| Nature of Cumulative impact | Loss of Bushmanland Arid Grassland | | | |
| Cumulative impact prior to mitigation | Very Low Negative | | Medium negative | |
| Degree to which impact can be reversed | Not reversible | | | |
| Degree to which impact may cause irreplaceable loss of resources | Low | | | |
| Degree to which impact can be mitigated | Medium | | | |
| Proposed mitigation | Conservation of the eastern part of the farm Renosterkop 1726 in perpetuity. | | | |
| Cumulative impact post mitigation | Medium negative | | | |
| Significance after mitigation | Medium negative | | | |

7.1.4 Fauna

Although not observed during the site visit, it is expected that small game such as klipspringer, steenbok, porcupines, baboons and dassies will be found in the area. Some bird species were also found. Refer to Figure 21 of the Botanical Report (Appendix 11.3.1) which shows the Camelthorn tree with nests of White-browed Sparrow-weavers. This is one of only very few of these trees in the study area. Yellow mongoose (*Cynictis penicillata*), an inhabitant of the open plains and the seasonal watercourses was observed by the Botanical specialist at Renosterkop 1726 (Refer to Figure 22 in Appendix 11.3.1).

However, it is not anticipated that the proposed development will have a significant negative impact on these species.

Habitat destruction and the possible genetic contamination of species are however all factors that can negatively impact on vertebrate species, but can be minimized through applying the following mitigation measures:

Mitigation

- Regular maintenance of the water network will minimize the damage done by porcupines.
- No hunting of small game with dogs will be allowed.
- In order to ensure that all fauna will be able to relocate to the adjacent veld, openings should be made in the fences surrounding the proposed development area before any construction work may commence
- To ensure environmentally friendly farming practices, the site manager will have to adhere to the requirements and prescriptions which will be included in the environmental management plan to be included as part of the EIA process. This plan will also deal with issues such as the prohibition of the hunting of small game etc.

7.1.5 Land uses

The planned development is situated within a purely agricultural area with no other land uses in close proximity. The proposed development will therefore have no impact on any surrounding land uses in the area.

7.1.6 Plough certificate

A plough certificate has to be obtained and included as part of Appendix N in the WULA (Section 11.3.4 of the EIR) is the application submitted to obtain a certificate.

7.1.7 Water

“Regulations regarding the Procedural Requirements for Water Use Licence Applications and Appeals” (in GN No. R267 dated 24 March 2017) were recently promulgated in terms of the National Water Act (1998) in GG No. 40713.

An application for a license in terms of the National Water Act, 1998 is being made by the developer, Oseiland Boerderye for the transfer water rights, taking of water from the Orange River, in addition to the application to impede the flow of water and to alter the beds, banks and course of the watercourses on site summarised as the followed:

| | |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| (a) taking water from a water resource; | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| (c) impeding or diverting flow of water in a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the pump at the Orange River |
| (i) altering the bed, banks, course or characteristics of a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. |

| | |
|--|----------------------------------|
| | For the pump on the Orange River |
|--|----------------------------------|

A copy of the WULA is attached at Appendix 11.3.4

Mitigation

- Measures should be implemented to reduce water use within the proposed development, such as the use of tension meters to avoid over irrigation of the soils.
- Environmental education programs for workers will ensure that they will be sensitive to the environment and report incidents such as leaking taps, broken irrigation systems, etc.

7.1.8 Sewage disposal

Chemical toilets will be provided for the workers in the vineyard/ agricultural land. These toilets will be emptied on a daily basis in the sewage tank system at the households and at the packing sheds.

Mitigation

With regard to the development work at the site it must be ensured that the applicant/ contractor provide sufficient sanitation facilities for the use of his employees during the actual construction period. The applicant/ contractor will be solely responsible for the proper use and maintenance thereof in conditions, which are to the satisfaction of both the contractor and the applicant. All facilities must be positioned within walking distance from wherever employees or labourers are at work.

Other specifications to be adhered to are, amongst others, the following;

- All facilities provided at the site must comply with the requirements of the Local Municipality.
- No sewerage facility may be erected within a radius of 100m from a water source.
- The applicant/ contractor must be held responsible for the cleaning of the sanitary facilities to prevent health hazards for the duration of the contract.
- Sanitary facilities must be provided at a ratio of one (1) facility for every fifteen (15) persons.
- All sanitation facilities must be sited, in terms of the specifications of the National Water Act no. 36 of 1998, in such a way that they do not cause water- or other pollution.

7.1.9 Solid waste disposal

The application area is located within the municipal area of Kai! Garieb Municipality. No household waste will be generated as part of this application.

All facilities in use during the construction phase must be utilized and maintained in a manner that prevents pollution of any groundwater sources. No waste of any kind may be disposed of in the surrounding environment.

Mitigation

A no-nonsense approach with regard to littering on the farm exists and the neatness of the workplace as well as the residential areas is all high priorities for the management.

Sufficient provision should be made for rubbish bins on the farm to prevent workers from littering. These rubbish bins should be clearly marked and be visible.

7.1.10 Air and noise pollution

Air Pollution

During the construction phase, and due to the nature of the project, a small amount of smoke (from machines) and dust could be generated. Dust pollution may have an impact on the operational workers.

Mitigation

In order to minimize the effect of dust pollution, the construction area should be kept wet as far as possible and the workers must wear the necessary safety clothing. The applicant is referred to section 19 of the National Water Act no. 36 of 1998 with regard to the prevention of, and remedies for, the effects of pollution. In terms of this section of the Act, the person who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources and property.

Noise Pollution

During the construction phase there may be minimal and sporadic incidents of air and noise pollution due to the construction activities such as dust and noise as a result of earthworks. Due to the fact that the area is situated within an agricultural environment, the impact is not expected to be severe.

Mitigation

The contractor should make adequate provision to prevent or minimize the possible effects of air and noise pollution. Should the noise from the construction work be found to cause problems, (which is not anticipated to be the case) work hours in these areas may be restricted between 06:00 and 20:00, or as otherwise agreed between the parties involved. Strict measures should therefore be enforced, especially in terms of the contract specifications, to prevent any negative impacts in this regard.

8 Public Participation

Public participation included the following:

- **Registration and advertisement**

An advertisement was placed in the Gemsbok on the 28 June 2017. This advertisement served as notice of the availability of the fEIR to provide comment as part of the public participation process in terms of the new EIA Regulations dated March 2017, and the Water Use Licence Application. The registration/comment period is from 30 June 2017 to 01 August 2017.

- **Notice Board**

Notice Boards was displayed at the entrance of the farm from 28 June 2017.

- **Information and reporting for formal process**

Scoping:

A notice that included the Executive Summary and draft Environmental Impact Report was made available and distributed by registered post to all registered I&APs and neighbours for the 30 day commenting period, from (30 June 2017 until 01 August 2017). The notice informed all I&AP's of the availability of the dEIR and WULA which were to be obtained from the EAP. Digital copies have been made available on the website www.pbpscon.co.za and distributed to all I&AP's.

Hard copies of the report will be sent to the following Authorities: DENC, DWS, Dept. of Agriculture, SAHRA and Kai! Garib Municipality.

- **I&AP database**

The I&AP database was developed from registered and listed I&APs. The database was not updated following the Scoping Phase as no new I&AP's registered in the EIA phase.

All comments received for the FSR and the DEIR have been addressed in the Comments and Response sheet, in Appendix 7.

9 Environmental Impact Statement

9.1 Summary of findings

A summary of the impacts and mitigation measures has been compiled in Section 7, as referenced from the various specialist assessments where applicable.

9.2 Maps of Environment Sensitive Areas and Layout of Preferred Alternative

The maps inserted below show the environmentally sensitive areas as highlighted in the botanical, heritage and surface water sections of this dEIR. There are no wetlands in the project area as these are confined to the Orange River basin further to the north of the project site.

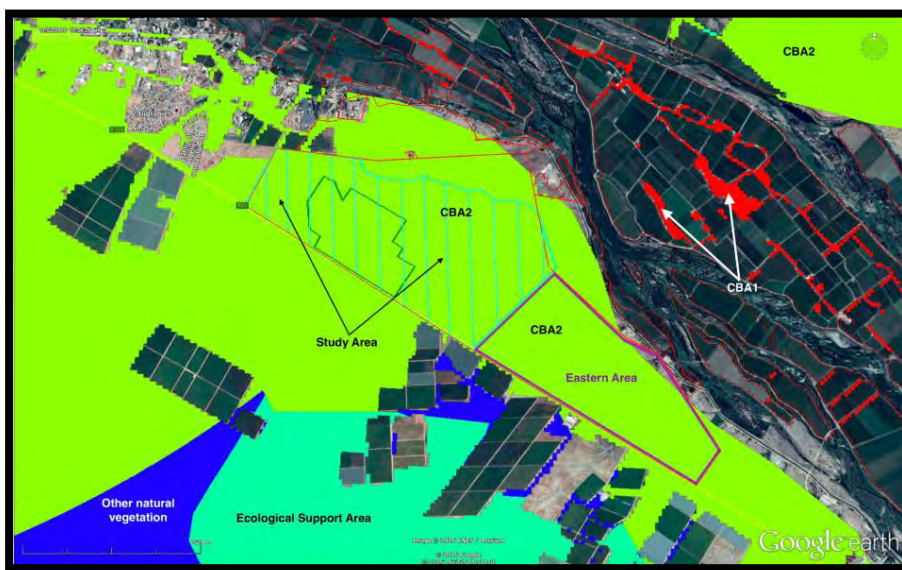


Figure 9.1: Portion of the Critical Biodiversity Areas map for the Northern Cape Province showing indicating that the Renosterkop 1726 study area falls within a CBA2. The 'Eastern Area' is proposed for conservation in perpetuity

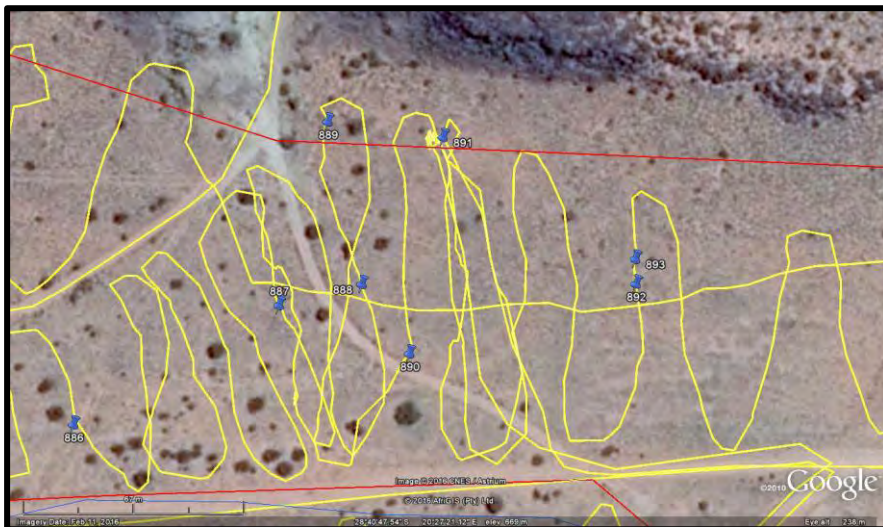


Figure 9.2: The Green polygon indicates the grave (Site 891) at the base of Renosterkop Peak. Yellow lines are track path (Figure 32 in Appendix 11.3.2)

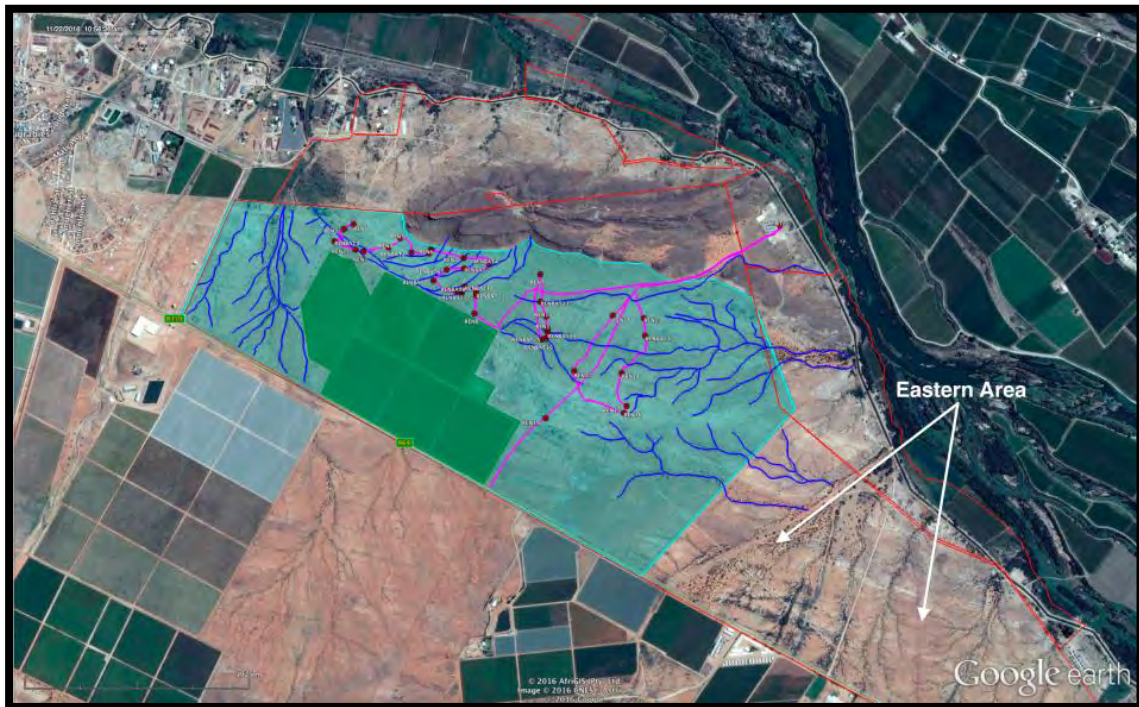


Figure 9.3: Drainage areas outside the Eastern Area

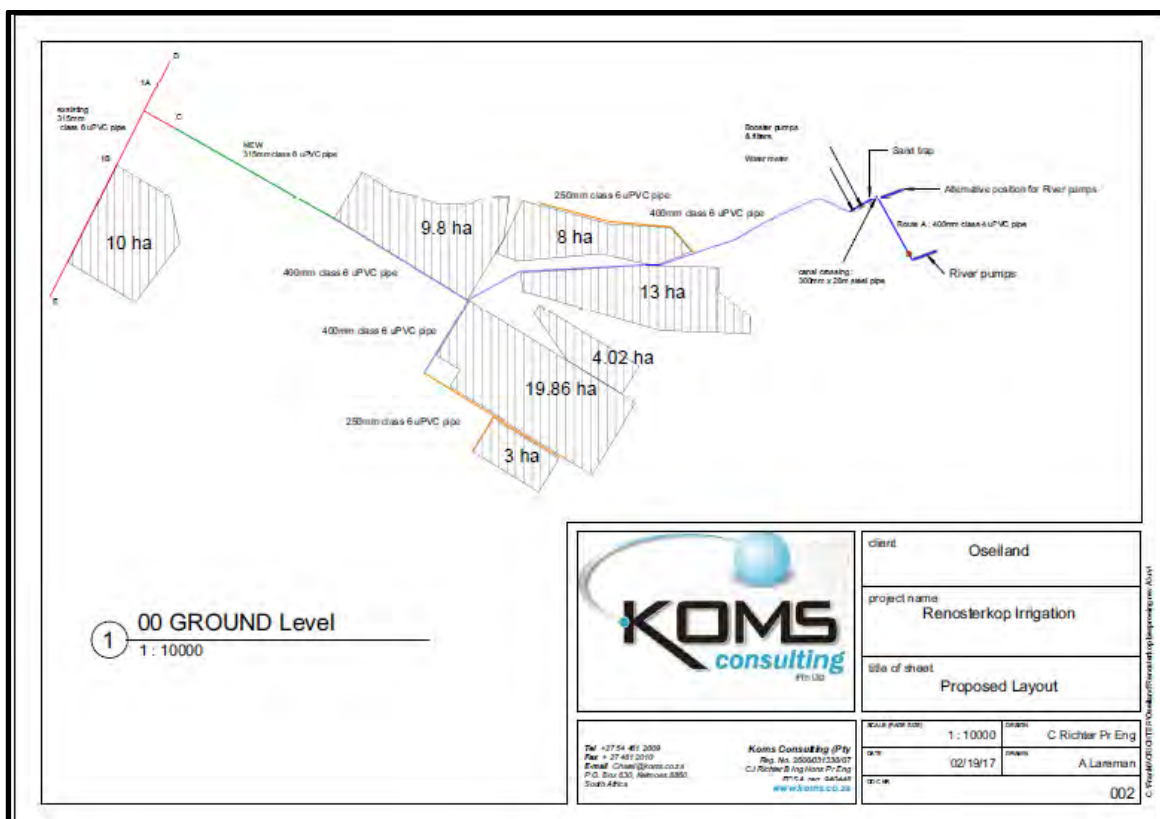


Figure 9.4: Layout of Preferred Alternative

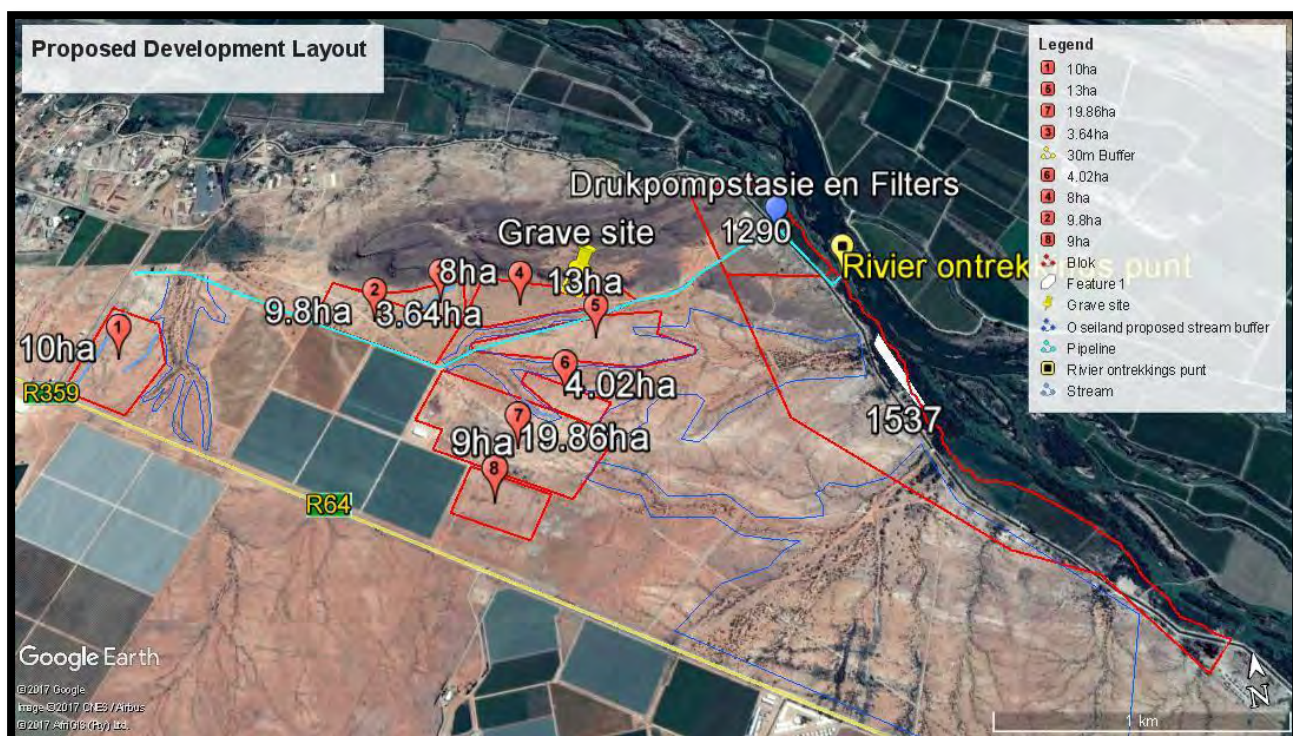


Figure 9.5: Google image of the Layout of Preferred Alternative

9.3 Comparative assessment

Two alternatives were assessed, Alternative 1: the Preferred Option, and Alternative 4: the No-Go Option. Alternative 1 is a layout alternative as detailed in Section 6 above.

The following table provides an overall summary of impacts with mitigation measures included:

Table 9: Legend for Impact Rating

| Legend | | |
|-----------------------------------------|------------------|------------------|
| Significance Ratings (after mitigation) | Negative Impacts | Positive Impacts |
| Very low to none | | |
| Low | | |
| Medium | | |
| High | | |

Table 10: Impact per Alternative

| EIA Assessment | Preferred Alternative 1 | Alternative 4 - No-Go Option |
|-------------------------|----------------------------------------------------------------------------------|------------------------------|
| Botanical (open) | The vegetation types found on site is of low botanical sensitivity. The proposed | No impact on vegetation if |

| | | |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <u>plains)</u> | development on the open plains will have low negative impact on the vegetation. | this takes place. |
| <u>Botanical (seasonal watercourses)</u> | <p>Loss of the vegetation along the seasonal watercourses will result in a greater negative impact than loss of the grassland on the open plains. It is for this reason that the assessment of impacts on the seasonal watercourses is separated from that of the open plains. It is anticipated that the loss of the seasonal watercourses would result in High Negative impact since numerous <i>B. albitrunca</i> trees would be lost at a local scale.</p> <p>This could be mitigated by a commitment to conserve and protect the eastern part of Renosterkop 1726 in perpetuity. The eastern area is highly dissected by numerous watercourses and has a high concentration of trees including many <i>Boscia albitrunca</i> trees.</p> <p>Very little scope is available for mitigation measures to compensate for the loss of natural or near natural habitat in the study area itself since, wherever there would be future cultivation, the vegetation and habitat would be lost. Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the ‘eastern area’ of the farm outside the area targeted for agriculture. The ‘eastern area’ is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture (Appendix 11.3.1).</p> <p>The specialist rated this impact as MEDIUM Negative subject to the conservation and protection of the eastern part of Renosterkop 1726 in perpetuity.</p> | No Impact |
| <u>Heritage</u> | As referenced from Appendix 11.3.2: “The study has captured a good record of the archaeological heritage present on the | No Impact |

| | | |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| | proposed development site. Indications are that, in terms of archaeological heritage, the affected environment is not a sensitive or threatened landscape. The impact significance of the proposed development on important archaeological heritage is therefore assessed as LOW.” | |
| <u>Archaeological/ paleontological</u> | <p>The letter written by Dr John Almond is included in Appendix 11.3.2 and recommended that: “In view of the small development footprint and the very low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned.”</p> <p>As archaeological sites are concerned, most of the occurrences are lacking in context. While several low/medium density scatters of tools were recorded, these occur mostly outside the proposed footprint area. No evidence of any factory or workshop site, or the result of any human settlement was identified within the proposed development site. It is maintained that most of the archaeological remains comprise discarded flakes, flake debris and debitage. Overall, despite the relatively large numbers of the tools that were recorded, the isolated and mostly disturbed context in which they were found, means that the archaeological resources have been graded as having low (Grade 3C) significance.</p> | No impact |
| <u>Visual/Cultural landscape</u> | The planting of vineyards would result in a replacement of the natural landscape by a cultural landscape. During the construction phase there would be very minor impacts to the scenic qualities of the landscape, but the site is quite far from the nearest public road so this negative impact is seen as being of very low significance. There are no fatal flaws. No mitigation or management measures are suggested aside from best practice considerations such as keeping the area free of unsightly materials, litter and the like. The vineyards of the Orange River region add scenic value and sense of place to the environment. Once the vineyards are | Low negative due to the land remaining undeveloped, with no vineyards and positive visual (cultural perspective) impact on the barren landscape. |

| | | |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | established it is expected that the impacts to the landscape will be positive so long as the area is retained in a tidy and attractive state. | |
| <u>Water quality</u> | No impact on water quality, as construction will be conducted outside the rainfall season. No flow from agricultural areas as a storm water berm will be constructed. | No impact |
| <u>Impeding and diverting flow</u> | The natural drainages areas and small ephemeral stream will be filled in and vineyards established on these areas, therefore a low negative impact on surface water flow. This will however be mitigated by establishing a storm water berm surrounding the agricultural areas to prevent any contamination further downstream of these drainage areas. | No impact |
| Socio-Economic | Overall impact is medium positive | No development during the construction phase will result in no job creation and no skill development. Upliftment of permanent workers will not take place, therefore medium negative impact. |
| Air and Noise pollution | Very low negative and only during construction phase | No Impact |
| Sewage and waste disposal | Very low negative and only during construction phase | No Impact |
| Fauna | Very low negative and only during construction phase. Thereafter free movement of animals allowed and mitigation of no hunting allowed. | No impact |
| Overall | The development will result in an overall low negative impact, mostly due to the loss of vegetation in the watercourses, offset by the positive impacts associated with the creation of employment and empowerment opportunities. | No development will result in a medium negative impact due to the loss of opportunity for employment generation and empowerment in a poor community. |

It is required by law that projects must meet with the requirements of sustainable development. The concept is defined as follows *“the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations”*.

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In achieving sustainable development, the focus therefore may not be restricted to environmental or nature conservation factors only. It should include economic and social realities. Social factors influence the livelihoods of people. They determine income, quality of life, social networks, and other means aimed at maintaining and improving the wellbeing of people. Economic factors deal with the affordability of processes, their potential to generate income over an extended period (into future generations) and to maintain the ability to support both the environmental and social needs of an area.

In short; if people are impoverished, there will be no environment to protect; if a project is not attractive economically, it will not be launched; but the environment is the essential basis for all development.

Overall it is clear that the preferred option best meets the above integration factors and has the biggest advantages and takes into account the NEMA principles as outlined in Section 2 of NEMA.

Implementation of the project and protection of the environment must take place under control of the EMP as specified in Appendix 12.

10 Conclusions

10.1 General

Taking into account that the purpose of scoping is “*must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process*” it can be concluded that the process has been successful. A number of issues identified in the scoping phase has been assessed in the EIA phase, including the assessment of the preferred alternative and the No-Go Alternative

The proposed development designed according to the findings of the baseline studies to ensure minimal impact on the environment. Alternative 1 addresses the key concerns with regards to design and the inputs from the specialists through the following:

- No constraints were identified from a botanical perspective that would prevent the agricultural development from proceeding as long as suitable mitigation is implemented.
- No significant impact expected on heritage/archaeology, all mitigation measures should be implemented.
- Determined the best suitable alternative through assessing the impacts on the environment, preferred alternative 1 was determined.
- Low impact on the ephemeral streams and the conservation of the eastern section.
- The farm can be utilised to its full agricultural potential.
- The land area available for the proposed cultivation has been calculated on the availability of irrigated water. The WULA addresses the transfer of water rights, and the impacts on the watercourses.
- It will also result in the social upliftment of the existing workers and create additional job opportunities.
- Financially contribute to the local and international market.

Note that the “**do nothing option**”, has been investigated as Alternative 4 and when taking into consideration that the current agricultural potential of the property is not utilising to its full potential, thus keeping the site as is, is not deemed as preferred.

Thus Alternative 1 and Alternative 4: No-Go Option has been investigated in this dEIR.

It is required by law that projects must meet with the requirements of sustainable development. The concept is defined as follows “*the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations*”.

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In short; if people are impoverished, there will be no environment to protect; if a project is not attractive economically, it will not be launched; but the environment is the essential basis for all development.

Overall it is clear that the preferred option best meets the above integration factors and has the biggest advantages and takes into account the NEMA principles.

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11 **Appendices**

11.1 Public participation

11.1.1 I&AP database

AUTHORITIES AND I&AP's

| | Erf no | Surname | Initials | Representing | Tel | Fax | email | Post Box | Town | Code | Reg |
|----|--------|------------------------------------|----------------|---------------------------------------------------------------------|----------------------------|--------------|--------------------------------------------------------------------|--------------------------------|--------------|------|-----|
| 1 | | Lategan | J.G. | Kai Garib Municipality: Municipal Manager | 054 431 6328 | 054 461 6401 | mm@kaigarib.gov.za | Private Bag X6 | Kakamas | 8870 | L |
| 2 | | Snyers | A.C. | Kai Garib Municipality: Ward Councillor Ward 2 | 054 431 6328 | 054 461 6401 | mm@kaigarib.gov.za | Private Bag X6 | Kakamas | 8870 | L |
| 3 | | October | L | Department of Agriculture and Land Reform | 054 461 6700 | 054 461 6401 | | P. O. Box 18 | Springbok | 8240 | L |
| 4 | | Towell Van Wyk | J | Department of Water Affairs | 082 887 8866/ 054 338 5819 | | TowellJ@dws.gov.za | Private Bag X5912 | Upington | 8800 | L |
| 5 | | Tsimakwane | T | DENC: NC – 24G | 0538077300 | 0538077328 | ttsimakwane@ncpg.gov.za | Sasko Building, 90 Long street | Kimberley | 8300 | L |
| 6 | | Geldenhuis | C | Nature Conservation Unit | 027 718 9906 | 027 718 9907 | The unit indicated comments will be requested by the case officer. | | | | L |
| 7 | | Motsisi | L | ESKOM: Transmission | 011 8005734 | | MotsisL@eskom.co.za | P. O. Box 1091 | Johannesburg | 2001 | L |
| 8 | | De Bruin | R | Eskom Distribution FOU | 0514042467/ 0825769184 | | dBruinER@eskom.co.za | P. O. Box 356 | Bloemfontein | 9300 | L |
| 9 | | Abrahams | N | Department of Transport: Environmental Coordinator | 021 957 4602 | 021 910 1699 | Abrahamsn@nra.co.za | Private Bag X19, Sanlamhof | Belville | 7535 | L |
| 10 | | Ceo | | Kakamas Water Users Association | 054 431 0725/6 | 054 431 0348 | kakamaswgv@isat.co.za | Private Bag X4 | Kakamas | 8870 | L |
| 11 | | Burger Du Plessis Familie Trust | Jan du Plessis | Erf 1726 (Application Property) Erf 1288, 1279, 1290, 1537, 2092 | 082 925 0977 | | | P. O. Box 45 | Augrabies | 8874 | L |
| 12 | | Flying Falcon Prop 12 Cc | | Erf 1280 | | | | P. O. Box 21 | Augrabies | 8874 | L |
| 13 | | Itzibitz Pty Ltd | | Erf 1776, 2382 | | | | P. O. Box 813 | Kakamas | 8870 | L |
| 14 | | Vroeëson Familie Trust | Gerrit Visser | Erf 1772, 2381 | 082 444 3155 | | | P. O. Box 813 | Kakamas | 8870 | L |

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| | Erf no | Surname | Initial s | Representing | Tel | Fax | email | Post Box | Town | Code | Reg |
|----|--------|---------------------------------------------|----------------------------|--------------------|--------------|-----|-------|------------------------------------|-----------|------|-----|
| 15 | | Superlane 124 Pty Ltd | Johan de Kok | Erf 1857 | 082 925 2120 | | | P. O. Box 57 | Augrabies | 8874 | L |
| 16 | | Sonvrucht Farming Pty Ltd | Tokka van den Heever | Erf 1858, Erf 2160 | 082 571 6472 | | | P. O. Box 182 | Augrabies | 8874 | L |
| 17 | | Eternal Flame Inv 104 Pty Ltd | Jan du Plessis | Erf 2094 | 082 925 0977 | | | P.O. Box105 | Augrabies | 8874 | L |
| 18 | | Sonland Boerdery Pty Ltd | Hanno Wiese | Erf 2193, 2185 | 082 470 3721 | | | P. O. Box 110472, Harrison Park | Kimberley | 8300 | L |
| 19 | | Kakamas Weiveldeenheid Nommer Een Ltd | Francois Conradie | Erf 1177 | 082 578 1586 | | | P. O. Box 1 | Augrabies | 8874 | L |
| 20 | | P J Dippenaar & Seuns Boerdery Pty Ltd | Paul Dippena ar | Erf 2192 | 082 379 9770 | | | P. O. Box 43 | Kakamas | 8870 | L |

11.1.2 Advertisements

11.1.2.1 Proof of advertisements for the EIR.

30 JUNIE 2017

DIE GEMSBOK

BLADSY 19

National Epilepsy Week falls between 21 and 27 June

BRINGING EPILEPSY OUT OF THE SHADOWS

In line with the theme of this year's National Epilepsy Week – Bringing epilepsy out of the shadows – disability equity solutions company, Progression Transformation Enablers (Progression), is committed to shedding light on epilepsy and encouraging acceptance and understanding amongst South Africans.

Justene Smith, a disability expert at Progression, says National Epilepsy Week falls between 21 and 27 June. "We believe that being aware of and supporting people who live with epilepsy and other disabilities is an important, and often overlooked, responsibility for all South African citizens. And it starts with education."

Epilepsy, also known as a seizure disorder, is a common condition that affects the brain and nervous system. It has been estimated that approximately one in every 100 South Africans will suffer from epilepsy at some point in their lifetime. This means that having someone who suffers from epilepsy as one of your employees or colleagues is a realistic probability and reinforces the importance of growing your knowledge regarding epilepsy and its impact in the workplace.

A Progression employee, Janet Jones*, who was diagnosed with epilepsy in 1999, provides some insight on the condition.

In your opinion, what are some important factors that employers should know regarding an employee who has epilepsy?

Jones: Employers need to know how to deal with a situation where a person has had a seizure or is having a seizure. Because a person loses control of their body when experiencing a seizure, injuries may be incurred through, for example, falling or hitting of the tongue. It is important that a first aid kit is available and maintained. Having a first aid officer who has received relevant training in dealing with seizures is also essential. Employers need to know who the employee's support system is.

Does having epilepsy limit you in the workplace with respect to what you can and can't do?

Jones: This is very industry specific. If, for example, I was working in the mining industry there would be various limitations on the tasks and activities that I would be permitted to do. The Mine Health and Safety Act states that a person who has epilepsy can't work in confined spaces or at heights and thus provides some limitations. However, in the industry and training role I am currently in, there are no limitations regarding what I can and can't do.

Are there certain things that trigger your epilepsy?

Jones: Triggers are unique and differ from person to person. I find that my epilepsy has two main triggers namely tiredness and stress. This is why it is important for me to ensure I get enough sleep and control my energy levels.

What would you recommend employers do for employees with epilepsy in terms of reasonable accommodation?

Jones: I feel it is important for employers to allow time for an employee with epilepsy to visit their specialist or have tests done. The employee's specialist may be very busy and only have appointments in the morning. The

employee needs to be lenient in allowing the employee time to consult their doctor when necessary.

Do you think it is important for people who have epilepsy to disclose this information to their employer? Why?

Jones: Yes, I do think that it is very important and urge people with epilepsy to make their employer aware of this. People need to be aware of the procedure and protocol to follow when someone experiences a seizure. It can be very scary to witness someone having a seizure. If they are not prepared for it, or are unaware that the person has epilepsy, they may not know what is happening or how to help.

What are some important factors to consider when ensuring that all employees, including those who have epilepsy, are accommodated in the work space?

Smith: Every organisation needs to ensure they have appropriate health and safety measures in place, which should include a qualified first-aider. Often, when I inform employers and/or HR staff that people will not always disclose their epilepsy, their responses are similar: "What am I meant to do if the person has a seizure at work?" This is where the organisation's health and safety policy will come in.

Like many other organisations, we often have clients who attend meetings at our premises. If one of these clients were to have a seizure while in a meeting, the first-aider should know what protocol to follow. In instances like this, it is better to be proactive rather than reactive.

Conducting risk assessments is also important. Employers need to determine in which areas there are risks, such as working on ladders, scaffolding or at heights. This would help them determine suitable roles and work environments for people with disabilities.

Where can employers and employees find more information on their rights and responsibilities regarding the above?

Smith: In most instances, epilepsy falls under the disability sector and is thus a part of the Employment Equity Act. This Act protects people against discrimination in the workplace and can be used to gather more information around disability in the workplace.

In addition, the Technical Assistance Guidelines on the Employment of People with Disabilities is another piece of legislation that accompanies the Employment Equity Act in guiding employers on how to best manage disabilities in the workplace.

There are also various associations for epilepsy, such as Epilepsy South Africa, which assist and inform people of their rights, safety in the workplace etc.

Epilepsy South Africa can be contacted via email at info@epilepsy.org.za or you can visit their website at www.epilepsy.org.za/ *not her real name

MUNISIPALITEIT KAI IGARIB
KENNISGEWING NR. K13/2017
DORPAAANLEGGESKEMA: VOORGESTELDE REGISTRASIE VAN REG VAN WEG OOR RESTANT PLOT 301, KAKAMAS NOORD BINNE DIE JURISDIKSIE VAN KAI IGARIB MUNISIPALITEIT

Kennis gegee hiermee dat die Bestuurskantoor van die 2^{de} Magawu Distrikmunisipaliteit van voorneme is om die volgende aksie met betrekking tot onroerende eiendom binne die Kai IGARIB Munisipaliteit te onderneem: die registrasie van die voorgestelde registrasie van die Reg van Weg oor Restant Plot 301, Kakamas Noord binne die Jurisdiksie van Kai IGARIB Munisipaliteit.

1. Beskrywing van onroerende goed: Restant 301, Kakamas Noord
2. Ligging: 15m noord van Kakamas
3. Grootte: 5m wyd
4. Applicant: Tolombr Borendy (Edms) Bpk
5. Gereguleerde Eienaar: S A Trust
6. Huidse Grondgebruik: landbou
7. Voorgestelde grondgebruik: landbou
8. Doel van aansoek: Om toegang te verkry tot die Reg van Weg oor Restant Plot 301, Kakamas Noord binne die Jurisdiksie van Kai IGARIB Munisipaliteit.

Nadien besondere is verligbaar by die kantoor van die Munisipale Bestuurder (Kennisgegewe) gedurende normale kantoorure (08:00-18:00) en/of anderszins op versoek van die belanghebbende, indien nodig, moet daar skriftelik by die Munisipale Bestuurder ingesien word, aan hom voor of op 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik.

JG LATEGAN WAARNEMENDE MUNISIPALE BESTUURDER

KAI IGARIB MUNICIPALITY
NOTICE: NO. K13/2017
TOWNPLANNING SCHEME: PROPOSED REGISTRATION OF SERVICE OVER REMAINDER PLOT 301, KAKAMAS NORTH WITHIN THE JURISDICTION OF KAI IGARIB MUNICIPALITY

Notice is given herewith in terms of the provisions of the Spatial Planning and Land Use Management Act (Act 16 of 2013) and the town planning scheme regulations for Kai IGARIB Municipality, that it is the intention of the Joint Planning Tribunal of 2nd Magawu District Municipality, to consider the following action on immovable property:

1. Description of Property: Remainder Plot 301
2. Locality: 15km north of Kakamas
3. Size: 5m wide
4. Applicant: Tolombr Borendy (Edms) Bpk
5. Registered Owner: S A Trust
6. Present Land Use: Agriculture
7. Proposed Utilization: Service Road and pipeline
8. Purpose of Application: To register a servitude for a combined service road and pipeline over Remainder Plot 301 to enable access for Plot 199

Full particulars are obtainable from the office of the Municipal Manager (Kennisgegewe) during normal office hours (08:00-18:00) and/or upon request from the applicant, if any, must be lodged in writing to the Municipal Manager on or before 21 July 2017. Anybody who wish to comment/object who cannot write can, during office hours on or before 21 July 2017 report to Mr V McPherson where a person's objection/comment will be put into writing.

JG LATEGAN ACTING MUNICIPAL MANAGER

MUNISIPALITEIT KAI IGARIB
KENNISGEWING NR. K13/2017
DORPAAANLEGGESKEMA: VOORGESTELDE REGISTRASIE VAN REG VAN WEG OOR RESTANT PLOT 301, KAKAMAS NOORD BINNE DIE JURISDIKSIE VAN KAI IGARIB MUNISIPALITEIT

Kennis gegee hiermee dat die Bestuurskantoor van die 2^{de} Magawu Distrikmunisipaliteit van voorneme is om die volgende aksie met betrekking tot onroerende eiendom binne die Kai IGARIB Munisipaliteit te onderneem: die registrasie van die voorgestelde registrasie van die Reg van Weg oor Restant Plot 301, Kakamas Noord binne die Jurisdiksie van Kai IGARIB Munisipaliteit.

1. Beskrywing van onroerende goed: Restant 301, Kakamas Noord
2. Ligging: 15m noord van Kakamas
3. Grootte: 5m wyd
4. Applicant: Tolombr Borendy (Edms) Bpk
5. Gereguleerde Eienaar: S A Trust
6. Huidse Grondgebruik: landbou
7. Voorgestelde grondgebruik: landbou
8. Doel van aansoek: Om toegang te verkry tot die Reg van Weg oor Restant Plot 301, Kakamas Noord binne die Jurisdiksie van Kai IGARIB Munisipaliteit.

Nadien besondere is verligbaar by die kantoor van die Munisipale Bestuurder (Kennisgegewe) gedurende normale kantoorure (08:00-18:00) en/of anderszins op versoek van die belanghebbende, indien nodig, moet daar skriftelik by die Munisipale Bestuurder ingesien word, aan hom voor of op 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik.

JG LATEGAN WAARNEMENDE MUNISIPALE BESTUURDER

KAI IGARIB MUNICIPALITY
NOTICE: NO. K13/2017
TOWNPLANNING SCHEME: PROPOSED REGISTRATION OF SERVICE OVER REMAINDER PLOT 301, KAKAMAS NORTH WITHIN THE JURISDICTION OF KAI IGARIB MUNICIPALITY

Notice is given herewith in terms of the provisions of the Spatial Planning and Land Use Management Act (Act 16 of 2013) and the town planning scheme regulations for Kai IGARIB Municipality, that it is the intention of the Joint Planning Tribunal of 2nd Magawu District Municipality, to consider the following action on immovable property:

1. Description of Property: Remainder Plot 301
2. Locality: 15km north of Kakamas
3. Size: 5m wide
4. Applicant: Tolombr Borendy (Edms) Bpk
5. Registered Owner: Tolombr Borendy (Edms) Bpk
6. Present Land Use: Agriculture
7. Proposed Utilization: Access Road
8. Purpose of Application: To register a servitude for the right of way (Zm) over Remainder Plot 301 to enable access for Plot 199

Full particulars are obtainable from the office of the Municipal Manager (Kennisgegewe) during normal office hours (08:00-18:00) and/or upon request from the applicant, if any, must be lodged in writing to the Municipal Manager on or before 21 July 2017. Anybody who wish to comment/object who cannot write can, during office hours on or before 21 July 2017 report to Mr V McPherson where a person's objection/comment will be put into writing.

JG LATEGAN ACTING MUNICIPAL MANAGER

MUNISIPALITEIT KAI IGARIB
KENNISGEWING NR. K14/2017
DORPAAANLEGGESKEMA: VOORGESTELDE REGISTRASIE VAN SERWITUIT OOR RESTANT PLOT 211, KAKAMAS NOORD BINNE DIE JURISDIKSIE VAN KAI IGARIB MUNISIPALITEIT

Kennis gegee hiermee dat die Bestuurskantoor van die 2^{de} Magawu Distrikmunisipaliteit van voorneme is om die volgende aksie met betrekking tot onroerende eiendom binne die Kai IGARIB Munisipaliteit te onderneem: die registrasie van die voorgestelde registrasie van die Serwituut oor Restant Plot 211, Kakamas Noord binne die Jurisdiksie van Kai IGARIB Munisipaliteit.

1. Beskrywing van onroerende goed: Restant 211, Kakamas Noord
2. Ligging: 15m noord van Kakamas
3. Grootte: 5m wyd
4. Applicant: S A Trust (Edms) Bpk
5. Gereguleerde Eienaar: S A Trust
6. Huidse Grondgebruik: landbou
7. Voorgestelde grondgebruik: landbou
8. Doel van aansoek: Om toegang te verkry tot die Reg van Weg oor Restant Plot 211 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik.

Nadien besondere is verligbaar by die kantoor van die Munisipale Bestuurder (Kennisgegewe) gedurende normale kantoorure (08:00-18:00) en/of anderszins op versoek van die belanghebbende, indien nodig, moet daar skriftelik by die Munisipale Bestuurder ingesien word, aan hom voor of op 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik. Persone wat kommentaar beswaar wil aantekien moet hulle 14 Julie 2017 te bereik.

JG LATEGAN WAARNEMENDE MUNISIPALE BESTUURDER

KAI IGARIB MUNICIPALITY
NOTICE: NO. K14/2017
TOWNPLANNING SCHEME: PROPOSED REGISTRATION OF SERVICE OVER REMAINDER PLOT 211, KAKAMAS NORTH WITHIN THE JURISDICTION OF KAI IGARIB MUNICIPALITY

Notice is given herewith in terms of the provisions of the Spatial Planning and Land Use Management Act (Act 16 of 2013) and the town planning scheme regulations for Kai IGARIB Municipality, that it is the intention of the Joint Planning Tribunal of 2nd Magawu District Municipality, to consider the following action on immovable property:

1. Description of Property: Remainder Plot 211
2. Locality: 15km north of Kakamas
3. Size: 5m wide
4. Applicant: S A Trust
5. Registered Owner: S A Trust
6. Present Land Use: Agriculture
7. Proposed Utilization: Pipeline and service road
8. Purpose of Application: To register a servitude for the establishment of a service road and water pipeline (Zm) over Remainder Plot 211 as well as a servitude area measuring 15m x 15m

Full particulars are obtainable from the office of the Municipal Manager (Kennisgegewe) during normal office hours (08:00-18:00) and/or upon request from the applicant, if any, must be lodged in writing to the Municipal Manager on or before 21 July 2017. Anybody who wish to comment/object who cannot write can, during office hours on or before 21 July 2017 report to Mr V McPherson where a person's objection/comment will be put into writing.

JG LATEGAN ACTING MUNICIPAL MANAGER

PUBLIC PARTICIPATION PROCESS/PUBLIEKE DEELNAME PROSES
Agricultural Areas, Pipelines and Associated Infrastructure on Farm 1726, Renosterkop, Farm 1290 and Farm 1537, Augrabies, Northern Cape
DENC Ref: DENC/Ref: NO/EA/0627/MK/KAU/JS/17017

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, and the Environmental Impact Assessment Regulations, 2014 (as amended on 7 April 2017), including the National Water Act, 1998 (Act No. 36 of 1998)

English:
The proposed project is for the proposed construction of Agricultural areas, pipelines and associated infrastructure on Farm 1726, Renosterkop, Farm 1290 and Farm 1537, Augrabies. The subject property is currently zoned Agriculture. More information of the development will be available from the EAP as per the details provided below. This advertisement serves as notification of the availability of the Draft Environmental Impact Assessment Report (dEIR) and Draft Environmental Management Programme (dEMP), including the Water Use License Application (WULA), which can be accessed from the website, as indicated below.

Afrikaans:
Die voorgestelde projek is vir die konstruksie van landbou ontwikkelings areas, pyplyne en geassosieerde infrastruktuur op Plaas 1726, Renosterkop, Plaas 1290 en Plaas 1537, Augrabies. Die betrokke eiendomme is tans Landbou gesoneer. Meer inligting oor die ontwikkeling sal beskikbaar gestel word deur die OBP, soos per die onderstaande besonderhede. Die advertensie dien as kennisgewing van die beskikbaarheid van die konsep Omgewingsimpakassesserings verslag, asook die konsep Omgewingsbestuursprogram, insluitend die Watergebruiksinsensie aansoek. Die verslag kan bekom word vanaf die webtuiste, soos onderaan aangedui.

The public participation period to provide comments on the draft EIR is from 30 June 2017 until 1 August 2017.

As per the activated listed activities below the proposed development initiated a Scoping/EIA process. The following are applicable under the NEMA 2014 Regulations, as amended in 2017:

Listing Notice 1 No 327, Activity 9, 12, 19
Listing Notice 2 No 325, Activity 15
Listing Notice 3 No 324, Activity 12, 14

In terms of the WULA, Sections 21(a), (c) and (j) of the National Water Act are applicable.

Details of EIA/OBP:
EIA/OBP
Project: Renosterkop Professional Services
Environmental Assessment Practitioner and Water Use License Consultants
P O Box 1028, Wellington 768
Cell 083 984 0022 Fax 0662 701 010
Email: renan@denca.com

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information, interest in the matter and comment to the EAP before 17:00 on 1 August 2017. If you have already registered you do not need to re-register. On 1 August 2017 a public meeting will be held at the project site. The public meeting will be held at the project site. The public meeting will be held at the project site. The public meeting will be held at the project site.

11.1.3 Notice Boards

11.1.3.1 Text for the site notice

PUBLIC PARTICIPATION PROCESS/PUBLIEKE DEELNAME PROSES

PUBLIC PARTICIPATION PROCESS/PUBLIEKE DEELNAME PROSES

Agricultural Areas, Pipelines and Associated Infrastructure on Farm 1726, Renosterkop, Farm 1290 and Farm 1537, Augrabies, Northern Cape

DENC Ref: NC/EIA,06/ZFM/KAI/AUG1/2017

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, and the Environmental Impact Assessment Regulations, 2014 (as amended on 7 April 2017); including the National Water Act, 1998 (Act No. 36 of 1998) as amended, and the "Regulations Regarding the Procedural Requirements for Water Use Licence Applications and Appeals", dated 2017.

English:

The proposed project is for the proposed construction of Agricultural areas, pipelines and associated infrastructure on Farm 1726, Renosterkop, Farm 1290 and Farm 1537, Augrabies. The subject property is currently zoned Agriculture. More information of the development will be available from the EAP as per the details provided below. This advertisement serves as notification of the availability of the Draft Environmental Impact Assessment Report (dEIR) and Draft Environmental Management Programme (dEMPr), including the Water Use License Application (WULA), which can be accessed from the website, as indicated below.

Afrikaans:

Die voorgestelde projek is vir die konstruksie van landbou ontwikkelings areas, pyplyne en geassosieerde infrastruktuur op Plaas 1726, Renosterkop, Plaas 1290 en Plaas 1537, Augrabies. Die betrokke eiendom is tans Landbou gesoneer. Meer inligting oor die ontwikkeling sal beskikbaar gestel word deur die OBP, soos per die onderstaande besonderhede. Die advertensie dien as kennisgewing van die beskikbaarheid van die konsep Omgewingsimpakassesserings verslag, asook die konsep Omgewingsbestuursprogram, insluitend die Watergebruikslisensieaansoek. Die verslag kan bekom word vanaf die webtuiste, soos onderaan aangedui.

The public participation period to provide comments on the draft EIR is from 30 June 2017 until 01 Augustus 2017.

As per the activated listed activities below the proposed development initiated a Scoping/EIA process. The following are applicable under the NEMA 2014 Regulations, as amended in 2017:

| | |
|----------------------------------------------|----------------------------------------|
| Listing Notice 1: No 327, Activity 9, 12, 19 | Listing Notice 2: No. 325, Activity 15 |
| Listing Notice 3: No 324; Activity 12, 14 | |

In terms of the WULA, Sections 21 (a), (c) and (i) of the National Water Act are applicable.

Details of EAP/OBP

Elanie Kühn

Pieter Badenhorst Professional Services

Environmental Assessment Practitioner and Water Use License Consultants

P O Box 1058, Wellington 7654

Cell: 076 584 0822; Fax: 0866721916;

E-mail: elaniem@iafrica.com

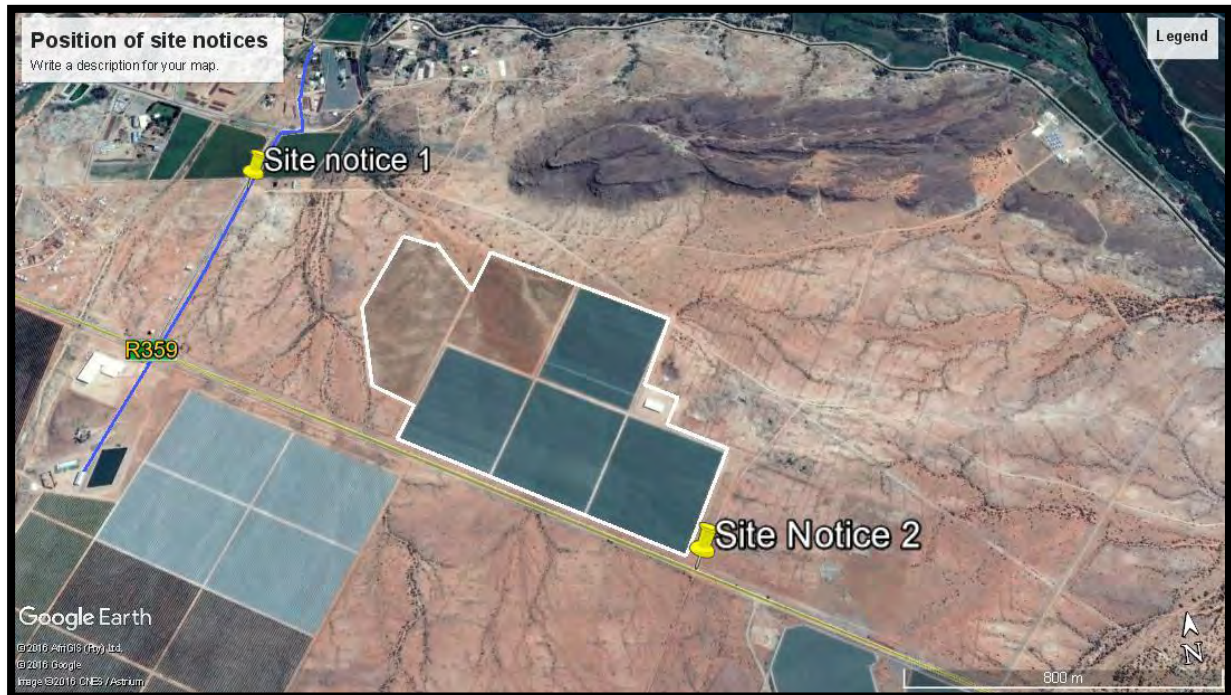
Website: www.pbpscon.co.za

In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information, interest in the matter and comment to the EAP before 17:00 on 01 August 2017. If you have already registered you do not need to re-register.

Om te verseker dat u geïdentifiseer is as 'n belanghebbende en geïmpakteerde party, stuur asseblief u naam, kontakbesonderhede, gekose metode van korrespondensie, belangstelling en kommentaar in die saak aan die OBP, voor 17:00 op 01 Augustus 2017.

As u alreeds geregistreer het hoef u nie weer te registreer nie.

11.1.3.2 Proof of Notice Boards for EIR



Position of site notices



Site Notice 2



Site Notice 1

11.1.4 Proof of notices

11.1.4.1 Proof of notices for dEIR

Erf 1726 (Application Property)
Erf 1288, 1279, 1290, 1537, 2092
Burger Du Plessis Familie Trust, Jan du Plessis
P. O. Box 45
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551896ZA
A BOOK COPY

Erf 1280
Flying Falcon Prop 12 Cc,
P. O. Box 21
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551905ZA
A BOOK COPY

Erf 1776, 2382
Itzibitz Pty Ltd,
P. O. Box 813
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228551882ZA
A BOOK COPY

Erf 1772, 2381
Vroeëson Familie Trust, Gerrit Visser
P. O. Box 813
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228551998ZA
A BOOK COPY

Erf 1857
Superlane 124 Pty Ltd, Johan de Kok
P. O. Box 57
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551984ZA
A BOOK COPY

Erf 1858, Erf 2160
Sonvrucht Farming Pty Ltd, Tokka van den
Heever
P. O. Box 182
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551975ZA
A BOOK COPY

Erf 2094
Eternal Flame Inv 104 Pty Ltd, Jan du Plessis
P.O. Box 105
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551967ZA
A BOOK COPY

Erf 2193, 2185
Sonland Boerdery Pty Ltd, Hanno Wiese
P. O. Box 110472, Harrison Park
Kimberley
8300

REGISTERED LETTER
(with a domestic insurance option)
RC228551953ZA
A BOOK COPY

Erf 1177
Kakamas Weiveldeenheid Nommer Een Ltd,
Francois Conradie
P. O. Box 1
Augrabies
8874

REGISTERED LETTER
(with a domestic insurance option)
RC228551940ZA
A BOOK COPY

Erf 2192
P J Dippenaar & Seuns Boerdery Pty Ltd, Paul
Dippenaar
P. O. Box 43
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228552052ZA
A BOOK COPY

PBPS
P.O.Box 1058
WELLINGTON
7654

10

Book copy



Oseiland dEIR to I&APs

Kai Garib Municipality: Municipal Manager
Lategan, J.G.
Private Bag X6
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228552049ZA
A BOOK COPY

Kai Garib Municipality: Ward Councillor Ward 2
Snyers, A.C.
Private Bag X6
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228552035ZA
A BOOK COPY

Department of Agriculture and Land Reform
October, L
P. O. Box 18
Springbok
8240

REGISTERED LETTER
(with a domestic insurance option)
RC228552106ZA
A BOOK COPY

Department of Water Affairs
Towell, J
Private Bag X5912
Upington
8800

Courier

DENC: NC Compliance Monitoring
Tsimakwane, T
Sasko Building, 90 Long street
Kimberley
8300

Courier

Nature Conservation Unit
Geldenhuys, C

ESKOM: Transmission
Motsisi, L
P. O. Box 1091
Johannesburg
2001

REGISTERED LETTER
(with a domestic insurance option)
RC228552004ZA
A BOOK COPY

Eskom Distribution FOU
De Bruin, R
P. O. Box 356
Bloemfontein
9300

REGISTERED LETTER
(with a domestic insurance option)
RC228552110ZA
A BOOK COPY

Department of Transport: Environmental
Coordinator
Abrahams, N
Private Bag X19, Sanlamhof
Belville
7535

REGISTERED LETTER
(with a domestic insurance option)
RC228552018ZA
A BOOK COPY

Kakamas Water Users Association
Ceo,
Private Bag X4
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
RC228552021ZA
A BOOK COPY

Book copy



PBPS
P.O.Box 1058
WELLINGTON
7654



SENDER'S COPY

SPEED SERVICES COURIERS



TC236566901ZA

DOMESTIC CASH WAYBILL

0860 023 133

Speed Services Couriers Head Office Reg No. 1991/05477/06
 21 Wrench Road, Isando, Private Bag 14, Johannesburg International 1627
 Tel (+2711) 961-3400 Fax 0865 588 053
 A Division of the South African Post Office Ltd

24 - HOUR CUSTOMER HELPLINE

FROM (SENDER) PBPS
 SENDER / COMPANY NAME
 ADDRESS P.O. Box 1058
 Wellington POSTCODE 7654
 CONTACT PERSON E. Kuhn
 PHONE / CELL NO. 076 584 0822

SELECT FROM THE OPTIONS
 COUNTER to DOOR
 *COUNTER Post Office Counter P.O. Box / Private Bag Door Delivery ☒

DO YOU WANT TO TAKE OUT INSURANCE? YES ☒ R
 Sender's Signature: *E. Kuhn* DATE 27/06/17

DIMENSIONS OF PARCEL IN CM'S MASS
 LENGTH: WIDTH: HEIGHT: MASS: KG

*ADVISE RECEIVER TO COLLECT FROM COUNTER
 POST OFFICE NAME POSTAL CODE

Customer/Sender: I was advised on the insurance options:

Signature: *E. Kuhn* Date: 27/06/17

TO (RECEIVER) Dept Water Affairs
 RECEIVER / COMPANY NAME
 ADDRESS Louisvale Road
 Upington POSTCODE 8800
 CONTACT PERSON J. Tonell
 PHONE / CELL NO. 054 338 5800

SAME DAY COURIER ☐ SATURDAY SERVICE ☐ AFTER HOURS ☐ EARLY BIRD ☐

PACKAGE DETAILS
 TYPE OF GOODS CONTENTS DESCRIPTION
 Documents ☒ Wellington
 Non Documents
 Dangerous Goods
 Fragile Goods
 Valuable Goods
 Other

CHARGES FOR THIS SHIPMENT FEE (INCL VAT) TIME DATE
 TELLER'S NAME: PRINTED (FOR OFFICE USE ONLY) SIGNATURE: (FOR OFFICE USE ONLY)

Teller: I have advised the Sender on the insurance options:

Signature: Date:

NB: IMPORTANT INFORMATION: This package/shipment is accepted subject to Speed Services Couriers Terms & Conditions and by tendering this package/shipment, the Sender acknowledges to have read from the back of this page, understood and accepted them.

NB: THE SENDER MAY NOTIFY THE RECEIVER TO EXPECT THE PACKAGE/SHIPMENT

Oseiland DEIR to DWS

CAT No. CON 060014

SENDER'S COPY

SPEED SERVICES COURIERS



TC236566915ZA

Speed Services Couriers Head Office Reg No. 1991/05477/06
 21 Wrench Road, Isando, Private Bag 14, Johannesburg International 1627
 Tel (+2711) 961-3400 Fax 0865 588 053
 A Division of the South African Post Office Ltd

24 - HOUR CUSTOMER HELPLINE

FROM (SENDER) PBPS
 SENDER / COMPANY NAME
 ADDRESS P.O. Box 1058
 Wellington 76 POSTCODE 7654
 CONTACT PERSON E. Kuhn
 PHONE / CELL NO. 076 584 0822

SELECT FROM THE OPTIONS
 COUNTER to DOOR
 *COUNTER Post Office Counter P.O. Box / Private Bag Door Delivery ☒

DO YOU WANT TO TAKE OUT INSURANCE? YES ☒ R
 Sender's Signature: *E. Kuhn* DATE 27/06/17

DIMENSIONS OF PARCEL IN CM'S MASS
 LENGTH: 145- WIDTH: 180- HEIGHT: 23- MASS: 1800g

*ADVISE RECEIVER TO COLLECT FROM COUNTER
 POST OFFICE NAME POSTAL CODE

Customer/Sender: I was advised on the insurance options:

Signature: *E. Kuhn* Date: 26 June 2017

TO (RECEIVER) Dept Environment & Nature
 RECEIVER / COMPANY NAME
 ADDRESS Sasko Building, 90 Long Street
 Kimberley POSTCODE 8300
 CONTACT PERSON T. Tsimakwane
 PHONE / CELL NO. 053 807 7300

SAME DAY COURIER ☐ SATURDAY SERVICE ☐ AFTER HOURS ☐ EARLY BIRD ☐

PACKAGE DETAILS
 TYPE OF GOODS CONTENTS DESCRIPTION
 Documents ☒ Kimberley
 Non Documents
 Dangerous Goods
 Fragile Goods
 Valuable Goods
 Other

CHARGES FOR THIS SHIPMENT FEE (INCL VAT) TIME DATE
 TELLER'S NAME: PRINTED (FOR OFFICE USE ONLY) SIGNATURE: (FOR OFFICE USE ONLY)

Teller: I have advised the Sender on the insurance options:

Signature: Date:

NB: IMPORTANT INFORMATION: This package/shipment is accepted subject to Speed Services Couriers Terms & Conditions and by tendering this package/shipment, the Sender acknowledges to have read from the back of this page, understood and accepted them.

NB: THE SENDER MAY NOTIFY THE RECEIVER TO EXPECT THE PACKAGE/SHIPMENT

Oseiland DEIR to DENC

CAT No. CON 060014

11.1.5 Notices

11.1.5.1 Notices sent to Authorities for dEIR



PIETER BADENHORST PROFESSIONAL SERVICES CC

PO Box 1058
Wellington, 7654

DATE:

28-06-2017

REF:

DENC Ref: NC/EIA/06/ZFM/KAI/AUG1/2017

Dear Interested and Affected Party (Authority)

**PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND
ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP AND FARM
1290 AND FARM 1537**

This letter serves as notification that the draft Environmental Impact Assessment Report (dEIR) and the Water Use License (WULA) are available for comment. Please note this report is part of the official public participation.

Herewith, please find a copy of the dEIR for your consideration and comment. The commenting period is from Friday 30 June 2017 until Tuesday 01 August 2017. Find attached a list of all the authorities to which the document was sent.

The following listed activities are triggered: Listing Notice 1: R982: activity 9, 12, 19; Listing Notice 3: R984: Activity 12 and 14 and Listing Notice 2: R983: Activity 15.

In terms of the WULA, Sections 21 (a), (c) and (i) of the National Water Act are applicable.

Should you have any queries please do not hesitate to contact me.

Yours sincerely

Elanie Kühn
Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
P. O. Box 1058
Wellington
7654
Tel: 076 584 0822
Email: elaniem@iafrica.com
Website: www.pbpscon.co.za

Attached: 1 x hard copy of dEIR

Authority list

| Erf no | Surname | Initials | Representing | Tel | Fax | email | Post Box | Town | Code | Reg |
|--------|------------|----------|-------------------------------------------------------|-------------------------------|--------------|-----------------------------------------------------------------------------|--------------------------------|--------------|------|-----|
| 1 | Lategan | J.G. | Kai Garib Municipality: Municipal Manager | 054 431 6328 | 054 461 6401 | mm@kaigarib.gov.za | Private Bag X6 | Kakamas | 8870 | L |
| 2 | Snyers | A.C. | Kai Garib Municipality: Ward Councillor Ward 2 | 054 431 6328 | 054 461 6401 | mm@kaigarib.gov.za | Private Bag X6 | Kakamas | 8870 | L |
| 3 | October | L | Department of Agriculture and Land Reform | 054 461 6700 | 054 461 6401 | | P. O. Box 18 | Springbok | 8240 | L |
| 4 | Towell | J | Department of Water Affairs | 082 887 8866/ 054 338 5819 | | TowellJ@dws.gov.za | Private Bag X5912 | Uptington | 8800 | L |
| 5 | Tsimakwane | T | DENC: NC Compliance Monitoring | 0538077300 | 0538077328 | tsimakwane@ncpg.gov.za | Sasko Building, 90 Long street | Kimberley | 8300 | L |
| 6 | Goldenhuis | C | Nature Conservation Unit | 027 718 9906 | 027 718 9907 | The unit indicated comments will be requested by the case officer. | | | | L |
| 7 | Motsisi | L | ESKOM: Transmission | 011 8005734 | | MotsisiL@eskom.co.za | P. O. Box 1091 | Johannesburg | 2001 | L |
| 8 | De Bruin | R | Eskom Distribution FOU | 0514042467/ 0825769184 | | dBruinER@eskom.co.za | P. O. Box 356 | Bloemfontein | 9300 | L |
| 9 | Abrahams | N | Department of Transport: Environmental Coordinator | 021 957 4602 | 021 910 1699 | Abrahamsn@tra.co.za | Private Bag X19, Sanlamhof | Belville | 7535 | L |
| 10 | Ceo | | Kakamas Water Users Association | 054 431 0725/6 | 054 431 0348 | kakamaswgv@tsal.co.za | Private Bag X4 | Kakamas | 8870 | L |

11.1.5.2 Notices sent to I&APs for dEIR



PIETER BADENHORST PROFESSIONAL SERVICES CC

**PO Box 1058
Wellington, 7654**

DATE:
28-06-2017

REF:
DENC Ref: NC/EIA/06/ZFM/KAI/AUG1/2017

Dear Interested and Affected Party (Landowner and occupants)

**PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND
ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP AND FARM
1290 AND FARM 1537**

This letter serves as notification that the draft Environmental Impact Assessment Report (dEIR) and the Water Use License Application (WULA) are available for comment. Please note this report is part of the official public participation.

Herewith, please find a copy of the dEIR for your consideration and comment. The commenting period is from Friday 30 June 2017 until Tuesday 01 August 2017.

An electronic copy of the dEIR is also available on the website www.pbpscon.co.za (Projects, Downloads, Environmental Impact Assessment Reports).

The following listed activities are triggered: Listing Notice 1: R982: activity 9, 12, 19; Listing Notice 3: R984: Activity 12 and 14 and Listing Notice 2: R983: Activity 15.

In terms of the WULA, Sections 21 (a), (c) and (i) of the National Water Act are applicable.

Should you have any queries please do not hesitate to contact me.

Yours sincerely

Elanie Kühn
Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
P. O. Box 1058
Wellington
7654
Tel: 076 584 0822
Email: elaniem@iafrica.com
Website: www.pbpscon.co.za

Attached: 1 x Executive Summary

Tel: 021 8737228 Fax: 0866721916 Cell: 0827763422 email: pbps@iafrica.com

CC Owner: P Badenhorst CC Nr: 97/33840/23

The Executive Summary text the same as the Executive Summary of this document.

11.1.6 Comments received from DENC

11.1.6.1 Comments on SR

DENC



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

90 Long Street
Private Bag X6102
Kimberley
8300

Tel: 053-807 7300
Fax: 053-807 7328

Enquiries
Dipatliso
Imibuzo
Navrae

M.O Riba

Date
Letha
Umhla
Datum

20 April 2017

Reference
Tshupelo
Isalathiso
Verwysing

Elanie Kuhn
P.O. Box 1058
Wellington
7654

PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726 RENOSTERKOP, FARM 1290 AND FARM 1537 AUGRABIES, KAI! GARIB LOCAL MUNICIPALITY: ZF MGCWU DISTRICT.

Dear Ms Kuhn

The **Draft Scoping report** which was submitted by you in respect of the above mentioned application and received by the Department on the 16 March 2017 has been reviewed by the Department and the Department is awaiting the **Final Scoping report**.

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorization being granted by the Department.

Yours faithfully

Mr. M.O. Riba

Environmental Officer (ZF Mgcawu): Impact Management
Date 20-04-2017

11.1.6.2 Acceptance of FSR by DENC



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

90 Long Street
Private Bag X6102
Kimberley
8300

Tel: 053-807 7300
Fax: 053-807 7328

Enquiries
Dipatlisiso
Imibuzo
Navrae

M.O Riba

Date
Letlha
Umhla
Datum

09 June 2017

Reference
Tshupelo
Isalethiso
Verwysing

Elanie Kuhn
P.O. Box 1058
Wellington
7654

PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726 RENOSTERKOP, FARM 1290 AND FARM 1537 AUGRABIES, KAI! GARIB LOCAL MUNICIPALITY: ZF MGCAWU DISTRICT.

Dear Ms Kuhn

The **Final Scoping report** which was submitted by you in respect of the above mentioned application and received by the Department on the 20 April 2017 has been reviewed by the Department and you may proceed with the undertaking of the full Environmental Impact Assessment.

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorization being granted by the Department.

Yours faithfully

Mr. M.O. Riba

Environmental Officer (ZF Mgcawu): Impact Management

Date: 09 June 2017

11.1.7 Comments and responses sheet

| COMMENTS ON SR | | | | |
|----------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date | Comments from | Comments received | Response from | Response received |
| 20 April 2017 | DENC – Ordain Riba | The Draft Scoping report, which was submitted by you in respect of the above-mentioned application and received by the Department on the 16 March 2017, has been reviewed by the Department and the Department is awaiting the Final Scoping report. Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorization being granted by the Department. | PBPS | Noted, this report is the final Scoping Report for consideration. |
| 3/5/2017 | Department of Water and Sanitation – from ML Mohale | <p>The Department of Water & Sanitation (DWS) hereby acknowledges receipt of the Draft scoping report for the proposed construction of Agricultural Areas, Pipelines and associated Infrastructure on farm 1726, Renosterkop, farm 1290 and farm 1537, Augrabies, Northern Cape Province.</p> <p>The Department takes note of the proposed activity and therefore provides the following comments:</p> <ul style="list-style-type: none"> ➤ Should the pipelines cross any drainage lines, the applicant should apply for authorisation in terms of section 40 of the National Water Act, (Act 36 Of 1998). ➤ Please note that the agreement between the applicant and the Local Municipality for the emptying of chemical toilets should be submitted to this Department. ➤ As indicated on page Roman figure (v) that water will be sourced from the water resources, please note that an application for a water use authorisation in terms of section 40 of the National Water Act, (Act 36 1998) needs to be submitted to this Department. | PBPS | <p>An application for a license in terms of the National Water Act, 1998 is being made by the developer, Oseiland Boerderye for the transfer water rights, taking of water from the Orange River, in addition to the application to impede the flow of water and to alter the beds, banks and course of the watercourses on site.</p> <p>Please refer to Appendix 11.3.4 for a copy of the WULA submitted to address Section 21(a); 21(c) and 21(i).</p> <p>It is noted that the agreement between the Applicant and the Local Municipality for the emptying of the chemical toilets should be submitted to DWS.</p> |
| 2/5/2017 | SAHRA - From Natasha Higgitt | | PBPS | <p>Please note that the area to be cultivated has been reduced to 67.68ha due to the availability of water for irrigation.</p> <p>Please refer to the AIA attached at</p> |

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| | | <p style="text-align: center;">Interim Comment</p> <p style="text-align: center;">In terms of Section 38(2) of the National Heritage Resources Act (Act 25 of 1999)</p> <p><u>Attention:</u> Pieter Badenhorst Professional Services</p> <p>Proposed construction of 72ha of vineyards and orchards on Farm 1726, Renosterkop, Augrabies and proposed construction of pipelines, pumpstation and intake from the Orange River on Farm 1537 and Farm 1290, Augrabies, Northern Cape.</p> <p>Pieter Badenhorst Professional Services CC has been appointed Oseiland Eiendomme (PTY) Ltd/Burger Du Plessis Familie Trust to conduct a Scoping and Environmental Impact Assessment (EIA) Process for the proposed expansion of agricultural activities, pipeline and associated infrastructure on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies, Northern Cape. A draft Scoping Report has been submitted in term of the National Environmental Management Act, 1998 (NEMA) and the NEMA EIA Regulations 2014. The proposed development will comprise 77 ha of agricultural fields, 3 km pipeline, pumping station, and pipeline crossings. ACRM was appointed to conduct the Archaeological Impact Assessment (AIA) for the proposed project.</p> <p><i>Kaplan, J. 2016. Archaeological Impact Assessment: Proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies, Northern Cape.</i></p> <p>It is noted that a letter will be written by qualified palaeontologist Dr John Almond for the project.</p> <p>A few Later Stone Age (LSA) and some Middle Stone Age (MSA) lithics were identified as single, isolated finds within the proposed development area; however they were rated as heritage resources of low cultural significance. A grave was identified at the base of the Renosterkop Peak (within Block 4) and was rated as a heritage resource of high local significance. It is further noted that one section of the proposed development was not surveyed i.e. Block 1, however the overall landscape is disturbed and it is not likely to be a sensitive archaeological landscape.</p> <p>Recommendations provided in the report include the following:</p> <ul style="list-style-type: none"> • No mitigation is required prior to development activities commencing; • A buffer of 10 m must be established around the recorded grave. Alternatively, the grave must be fenced off prior to development commencing; | | <p>Appendix 11.3.2, and the Letter from Dr John Almond is also attached at Appendix 11.3.2, which states that: “In view of the small development footprint and the very low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned.”</p> <p>The recommendations contained in the AIA as included in the Interim comment from SAHRA have been included in the EMPr attached at Appendix 12</p> |
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|-------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> • If any other unmarked human remains, or ostrich eggshell caches, for example are exposed or uncovered during preparation of lands for cultivation, these must be immediately be report to the archaeologist (Jonathan Kaplan 082 321 0172) or SAHRA (Natasha Higgitt - 021 462 4509). Burials etc. must not be removed or disturbed until inspected by the archaeologist; • The above recommendation must be incorporated into the Environmental Management Plan (EMP) for the proposed development. <p>Interim Comment</p> <p>Further comments will be issued upon receipt of the letter to be written by Dr John Almond. Additionally, the draft EIA and all appendices must be submitted before further comments can be issued. The draft EIA must be submitted to SAHRA via the SAHRIS Case on day 1 of the Public Review period.</p> <p>Should you have any further queries, please contact the designated official using the case number quoted above in the case header.</p> | | |
| ESKOM | March 2017 | Refer to Section 13.3 below for the email trail regarding Correspondence with ESKOM for application for additional capacity for the pump station. | PBPS | The Application Form is to be completed by the Applicant subject to the authorisation of the proposed development. |

| COMMENTS ON DRAFT EIR | | | | |
|-----------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date | Comments from | Comments received | Response from | Response received |
| 31-07-2017 | SAHRA – Natasha Higgitt | <p>The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed development and accepts the recommendations of the heritage specialists. The recommendations of the heritage specialists and the following conditions must be included in the EMPr:</p> <ul style="list-style-type: none"> • A 30 m no-go buffer must be maintained around the identified grave. It must be fenced with an access gate and a Heritage Management Plan (HMP) must be developed to be implemented as part of the EMPr. The HMP must be developed via the consulting process in terms of section 36 of the National Heritage Resources Act, Act No 25 of 1999 (NHRA) and the Chapter XI of the NHRA Regulations. The HMP must include monitoring and maintenance protocols, as well as access arrangements; | ACRM – Dr Jonathan Kaplan | <p>Please note the following:</p> <ol style="list-style-type: none"> 1. The pre-colonial grave (Site 891) is located ± 12m outside the northern boundary of Block 4. and will not be directly impacted by the proposed vineyard and orchard development (Figure 1). 2. The applicant (Oseiland Eiendomme (Pty) Ltd) agrees to maintain a 30m buffer around the grave with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. We do not agree that an access gate is required. A small sign will be erected indicating the presence of a burial site. |

| | | | | |
|------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes; If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file. | | <p>3. We do not believe a Heritage Management Plan is required, as the grave will be located well outside the boundary of the development footprint, and the above proposed management actions will ensure its future protection</p> <p>Noted and accepted</p> <p>Included as part of the Recommendations and EMP.</p> <p>Will be sent as soon as is received.</p> |
| 12-07-2017 | Kai! Garieb Municipality – J.G. Lategan | This office has no objections or comments on the abovementioned proposal on condition that all regulations and terms of the Spatial Planning and Land Management Act (Act 16 of 2013) as well as the Town Planning Scheme Regulations for Kai!Garib Municipality are comply with. | PBPS | Noted and accepted. |

11.1.8 Comments received

11.1.8.1 Comments received on the Draft Scoping Report



water & sanitation
Department
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Northern Cape Region
Lower Orange Water Management Area
Private Bag X5812, Upington, 8800
Tel: (054) 338-5800, Fax: (054) 334-0205, www.dws.gov.za

F 054 334 0205

E Mohtal@dw.gov.za

M. MOHALE

054 338 5832

By Registered Mail

Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
Po Box 1058
Wellington
7654

Attention: Elanie Kuhn

DRAFT SCOPING REPORT FOR THE PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP, FARM 1290 AND FARM 1537, AUGRABIES, NORTHERN CAPE PROVINCE.

The Department of Water & Sanitation (DWS) hereby acknowledges receipt of the Draft scoping report for the proposed construction of Agricultural Areas, Pipelines and associated Infrastructure on farm 1726, Renosterkop, farm 1290 and farm 1537, Augrabies, Northern Cape Province.

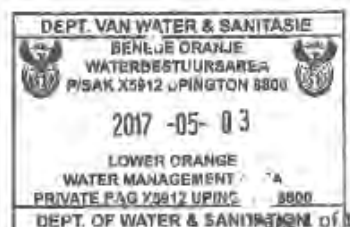
The Department takes note of the proposed activity and therefore provides the following comments:

- Should the pipelines cross any drainage lines, the applicant should apply for authorisation in terms of section 40 of the National Water Act, (Act 36 of 1998).
- Please note that the agreement between the applicant and the Local Municipality for the emptying of chemical toilets should be submitted to this Department.
- As indicated on page Roman figure (v) that water will be sourced from the water resources, please note that an application for a water use authorisation in terms of section 40 of the National Water Act, (Act 36 1998) needs to be submitted to this Department.

Please feel free to contact this department, should there be any enquiries.

Yours sincerely,

CEO (ACTING): ORANGE PROTO-CMA
DATE: 03/05/2017



Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4503 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 10860

Date: Tuesday May 02, 2017
Page No: 1

Interim Comment

In terms of Section 38(2) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Pieter Badenhorst Professional Services

Proposed construction of 72ha of vineyards and orchards on Farm 1726, Renosterkop, Augrabies and proposed construction of pipelines, pumpstation and intake from the Orange River on Farm 1537 and Farm 1290, Augrabies, Northern Cape.

Pieter Badenhorst Professional Services CC has been appointed Oseiland Eiendom (PTY) Ltd/Burger Du Plessis Familie Trust to conduct a Scoping and Environmental Impact Assessment (EIA) Process for the proposed expansion of agricultural activities, pipeline and associated infrastructure on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies, Northern Cape. A draft Scoping Report has been submitted in term of the National Environmental Management Act, 1998 (NEMA) and the NEMA EIA Regulations 2014. The proposed development will comprise 77 ha of agricultural fields, 3 km pipeline, pumping station, and pipeline crossings. ACRM was appointed to conduct the Archaeological Impact Assessment (AIA) for the proposed project.

Kaplan, J. 2016. Archaeological Impact Assessment: Proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies, Northern Cape.

It is noted that a letter will be written by qualified palaeontologist Dr John Almond for the project.

A few Later Stone Age (LSA) and some Middle Stone Age (MSA) lithics were identified as single, isolated finds within the proposed development area; however they were rated as heritage resources of low cultural significance. A grave was identified at the base of the Renosterkop Peak (within Block 4) and was rated as a heritage resource of high local significance. It is further noted that one section of the proposed development was not surveyed i.e. Block 1, however the overall landscape is disturbed and it is not likely to be a sensitive archaeological landscape.

Recommendations provided in the report include the following:

- No mitigation is required prior to development activities commencing;
- A buffer of 10 m must be established around the recorded grave. Alternatively, the grave must be fenced off prior to development commencing;

Out Bat



Abstract

www.kelco.co.jp

Date: Tuesday May 02, 2017
Page No: 2

- If any other unmarked human remains, or ostrich eggshell caches, for example are exposed or uncovered during preparation of lands for cultivation, these must be immediately be report to the archaeologist (Jonathan Kaplan 082 321 0172) or SAHRA (Natasha Higgitt - 021 462 4509). Burials etc. must not be removed or disturbed until inspected by the archaeologist;
- The above recommendation must be incorporated into the Environmental Management Plan (EMP) for the proposed development.

Further comments will be issued upon receipt of the letter to be written by Dr John Almond. Additionally, the draft EIA and all appendices must be submitted before further comments can be issued. The draft EIA must be submitted to SAHRA via the SAHRIS Case on day 1 of the Public Review period.

Yours faithfully

Natasha Higgit
Heritage Officer
South African Heritage Resources Agency

John Gribble
Manager: Maritime and Underwater Cultural Heritage Unit / Acting Manager: Archaeology, Palaeontology and
Meteorites Unit
South African Heritage Resources Agency

Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

Our Ref:



an agency of the
Department of Arts and Culture

Tel: +27 21 462 4502 (A) / +27 21 462 4509 (B) / info@sahra.org.za
South African Heritage Resources Agency | 11 Marston Road (Upper Town)
P.O. Box 4657 | Cape Town | 8001
www.sahra.org.za

Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 10860

Date: Tuesday May 02, 2017
Page No: 3

ADMIN:
Direct URL to case: <http://www.sahra.org.za/node/396991>
(DENC, Ref:)

11.1.8.2 Comments received on the Draft Environmental Impact Report

Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4500 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 10860

Date: Monday July 31, 2017
Page No: 1

Final Comment

In terms of Section 38(4) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Pieter Badenhorst Professional Services

Proposed construction of 72ha of vineyards and orchards on Farm 1726, Renosterkop, Augrabies and proposed construction of pipelines, pumpstation and intake from the Orange River on Farm 1537 and Farm 1290, Augrabies, Northern Cape.

Pieter Badenhorst Professional Services CC has been appointed Oseiland Eiendomme (PTY) Ltd/Burger Du Plessis Familie Trust to conduct a Scoping and Environmental Impact Assessment (EIA) Process for the proposed expansion of agricultural activities, pipeline and associated infrastructure on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies, Northern Cape. A draft EIA has been submitted in term of the National Environmental Management Act, 1998 (NEMA) and the NEMA EIA Regulations 2014. The proposed development will comprise 77 ha of agricultural fields, 3 km pipeline, pumping station, and pipeline crossings. ACRM was appointed to conduct the Archaeological Impact Assessment (AIA) for the proposed project.

Kaplan, J. 2016. Archaeological Impact Assessment: Proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies, Northern Cape.

It is noted that a letter will be written by qualified palaeontologist Dr John Almond for the project.

A few Later Stone Age (LSA) and some Middle Stone Age (MSA) lithics were identified as single, isolated finds within the proposed development area; however they were rated as heritage resources of low cultural significance. A grave was identified at the base of the Renosterkop Peak (within Block 4) and was rated as a heritage resource of high local significance. It is further noted that one section of the proposed development was not surveyed i.e. Block 1, however the overall landscape is disturbed and it is not likely to be a sensitive archaeological landscape.

Recommendations provided in the report include the following:

- No mitigation is required prior to development activities commencing;
- A buffer of 10 m must be established around the recorded grave. Alternatively, the grave must be fenced off prior to development commencing;

Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 10860

Date: Monday July 31, 2017
Page No: 2

- If any other unmarked human remains, or ostrich eggshell caches, for example are exposed or uncovered during preparation of lands for cultivation, these must be immediately be report to the archaeologist (Jonathan Kaplan 082 321 0172) or SAHRA (Natasha Higgitt - 021 462 4509). Burials etc. must not be removed or disturbed until inspected by the archaeologist;
- The above recommendation must be incorporated into the Environmental Management Plan (EMP) for the proposed development.

In an Interim Comment issued on 02/05/2017, SAHRA requested that the letter written by Dr John Almond be submitted for review.

Almond, J. 2017. Palaeontological Assessment: Recommend Exemption from further Palaeontological Studies. Proposed new vineyard development on Farm 1726 Renosterkop, Farm 1290 & Farm 1537 Augrabies, Northern Cape.

*It must be noted that the letter from Dr John Almond has been included as part of the draft Environmental Impact Report (DEIR) page 128.

The proposed development is underlain by Precambrian igneous and metamorphic bedrocks (Augrabies and Riemvasmaak Gneisses of the Namaqua-Natal Province) that do not contain fossils. These bedrocks are overlain by Quaternary to Recent alluvium, aeolian sands and gravels. The development will not pose a threat to significant palaeontological resources.

Recommendations provided in the report include that if substantial fossil remains are encountered at surface or exposed during construction, the Environmental Control Officer (ECO) should safeguard these, preferably in situ. They should then alert the relevant provincial heritage management authority as soon as possible i.e. SAHRA. This is to ensure that appropriate action can be taken by a professional palaeontologist at the developer's expense.

Final Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed development and accepts the recommendations of the heritage specialists. The recommendations of the heritage specialists and the following conditions must be included in the EMP:

- A 30 m no-go buffer must be maintained around the identified grave. It must be fenced with an access gate and a Heritage Management Plan (HMP) must be developed to be implemented as part of the EMP. The HMP must be developed via the consulting process in terms of section 36 of the National

Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 10860

Date: Monday July 31, 2017
Page No: 3

- Heritage Resources Act, Act No 25 of 1999 (NHRA) and the Chapter XI of the NHRA Regulations. The HMP must include monitoring and maintenance protocols, as well as access arrangements;
- The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes;
 - If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and
 - If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Natasha Higgitt
Heritage Officer
South African Heritage Resources Agency

John Gribble
Manager: Maritime and Underwater Cultural Heritage Unit / Acting Manager: Archaeology, Palaeontology and Meteorites Unit

Proposed construction of agricultural areas on Farm 1726, Farm 1290 and Farm 1537, Augrabies

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Date: Monday July 31, 2017
Page No: 4

South African Heritage Resources Agency

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/396991>
(DENC, Ref:)

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
3. SAHRA reserves the right to request additional information as required.

Munisipaliteit Kai !Garib Municipality

Munisipale Gebou
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12 July 2017

Ref. No. 14.5.1.6

Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
P.O. Box 1058
WELLINGTON
7654

PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP AND FARM 1290 AND FARM 1537

Your letter DENC Ref: NC/EIA/06/ZFM/KAI!/AUG1/2017 dated 28 June 2017 refer.

This office has no objections or comments on the abovementioned proposal on condition that all regulations and terms of the Spatial Planning and Land Management Act (Act 16 of 2013) as well as the Town Planning Scheme Regulations for Kai !Garib Municipality are comply with.

Please also make sure that the proposal will not be detrimental to any other property or landowner.

Yours sincerely


JG LATEGAN
ACTING MUNICIPAL MANAGER

11.1.8.3 Response to comments received on the Draft Environmental Impact Report



Agency for Cultural Resource Management
Specialists in Archaeological Studies and Heritage Resource Management

12 August, 2017

Att: Ms Natasha Higgitt
SAHRA
PO Box 4637
Cape Town
8001

Dear Ms Higgitt,

**PROPOSED CONSTRUCTION OF 72HA OF VINEYARDS AND ORCHARDS ON FARM
1726 RENOSTERKOP, AUGRABIES (SAHRA CASE NO. 10860)**

Your letter dated 31 July, 2017 (Final Comment) refers.

Please note the following:

1. The pre-colonial grave (Site 891) is located 10m outside the northern boundary of Block 4, and will not be directly impacted by the proposed agricultural development (refer to Figure 1). The grave will therefore not be damaged or altered as a result of the proposed activities.
2. The applicant (Oseiland Eiendomme (Pty) Ltd) agrees to maintain a 30m protective buffer around the grave, with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. Fencing will prevent any damage that may occur during the operational phase of the proposed development.
3. We do not agree that an access gate is required. A small sign will be erected indicating the presence of a protected grave site.
4. All of the above will be included in the Environmental Management Plan (EMP) for the proposed development.
5. We further do not believe a Heritage Management Plan is required, as the grave will be located 30m outside the boundary of the development footprint, and the above proposed management actions will ensure its long term protection.

Yours sincerely

Jonathan Kaplan

No. 5 Stuart Road Rondebosch, 7700 Phone/Fax 021-6857589
E-mail: aerm@wcaccess.co.za Mobile: 082 321 0172



Figure 1. Proposed Renosterkop vineyard and orchard development. Location of pre-colonial grave outside Block 4

11.2 Licenses and permits

11.2.1 Heritage comment

11.2.1.1 Comment

The scoping report was uploaded to the SAHRIS website.

Refer to Section 11.1.7 and 11.1.8 above for the Final Comment from SAHRA dated 31 July 2017.

11.3 Baseline studies

11.3.1 Botanical Impact Assessment

Botanical Scoping Assessment for Renosterkop Section, Oseiland Boerdery, Augrabies, Northern Cape Province



Report by Dr David J. McDonald
Bergwind Botanical Surveys & Tours CC.
14A Thomson Road, Claremont, 7708
Tel: 021-671-4056
Fax: 086-517-3806

Report prepared for Pieter Badenhorst Professional Services

November 2016

National Legislation and Regulations governing this report

This is a 'specialist report' and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

Appointment of Specialist

David J. McDonald of Bergwind Botanical Surveys & Tours CC was appointed by Pieter Badenhorst Professional Services on behalf of Oseiland Boerdery, Augrabies, to provide specialist botanical consulting services to inform the application process for future agricultural development at Farm 1726, Renosterkop and Farms 1290 and 1537, Northern Cape Province. The consulting services comprise an assessment of potential impacts on the flora and vegetation in the designated study area due to the proposed agricultural activities.

Details of Specialist

Dr David J. McDonald Pr. Sci. Nat.

Bergwind Botanical Surveys & Tours CC

14A Thomson Road

Claremont

7708

Telephone: 021-671-4056

Mobile: 082-876-4051

Fax: 086-517-3806

e-mail: dave@bergwind.co.za

Professional registration: South African Council for Natural Scientific Professions No. 400094/06

Expertise

Dr David J. McDonald:

- Qualifications: BSc. Hons. (Botany), MSc (Botany) and PhD (Botany)
- Botanical ecologist with over 35 years' experience in the field of Vegetation Science.
- Founded Bergwind Botanical Surveys & Tours CC in 2006
- Has conducted over 300 specialist botanical / ecological studies.
- Has published numerous scientific papers and attended numerous conferences both nationally and internationally (details available on request)

Independence

The views expressed in the document are the objective, independent views of Dr McDonald and the survey was carried out under the aegis of, Bergwind Botanical Surveys and Tours CC. Neither Dr McDonald nor Bergwind Botanical Surveys and Tours CC have any business, personal, financial or other interest in the proposed development apart from fair remuneration for the work performed.

Conditions relating to this report

The content of this report is based on the author's best scientific and professional knowledge as well as available information. Bergwind Botanical Surveys & Tours CC, its staff and appointed associates, reserve the right to modify the report in any way deemed fit should new, relevant or previously unavailable or undisclosed information become known to the author from on-going research or further work in this field, or pertaining to this investigation

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I David Jury McDonald, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2014 (specifically in terms of regulation 13 of GN No. R. 982) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 48 of GN No. R. 982.

Note: The terms of reference must be attached.



Signature of the specialist:

Bergwind Botanical Surveys & Tours CC

30 November 2016

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1. Introduction

Oseiland Boerdery at Augrabies in the Northern Cape Province wishes to develop parts of the farm Renosterkop 1726 for vineyards. This botanical scoping assessment investigates the type, condition and sensitivity of the vegetation on the undeveloped parts of the farm to inform the environmental process in terms of the NEMA Environmental Impact Assessment Regulations (2014).

The assessment takes careful note of the general requirements and recommendations of the Department of Environment and Nature Conservation (Northern Cape) and the Botanical Society of South Africa for proactive assessment of biodiversity of proposed development sites and follows published guidelines for evaluating potential impacts on the natural vegetation in an area earmarked for some form of development (Brownlie 2005). **Particular note was taken of the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009) and Regulations (2011).**

2. Terms of Reference

- Conduct a site visit to determine the condition as well as botanical and ecological sensitivity of the study area at Renosterkop;
- Provide a statement on the vegetation type, condition and ecological sensitivity of the land proposed for agricultural development. Highlight any special or protected plant species or sensitive habitats as well as the ecosystem status and conservation value of the vegetation communities, including the whether the site comprises any critically endangered, endangered, or threatened ecosystem(s) listed in terms of section 52 of the NEMBA;
- Describe the direct, indirect and cumulative botanical impacts (both before and after mitigation) and an assessment of the significance of the impacts (on a nominal scale of neutral, very low, low, medium, and high) by evaluating: (a) magnitude, frequency of occurrence, extent, duration and probability of impacts, (b) the local, regional, national and international significance of predicted impacts, (c) the level of confidence in findings relating to potential impacts, (d) reversibility of potential impacts (i.e. the degree to which the impact can be reversed); and (e) the degree to which the impact may cause irreplaceable loss of resources;
- Give an indication of the degree to which the impacts can be mitigated, a description of the measures to mitigate any impacts, and an indication of whether or not the measures (if implemented) would change the significance of the impact

3. Limitations and Assumptions

The environment was extremely dry at the time of the site visit so many of the herbaceous plants were not in a condition that allowed for positive identification. However, apart from grasses most herbaceous plant species do not make up a significant component of the composition of the plant communities. The indicator species are mainly shrubs or small trees that were easily identified even with the prevailing dry conditions.

4. Study Area

4.1 Locality

The study area is part of the farm Renosterkop 1726, Augrabies. It lies immediately south-east of the town of Augrabies and north-west of Marchand in the Kai Garib Municipality, Northern Cape Province. It lies north of the R64 (MR 359) and south and west of Renosterkop Peak, a prominent inselberg in an otherwise flat landscape, and south of the Orange River (Figures 1—3).



Figure 1. The location of the study at Augrabies in the Northern Cape Province (cream-coloured area).

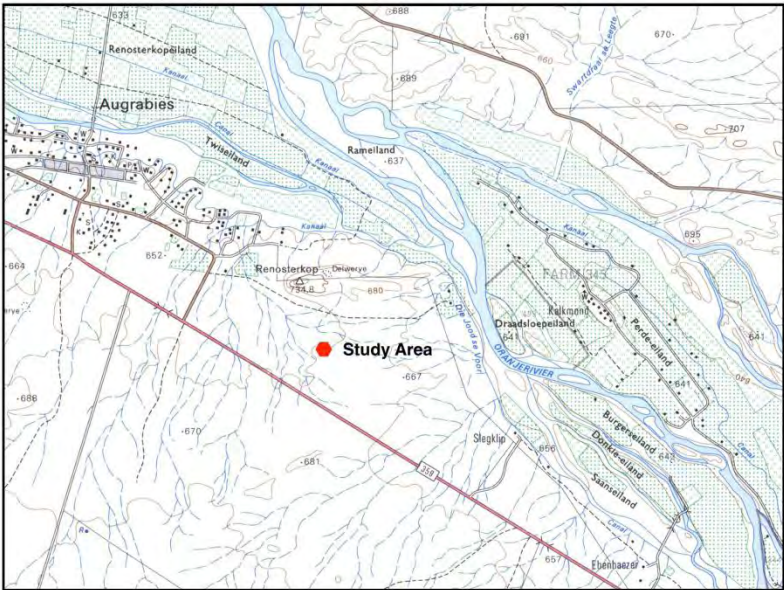


Figure 2. Part of the 1:50 000 topographical map 2820CB Augrabies (Source: National Geo-spatial Information). The red hexagon indicates the location of the study area: south-east of Augrabies town.

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Figure 3. Aerial image (Google Earth™) showing the study area (light blue) at farm Renosterkop 1726 (red boundary). The existing vineyards were excluded from the study.

9

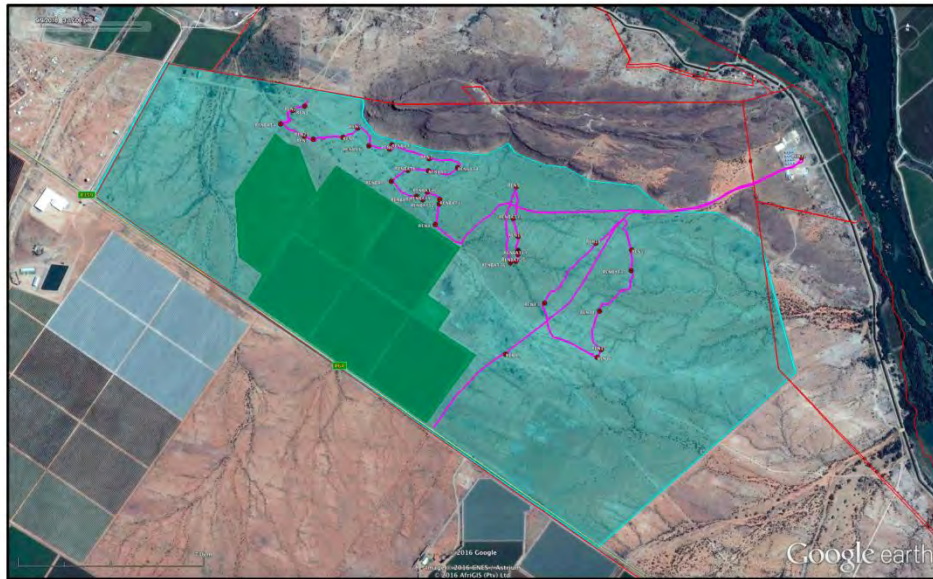


Figure 4. Magnified aerial view (Google Earth TM) of the study area at Renosterkop 1726 showing the survey track followed and the sample waypoints (REN# and RENBAT#) recorded.

3.2 Topography, Geology and Soils

The terrain studied is on the lowlands south and south-east of Renosterkop. The elevation is approximately 640 m above mean seal level. The landscape is generally flat but is dissected by numerous dendritic drainage lines over most of the site (Figures 7 & 20). Soils generally consist of red sandy topsoil with dense weathered granite-gneiss subsoils across the whole site (Figure 6). The land-type is classified as Ag2 for the whole property, described as, "*Migmatite, gneiss and granite predominantly; small outcrops of ultrametamorphic rocks in places (Namaqualand Metamorphic Complex). Occasional small seif dunes; dorbank at many places; very dense subdendritic drainage and dissection pattern; occasional lime nodules and calcrete.*" (Figure 5) (Land Type Survey Staff, 1972–2006).

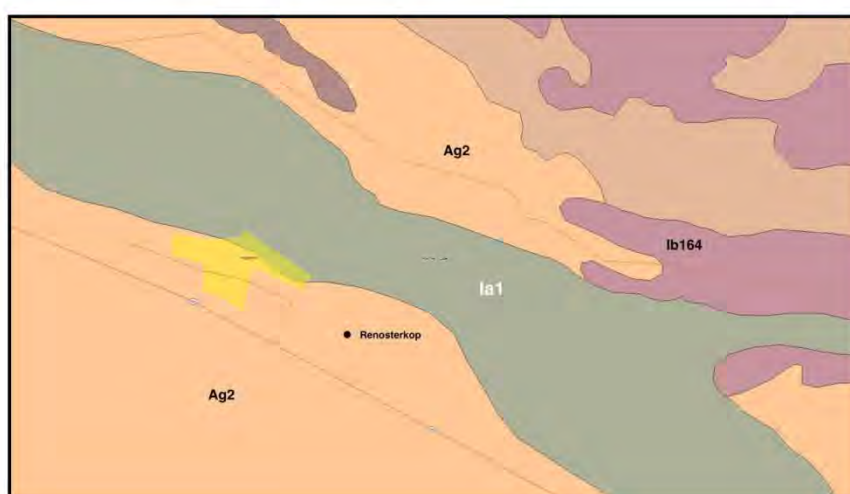


Figure 5. Land type map showing that the study area (Renosterkop) is all within the Ag2 land type (Source: <http://www.agis.agric.za/agisweb/viewer.htm?pn=2015>).



Figure 6. A typical soil profile in the Renosterkop 1726 study area. A-horizon consists of shallow red, sandy soil and B-horizon consists of dense weathered granitic material.

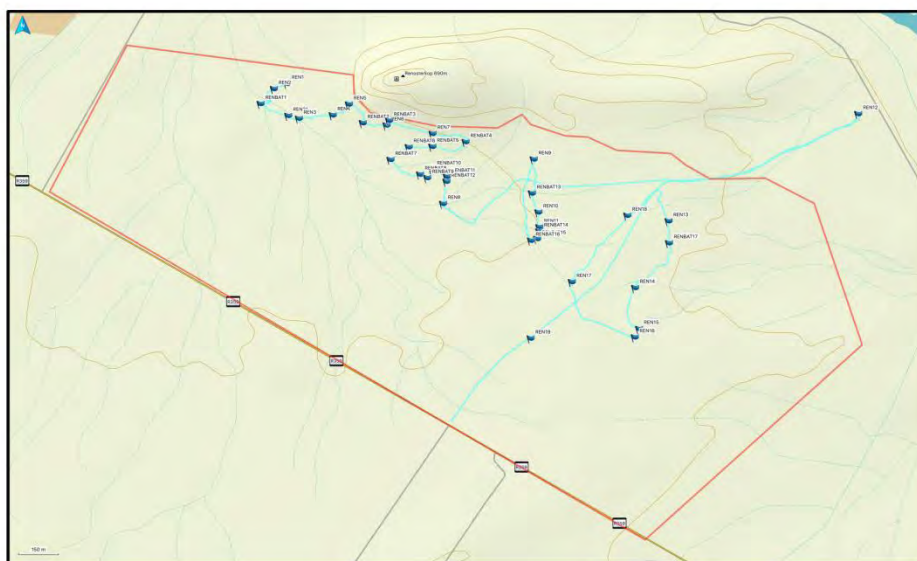


Figure 7. Detailed topographical map showing the contours of the study area (red boundary). The site is flat with a shallow gradient downwards to the north-west and south-east.

3.3 Climate

Renosterkop 1726 falls within the Nama-Karoo Biome and has an arid climate. Rainfall peaks in March (autumn) with 10 mm or more occurring in January, February, March, April and October. Augrabies, the nearest town with measured rainfall and temperatures has a mean annual rainfall of 251 mm (Figure 8), mean summer daytime temperature (October to March) of 35 °C and mean winter night temperature (April to September) of 5 °C (Figure 9).

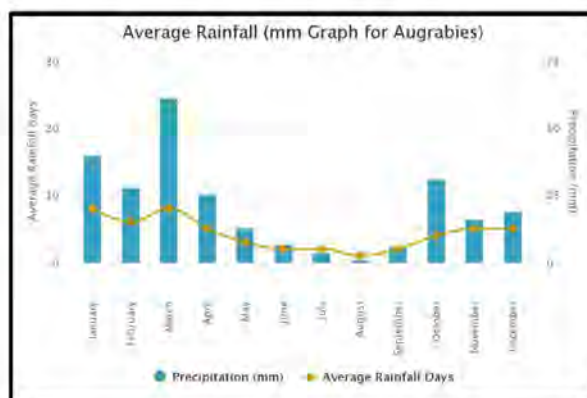


Figure 8. Average rainfall for Augrabies (Source: <https://www.worldweatheronline.com/augrabies-weather-averages/northern-cape/za.aspx>).

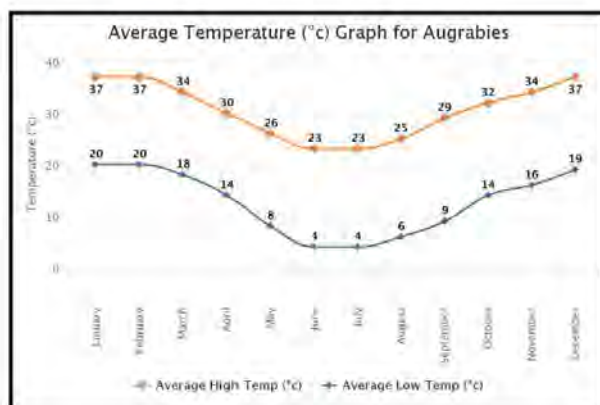


Figure 9. Average temperatures for Augrabies (Source: <https://www.worldweatheronline.com/augrabies-weather-averages/northern-cape/za.aspx>).

A climate diagram for Bushmanland Arid Grassland (Figure 10) from Mucina *et al.* (2006) shows that the mean annual precipitation, as a measure of aridity, is slightly above half to less than half that occurring at Augrabies town. This is probably explained by the proximity of the town to the Orange River.

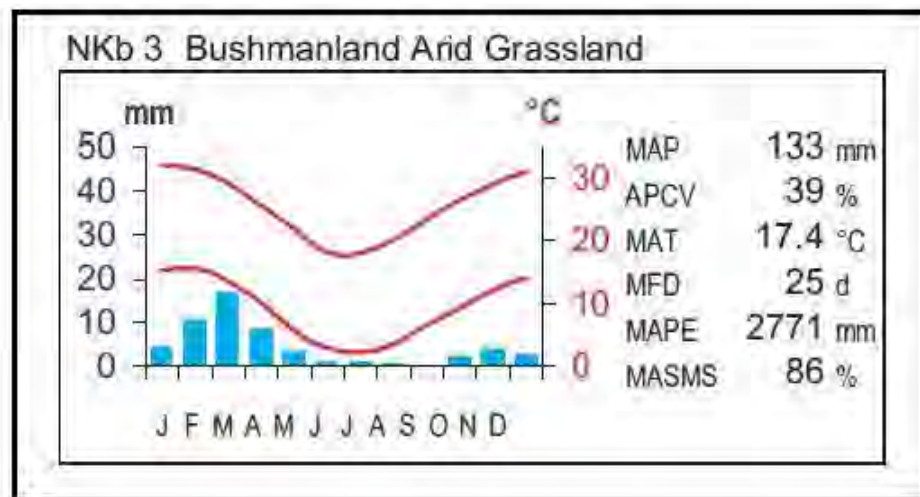


Figure 10. Climate diagram for Bushmanland Arid Grassland (10b) (from Mucina *et al.*, 2006) showing MAP – Mean Annual Precipitation; APCV = Annual Precipitation Coefficient of Variance; MAT = Mean Annual Temperature; MFD = Mean Frost Days; MAPE = Mean Annual Potential Evaporation; MASMA = Mean Annual Soil Moisture Stress.

4. Evaluation Method

The study area was visited in fine weather. The survey was carried out on foot. A rapid assessment, plot-less method was employed as is standard practice in similar surveys. A hand-held Garmin® GPSMap 62s was used to record 'sample' waypoints. The route followed (sample track) on the site is shown in Figures 4, 7 & 11. At the 'sample' waypoints specific details of the surrounding vegetation and features of the habitat were recorded and photographs taken to support the general observations made. No attempt was made to cover the whole property but sampling was focused so as to obtain the best overall understanding of landscape and biodiversity conditions.

Satellite aerial photography from Google Earth™ was also used for interpretation of the landscape and preparation of maps.

5. The Vegetation

5.1 Broad context

The Nama Karoo Biome covers an extensive area from the north-west through the central part of South Africa to the south and southeast of the country. It is an arid zone and is subdivided into three bioregions, the Upper Karoo Bioregion, Lower Karoo Bioregion and Bushmanland Bioregion. The Augrabies study area is located in the Bushmanland Bioregion at a north-central location (Rutherford & Westfall, 1994; Rutherford *et al.* 2006; Mucina *et al.* 2006 in Mucina & Rutherford, 2006).

5.2 Critical Biodiversity Areas

Critical Biodiversity Areas (CBAs) were delimited for the Namaqua District Municipality (NDM) by Desmet & Marsh (2008). The maps they compiled did not include the Augrabies area. However, more recently critical biodiversity areas and ecological support areas have been mapped for the whole of the Northern Cape Province including the Kai Garib Municipality.

The available CBA shapefiles (Enrico Oosthuysen pers comm.) for the Northern Cape Province were overlaid on Google Earth™ which allowed for determining the classification of the area around Augrabies including Renosterkop (the peak). The farm Renosterkop 1726 is located in an area classified as CBA2 (Figure 12). The Renosterkop study area is not near any focus area of the National Protected Area Expansion Strategy nor is it close to any mountain catchment area. It is separated from the Augrabies National Park by numerous other farms.

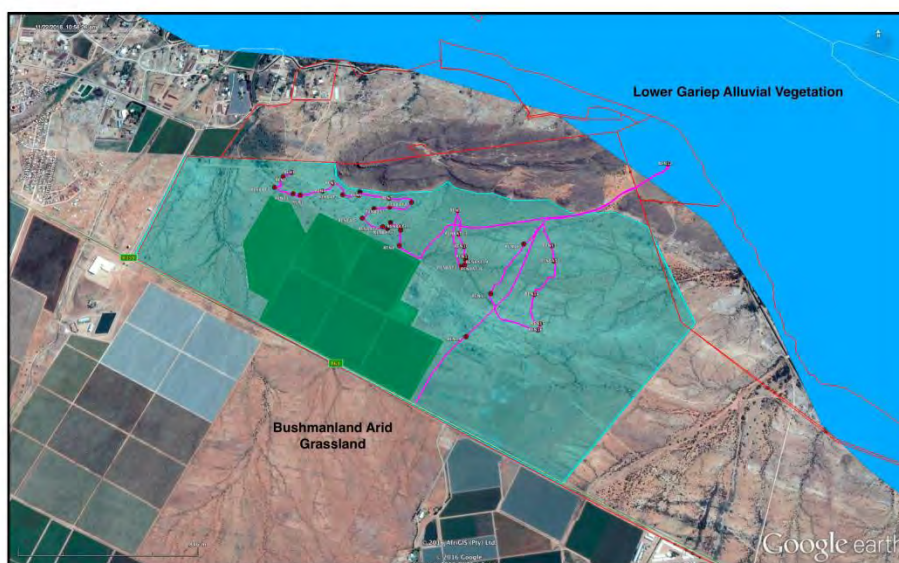


Figure 11. Portion of the national vegetation map (SANBI, 2012) indicating that the study area (light blue) falls within Bushmanland Arid Grassland (uncoloured area). The closest other major vegetation type is Lower Gariep Alluvial Vegetation that is found along the Orange River and not within the study area.

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Figure 12. Portion of the Critical Biodiversity Areas map for the Northern Cape Province showing indicating that the Renosterkop 1726 study area falls within a CBA2. The 'Eastern Area' is proposed for conservation in perpetuity.

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5.3 Vegetation of Renosterkop 1726

The entire Renosterkop study area was mapped by Mucina *et al.* (2005) and SANBI (2012) as Bushmanland Arid Grassland, a widespread vegetation type in the Bushmanland Bioregion that is Least Threatened (Government Gazette, 2011; Driver *et al.* 2012). This vegetation type is characteristically dominated by 'white grasses' in the genus *Stipagrostis* but also has a complement of low shrubs.

The *Vegetation Map of South Africa, Lesotho & Swaziland* (Mucina *et al.* 2005) was mapped at a broad scale and therefore did not accommodate small-scale variation within the larger area of Bushmanland Arid Grassland. Two main sub-types are found within the Bushmanland Arid Grassland at Renosterkop 1726. The first is the 'open plains' that have shallow soil and support a grass-dominated community but with scattered low shrubs. The second sub-type is the numerous shallow, often sandy, seasonal drainage lines that form a dendritic pattern in the landscape. The drainage lines are usually narrow, seldom exceeding 4 m in width. Owing to the seasonal concentration of moisture, the drainage lines support tall shrubs and low trees as well as a greater concentration of grasses than found on the 'open plains'.

5.3.1 Results of the vegetation survey at Renosterkop 1726

The survey was conducted from west to east across the site, covering as much variation on the property as possible. Although the whole Renosterkop 1726 study area was not covered, a high level of confidence is placed on the recorded information within the constraints of the season and extremely dry conditions prevailing at the time of the field survey.

5.3.1.1 The 'open plains'

The 'open plains' are areas between the drainage lines on flat, gently sloping to slightly convex areas with shallow sandy soil with surface gravel. These areas are vegetated mainly with 'white' grasses (*Stipagrostis* spp.), low shrubs and mid-high shrubs to tall trees, mainly scattered *Senegalia mellifera* subsp. *detinens* (blackthorn; swarthaak). Scattered individuals of *Boscia albitrunca* (Witgatboom; shepherd's tree)

also occur in no particular pattern and on the open plains they are not common. Different aspects of the 'open plains' vegetation are shown in Figures 13—17.



Figure 13. Typical 'open plains' Bushmanland arid Grassland dominated by 'white' grasses, *Stipagrostis* spp.



Figure 14. A 'shrub' of *Boscia albitrunca* found in an area of 'open plains grassland, away from any watercourse. Note the existing vineyards in the background.



Figure 15. 'Open plains' arid grassland near the base of Renosterkop.



Figure 16. 'Open plains' arid grassland with scattered shrubs and small trees of *Senegalia mellifera* subsp. *detinens* (blackthorn, swarthaak).



Figure 17. 'Open plains' arid grassland with a seasonal watercourse running on the east side (right-hand-side) of the image.

Sensitivity of the 'open plains'

Apart from the presence of *Boscia albitrunca* (witgatboom) shrubs and small trees on the open plains, the vegetation has low sensitivity. No *Aloe* species were found and no other plant species of conservation concern were recorded.

5.3.1.2 The seasonal drainage lines or watercourses

Seasonal watercourses are most easily recognized by the concentration of trees along their sub-linear alignments. *Senegalia mellifera* subsp. *detinens* occurs in greater abundance along the drainage lines and there are also greater numbers of *Boscia albitrunca* (witgatboom) trees along the drainage lines as well. However, as noted above, neither of these species is confined to the vicinity of the drainage lines. A map of the main drainage lines is given in Figure 20.

Sensitivity of the seasonal watercourses

The watercourses or drainage lines are botanically more sensitive than the open plains due mainly to the presence of *Boscia albitrunca*.



Figure 18. A typical seasonal watercourse or drainage line with sandy wash zone and small trees of *Senegalia mellifera* subsp. *detinens* (blackthorn, swarthaak) and *Boscia albitrunca* along the edges of the wash.



Figure 19. *Boscia albitrunca* with white trunk and *Senegalia mellifera* subsp. *detinens* on the edge of a sandy seasonal watercourse.

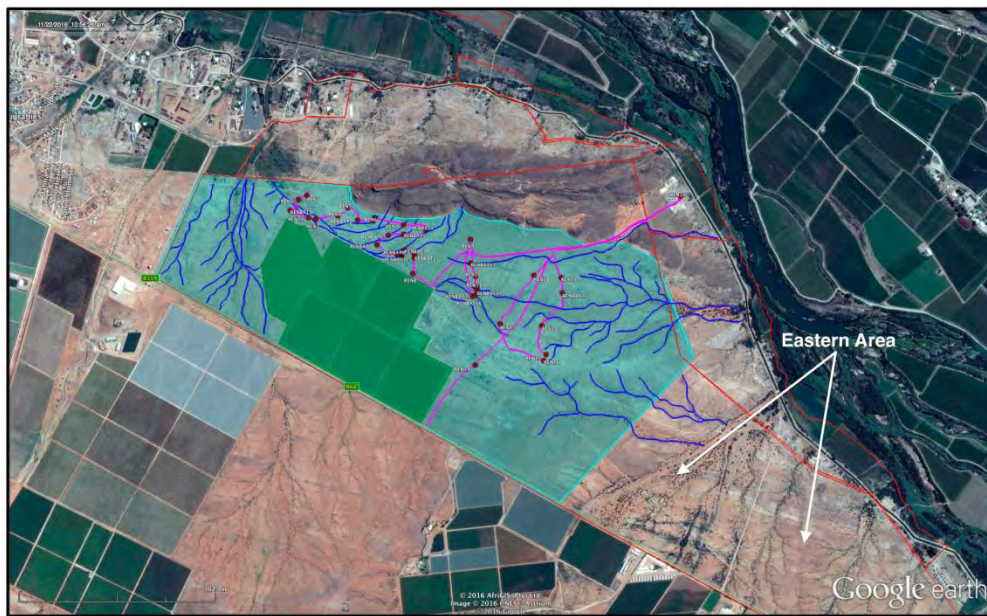


Figure 20. The study area at Renosterkop 1726 (light blue) with vegetation survey track and waypoints (pink) and dendritic pattern of seasonal watercourses (dark blue).

8. Protected Plant Species

Only two protected plant species were encountered in the study area namely, *Boscia albitrunca* (Witgatboom; shepherd's tree) and *Vachellia (Acacia) erioloba* (kameeldoring; camelthorn). Both these tree species are protected in terms of the National Forests Act 1998 (Act 94 of 1998).

B. albitrunca (Figure 19) is common, as described above, and is most abundant along drainage lines. *Vachellia erioloba* (Figure 21) is not common at Renosterkop 1726 being represented by only a few individuals.

Loss of any protected trees due to clearing for cultivation would require that permits should be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF).



Figure 21. *Vachellia erioloba* (camelthorn) with nests of White-browed Sparrow-weaver. This is one of only very few of these trees in the study area.

9. Impact Assessment

The proposed agricultural development of Renosterkop 1726 for vineyards would be of such a nature that the natural vegetation where the vineyards would be located would all be lost. It would also be such that the vineyards would not be confined to the less botanically sensitive open plains but would negatively impact at least some of the drainage lines as well. This means that there would be inevitable and unavoidable loss of protected *Boscia albitrunca* trees. This is taken into account in the impact assessment below.

9.1 Assessed impacts

The assessment of the impacts is considered for agricultural development of Renosterkop 1726 (preferred alternative) and the 'No Go' alternative which would be 'no further development'.

Three types of impacts are assessed:

- **Direct impacts:** Impacts occurring directly on the vegetation of the site as a result of the proposed agricultural development.
- **Indirect impacts:** Impacts that would not be as a direct result of the proposed activity, but that would occur away from the original source of impact.
- **Cumulative impacts:** impacts caused by several similar projects.

9.2 'No Go' Alternative

The No Go alternative would be no further development of vineyards at Renosterkop 1726. The natural veld would remain as it is and there would be minimal change over time but with some low-level impacts due to human activity. The result would be a **Very Low Negative** impact.

9.3 Direct Impacts

The impacts of the development of agriculture in the study are considered for the loss of natural vegetation and habitat i.e. loss of Bushmanland Arid Grassland with two sub-types; open plains and seasonal watercourses.

9.3.1. Loss of vegetation and habitat of the 'open plains'

The open plains support typical Bushmanland Arid Grassland and as noted above, this widespread vegetation type, as found at Renosterkop 1726, has low botanical sensitivity. Development of vineyards on the open plains would have **Medium Negative** impact without mitigation and **Low Negative** impact with mitigation (Table 1). This rating is applied since the CBA2 status is taken into account.

Table 1. Impact and Significance – Loss of Bushmanland Arid Grassland vegetation due to conversion of the 'open plains' to vineyards.

| CRITERIA | 'NO GO' ALTERNATIVE | | PREFERRED ALTERNATIVE | |
|------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|
| Nature of impact | Loss of Bushmanland Arid Grassland vegetation: open plains | | | |
| | WITHOUT MITIGATION | WITH MITIGATION | WITHOUT MITIGATION | WITH MITIGATION |
| Extent | Local | Local | Local | Local |
| Duration | Long-term | Long-term | Long-term | Long-term |
| Intensity | Low | Low | Medium | Low |
| Probability of occurrence | Unlikely | Unlikely | Probable | Probable |
| Confidence | High | High | High | High |
| Significance | Very Low negative | Very low negative | Medium negative | Low negative |
| | | | | |
| Nature of Cumulative impact | Loss of Bushmanland Arid Grassland | | | |
| Cumulative impact prior to mitigation | Very Low Negative | | Low negative | |
| Degree to which impact can be reversed | Not reversible | | | |
| Degree to which impact may cause irreplaceable loss of resources | Low | | | |
| Degree to which impact can be mitigated | Medium | | | |
| Proposed mitigation | Conservation of the eastern part of the farm Renosterkop 1726 in perpetuity. | | | |
| Cumulative impact post mitigation | Low negative | | | |
| Significance after mitigation | Low negative | | | |

9.3.2. Loss of vegetation and habitat of the seasonal drainage lines

The seasonal drainage lines are not true grassland but rather an azonal aspect of Bushmanland Arid Grassland where shrubs and trees dominate. The seasonal watercourses are important for at least two reasons; firstly, they have a concentration of *Boscia albitrunca* (witgatboom) and secondly they are ecological corridors that provide cover for movement of birds and small mammals (Figure 22). Loss of the vegetation along the seasonal watercourses will therefore result in a greater negative impact than loss of the grassland on the open plains. It is for this reason that the assessment of impacts on the seasonal watercourses is separated from that of the open plains. It is anticipated that the loss of the seasonal watercourses would result in **High Negative** impact since numerous *B. albitrunca* trees would be lost at a local scale (Table 2). This could be mitigated by a commitment to conserve and protect the eastern part of Renosterkop 1726 in perpetuity. The eastern area (see Figures 12 & 20) is highly dissected by numerous watercourses and has a high concentration of trees including many *Boscia albitrunca* trees. Conservation of the 'eastern area' could then be considered to be an 'on-site offset' that would serve as mitigation for loss of seasonal watercourses in the study area.



Figure 22. Yellow mongoose (*Cynictis penicillata*), an inhabitant of the open plains and the seasonal watercourses at Renosterkop 1726.

Table 2. Impact and Significance – Loss of Bushmanland Arid Grassland vegetation due to conversion of the seasonal drainage lines to vineyards.

| CRITERIA | 'NO GO' ALTERNATIVE | | PREFERRED ALTERNATIVE | |
|------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-----------------------|-----------------|
| Nature of impact | Loss of Bushmanland Arid grassland vegetation: drainage lines | | | |
| | WITHOUT MITIGATION | WITH MITIGATION | WITHOUT MITIGATION | WITH MITIGATION |
| Extent | Local | Local | Local | Local |
| Duration | Long-term | Long-term | Long-term | Long-term |
| Intensity | Low | Low | High | Medium |
| Probability of occurrence | Probable | Probable | Highly Probable | Highly Probable |
| Confidence | High | High | High | High |
| Significance | Very Low negative | Very low negative | High negative | Medium negative |
| | | | | |
| Nature of Cumulative impact | Loss of Bushmanland Arid Grassland | | | |
| Cumulative impact prior to mitigation | Very Low Negative | | Medium negative | |
| Degree to which impact can be reversed | Not reversible | | | |
| Degree to which impact may cause irreplaceable loss of resources | Low | | | |
| Degree to which impact can be mitigated | Medium | | | |
| Proposed mitigation | Conservation of the eastern part of the farm Renosterkop 1726 in perpetuity. | | | |
| Cumulative impact post mitigation | Medium negative | | | |
| Significance after mitigation | Medium negative | | | |

9.4 Indirect Impacts

No indirect impacts of the proposed transformation of natural vegetation in the study area at Renosterkop 1726 were identified.

9.5 Cumulative Impacts

Bushmanland Arid Grassland is a widespread vegetation type in the Northern Cape Province with low botanical sensitivity over much of its range. This vegetation type has been lost mainly to agriculture where there is available water to permit conversion of the landscape to vineyards, citrus orchards or other forms of cultivation. In the recent past numerous renewable energy facilities (many of which are still to be constructed) have also targeted landscapes where Bushmanland Arid Grassland is found due to the suitability of the receiving environment.

However, despite development in this ecosystem, much of it still remains since it is used as rangeland for animal production. Cumulative impacts are thus very low on a broad scale although at a local scale such as around Augrabies, cumulative impacts are somewhat higher. Taking local and broad-scale impacts into consideration, cumulative impacts range from **Low Negative** to **Medium Negative** with the latter related mainly to loss of protected tree species.

10. Mitigation

Very little scope is available for mitigation measures to compensate for the loss of natural or near natural habitat in the study area itself since, wherever there would be future cultivation, the vegetation and habitat would be lost. Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the 'eastern area' of the farm outside the area targeted for agriculture. The 'eastern area' is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture.

11. Conclusions and Recommendations

- The natural vegetation type found in the study area at Renosterkop 1726 Augrabies as mapped by Mucina *et al.* 2005 and SANBI (2012) is Bushmanland Arid Grassland. According to the National Biodiversity Assessment (Driver *et al.* 2001) and the List of Threatened Terrestrial Ecosystems (Government Gazette, 2011), this vegetation type (ecosystem) is Least Threatened.
- The impact of the proposed agricultural development on the 'open plains' Bushmanland Arid Grassland would be **Low Negative** without mitigation and **Very Low Negative** with mitigation. The impact on the seasonal watercourses would be **High Negative** without mitigation and **Medium Negative** with mitigation.
- No plant species of conservation concern were recorded apart from very few *Vachellia erioloba* (camelthorn) but common *Boscia albitrunca* (witgatboom), both protected tree species.
- It is recommended that to mitigate the loss of Bushmanland Arid Grassland in the study area, the eastern area of Renosterkop 1726 should be set aside and conserved in perpetuity (effectively an 'on-site offset').
- It would be necessary to apply for a permit for the removal of *Boscia albitrunca* and, if necessary, *Vachellia erioloba*.

- No constraints were identified from a botanical perspective that would prevent the agricultural development from proceeding as long as suitable mitigation is implemented.
- The proposed agricultural development is therefore acceptable and supported from a botanical viewpoint.

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South African National Biodiversity Institute (SANBI) 2012, Vegetation Map of South Africa, Lesotho and Swaziland [vector geospatial dataset] 2012. Available from the Biodiversity GIS website <http://bgis.sanbi.org/SpatialDataset/Detail/18>

Report submitted: 30 November 2016

Appendix 1: Impact Assessment Methodology

The assessment of impacts needs to include the determination of the following:

- The nature of the impact – see Table 1.1
- The magnitude (or severity) of the impact – see Table 1.2
- The likelihood of the impact occurring - see Table 1.2

The degree of confidence in the assessment must also be reflected.

▪ **Table A.1 Impact assessment terminology**

| Term | Definition |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Impact nature</i> | |
| Positive | An impact that is considered to represent an improvement on the baseline or introduces a positive change. |
| Negative | An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor. |
| Direct impact | Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality). |
| Indirect impact | Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources). |
| Cumulative impact | Impacts that act together with other impacts (including those from concurrent or planned future third party activities) to affect the same resources and/or receptors as the Project. |

Assessing significance

There is no statutory definition of '*significance*' and its determination is, therefore, somewhat subjective. However, it is generally accepted that significance is a function of the magnitude of the impact and the likelihood of the impact occurring. The criteria used to determine significance are summarized in *Table 1.2*

▪ **Table A.2 Significance criteria**

| | |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Impact magnitude</i> | |
| Extent | <i>On-site</i> – impacts that are limited to the boundaries of the rail reserve, yard or substation site. <i>Local</i> – impacts that affect an area in a radius of 20km around the development site. <i>Regional</i> – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem. <i>National</i> – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences. |
| Duration | <i>Temporary</i> – impacts are predicted to be of short duration and intermittent/occasional. <i>Short-term</i> – impacts that are predicted to last only for the duration of the construction period. <i>Long-term</i> – impacts that will continue for the life of the Project, but ceases when the Project stops operating. <i>Permanent</i> – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the Project lifetime. |

| | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Intensity | <p>BIOPHYSICAL ENVIRONMENT: <i>Intensity can be considered in terms of the sensitivity of the biodiversity receptor (ie. habitats, species or communities)</i></p> <p>Negligible – the impact on the environment is not detectable. Low – the impact affects the environment in such a way that natural functions and processes are not affected. Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way. High – where natural functions or processes are altered to the extent that it will temporarily or permanently cease.</p> <p><i>Where appropriate, national and/or international standards are to be used as a measure of the impact. Specialist studies should attempt to quantify the magnitude of impacts and outline the rationale used.</i></p> |
| | <p>SOCIO-ECONOMIC ENVIRONMENT: <i>Intensity can be considered in terms of the ability of project affected people/communities to adapt to changes brought about by the Project.</i></p> <p>Negligible – there is no perceptible change to people's livelihood Low - People/communities are able to adapt with relative ease and maintain pre-impact livelihoods. Medium - Able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support. High - Those affected will not be able to adapt to changes and continue to maintain pre-impact livelihoods.</p> |
| <i>Impact likelihood (Probability)</i> | |
| Negligible | The impact does not occur. |
| Low | The impact may possibly occur. |
| Medium | Impact is likely to occur under most conditions. |
| High | Impact will definitely occur. |

Once a rating is determined for magnitude and likelihood, the following matrix can be used to determine the impact significance.

Table A.3 Example of significance rating matrix

| SIGNIFICANCE RATING | | | | | |
|---------------------|------------|------------|------------|--------|--------|
| | LIKELIHOOD | Negligible | Low | Medium | High |
| MAGNITUDE | Negligible | Negligible | Negligible | Low | Low |
| | Low | Negligible | Negligible | Low | Low |
| | Medium | Negligible | Low | Medium | Medium |
| | High | Low | Medium | High | High |

In Table A.4, the various definitions for significance of an impact is given.

Table A.4 Significance definitions

| Significance definitions | |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Negligible significance | An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible' or 'imperceptible' or is indistinguishable from natural background variations. |
| Minor significance | An impact of minor significance is one where an effect will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value. |

| | |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Moderate significance | An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are being managed effectively and efficiently. |
| Major significance | An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (i.e. ALARP has been applied). An example might be the visual impact of a development. It is then the function of regulators and stakeholders to weigh such negative factors against the positive factors such as employment, in coming to a decision on the Project. |

Once the significance of the impact has been determined, it is important to qualify the **degree of confidence** in the assessment. Confidence in the prediction is associated with any uncertainties, for example, where information is insufficient to assess the impact. Degree of confidence can be expressed as low, medium or high.

Appendix 2: Curriculum Vitae

Dr David Jury McDonald Pr.Sci.Nat.

Name of Firm: Bergwind Botanical Surveys & Tours CC. (Independent consultant)

Work and Home Address: 14 A Thomson Road, Claremont, 7708

Tel: (021) 671-4056 **Mobile:** 082-8764051 **Fax:** 086-517-3806

E-mail: dave@bergwind.co.za

Website: www.bergwind.co.za

Profession: Botanist / Vegetation Ecologist / Consultant / Tour Guide

Date of Birth: 7 August 1956

Employment history:

- 19 years with National Botanical Institute (now SA National Biodiversity Institute) as researcher in vegetation ecology.
- Five years as Deputy Director / Director Botanical & Communication Programmes of the Botanical Society of South Africa
- Ten years as private independent Botanical Specialist consultant (Bergwind Botanical Surveys & Tours CC)

Nationality: South African (ID No. 560807 5018 080)

Languages: English (home language) – speak, read and write
Afrikaans – speak, read and write

Membership in Professional Societies:

- South Africa Association of Botanists
- International Association for Impact Assessment (SA)
- South African Council for Natural Scientific Professions (**Ecological Science, Registration No. 400094/06**)
- Field Guides Association of Southern Africa

Key Qualifications :

- Qualified with a M. Sc. (1983) in Botany and a PhD in Botany (Vegetation Ecology) (1995) at the University of Cape Town.
- Research in Cape fynbos ecosystems and more specifically mountain ecosystems.
- From 1995 to 2000 managed the Vegetation Map of South Africa Project (National Botanical Institute)
- Conducted botanical survey work for AfriDev Consultants for the Mohale and Katse Dam projects in Lesotho from 1995 to 2002. A large component of this work was the analysis of data collected by teams of botanists.

- **Director: Botanical & Communication Programmes** of the Botanical Society of South Africa (2000—2005), responsible for communications and publications; involved with conservation advocacy particularly with respect to impacts of development on centres of plant endemism.
- Further tasks involved the day-to-day management of a large non-profit environmental organisation.
- **Independent botanical consultant** (2005 – to present) over 400 projects have been completed related to environmental impact assessments in the Western, Southern and Northern Cape, Karoo and Lesotho. A list of reports (or selected reports for scrutiny) is available on request.

Higher Education

Degrees obtained
and major subjects passed:

B.Sc. (1977), University of Natal, Pietermaritzburg
Botany III
Entomology II (Third year course)

B.Sc. Hons. (1978) University of Natal, Pietermaritzburg
Botany (Ecology /Physiology)

M.Sc - (Botany), University of Cape Town, 1983.
Thesis title: 'The vegetation of Swartboschkloof,
Jonkershoek, Cape Province'.

PhD (Botany), University of Cape Town, 1995.
Thesis title: 'Phytogeography endemism and diversity of the
fynbos of the southern Langeberg'.

Certificate of Tourism: Guiding (Culture: Local)
Level : 4 Code: TGC7 (Registered Tour Guide: WC
2969).

Employment Record :

January 2006 – present: Independent specialist botanical consultant and tour guide in own
company: **Bergwind Botanical Surveys & Tours CC**
August 2000 - 2005 : Deputy Director, later Director Botanical & Communication Programmes,
Botanical Society of South Africa
January 1981 – July 2000 : Research Scientist (Vegetation Ecology) at National
Botanical Institute
January 1979—Dec 1980 : National Military Service

Further information is available on my company website: www.bergwind.co.za

11.3.2 Archaeological Impact Assessment, including Paleontological Letter

11.3.2.1 Archaeological Impact Assessment

ARCHAEOLOGICAL IMPACT ASSESSMENT

Proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 & Farm 1537 Augrabies Northern Cape

Assessment conducted under Section 38 (3) of the National Heritage
Resource Act (No. 25 of 1999)

Prepared for:

PIETER BADENHORST PROFESSIONAL SERVICES

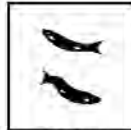
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**DECEMBER
2016**

Executive summary

1. Introduction

ACRM was requested by Pieter Badenhorst Professional Services to conduct an Archaeological Impact Assessment (AIA) for a proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies, near Kakamas in the Northern Cape Province.

The study site is located south east of the town of Augrabies. It lies directly north of the R64 and south and west of Renosterkop Peak. The Orange River borders the study site in the south and east.

The proposed agricultural development will cover a footprint area of about 77 ha. Water for the new vineyards will be supplied from a pump station located on the banks of the Orange River. The vineyards will be supplied with water via a 3.2km long buried pipeline placed alongside existing gravel farm roads.

A large portion of the proposed development site has (historically) been previously disturbed, and constitutes a highly degraded landscape.

The AIA forms part of an EIA process that is being conducted by Peter Badenhorst Professional Services.

2. Legal requirements

In terms of Section 38 (1) (c) (iii) of the National Heritage Resources Act 1999 (Act 25 of 1999), a Heritage Impact Assessment (HIA) of the proposed project is required if the footprint area of the proposed development is more than 5000m² in extent.

Section 38 (1) (a) of the Act also indicates that any person constructing a powerline, pipeline or road, or similar linear development or barrier exceeding 300m in length is required to notify the responsible heritage resources authority, who will in turn advise whether an impact assessment report is needed before development can take place.

3. Aim of the AIA

The overall purpose of the AIA is to assess the sensitivity of archaeological resources in the affected areas, to determine the potential impacts on such resources, and to avoid and/or minimize such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur

4. Limitations

The layout of the proposed vineyard development was changed since the field assessment was done in August 2016. An 11.4ha block of land situated alongside the R359 was not searched for archaeological remains. However, given the overall results of

the study, and the disturbed context in which most of the resources were recorded, indications are that the affected piece of land is not a sensitive archaeological landscape. The possibility that a grave(s) may occur on the proposed site cannot be discounted. However, this is considered to be unlikely as the soils here are made up of extremely hard gravels and not conducive for the internment of bodies.

5. Findings

A 3-day foot survey of the proposed development site, including associated activities (i.e. pump station & pipeline route) was undertaken by ACRM in October 2016, in which the following observations were made:

A relatively large number of archaeological resources were documented during the study, but these are spread very thinly and unevenly over the surrounding landscape. Most of the implements comprise single, isolated finds, but dispersed (low & medium density) scatters of tools were also encountered on surface gravels below Renosterkop Peak. However, the more coherent (i. e. medium density) scatters of tools were recorded outside the revised footprint area.

The majority of the tools encountered during the study are assigned to the Later Stone Age (LSA), while a few Middle Stone Age (MSA) flakes, blade tools and points (in indurated shale, banded ironstone & quartzite), were also found. No Early Stone Age (ESA) implements were encountered during the study.

More than 95% of the tools documented are made on locally available, fine-grained banded ironstone, which is a favoured raw material on many sites in the Northern Cape. Many pieces of unworked banded ironstone pebbles and quartz were encountered on some of the surface gravels. The remainder are in indurated shale, chert, quartzite and quartz. Quartz outcrops locally, and pebbles of chalcedony and banded ironstone are derived from an older gravel/Dwyka tillite flushed from an area on top of Renosterkop Peak.

Most of the tools comprise unmodified, utilised and miscellaneous retouched pieces, flakes and chunks, while a small number of cores (in ironstone, quartzite & quartz) were also recorded. No formal retouched tools such as scrapers, points, backed pieces, awls or adzes were found, although many of the implements display scraper-type secondary retouch, occasional backing, and step flake retouch, and are best described as crude and unstandardized tools. One anvil was found, but no hammerstones or grindstones were noted. No organic remains such as pottery or bone were encountered, but two small fragments of weathered ostrich eggshell were found.

Most of the tools recorded, occur *ex-situ* on exposed gravels, where the top soils have either eroded/washed away or have been scraped by heavy plant machinery. Extensive channels (clearly visible on Google Earth) have also been excavated across much of the proposed development site. The south eastern portion of the farm alongside the R64, particularly has also been heavily ripped by bulldozers, while the central portion of Farm 1726, east of the new site office/parking complex was, historically, subjected to intensive diamond prospecting where large gravel dumps and deep excavations are visible across the transformed landscape (and on Google Earth).

As archaeological sites are concerned, most of the occurrences are lacking in context. While several low/medium density scatters of tools were recorded, these occur mostly outside the proposed footprint area. No evidence of any factory or workshop site, or the result of any human settlement was identified within the proposed development site. It is maintained that most of the archaeological remains comprise discarded flakes, flake debris and debitage.

6. Grading

Overall, despite the relatively large numbers of the tools that were recorded, the isolated and mostly disturbed context in which they were found, means that the archaeological resources have been graded as having *low* (Grade 3C) significance.

7. Built environment/historical structures

In terms of the built environment, apart from existing farm infrastructure, including the under construction new office/parking/store complex, no old buildings, historical structures or features, or any old equipment was found on the proposed development site.

The insubstantial stone walled structures associated with the Renosterkop diamond diggings (1927), and tin/tungsten mining (circa 1940) on Renosterkop Peak, will not be impacted by the proposed development or associated activities.

8. Graves

A single grave (Site 891) was recorded on the soft, red sands at the base of Renosterkop Peak. Comprising a pile of deliberately arranged stone, no head or foot stone is evident, suggesting that the grave is not a Christian burial. Historical evidence indicates that Renosterkop Peak, also known as !Nawabdanas, was settled by Namneiqua pastoralists, while groups of people, including 'Bastards', 'Kafirs', Korannas and Bushman were reported from the area in the late 1800s. The grave could conceivably belong to any one of these groups. It is also noted that some of the known Kakamas-Augrabies burials were exhumed from the banks of the Orange River at Renosterkop in 1936. No grave goods such as shell, glass or metal items/containers were found associated with the grave, also indicating considerable antiquity.

Graves/burials are graded as having *high* (3A) local significance.

9. Palaeontology

According to the South Africa Heritage Resources Information System (SAHRIS) fossil-sensitivity map, the proposed development site is of insignificant/zero palaeontological importance. A Letter of Exemption/desk top study will be written up by consulting palaeontologist Dr John Almond, and forms part of the Heritage Impact Assessment for the proposed development.

10. Impact statement

Overall, the results of the study indicate that the proposed activity (i. e. a vineyard development), including associated activities (i. e. pump station & water pipeline), will not

have an impact of great significance on the archaeological heritage, as these are expected to be limited. While a relatively large number of tools were documented, the majority occur in a disturbed context (or *ex-situ*), while many of the more coherent scatters fall outside the revised development footprint.

11. Conclusion

The study has captured a good record of the archaeological heritage present on the proposed development site. Indications are that, in terms of archaeological heritage, the receiving environment is not a very sensitive or threatened landscape. The impact significance of the proposed development on important archaeological heritage is therefore assessed as LOW.

Therefore, there are no objections to the authorization of the proposed vineyard development.

12. Recommendations

1. No mitigation is required prior to development activities commencing.
2. A buffer of 10m must be established around the recorded grave (Site 891). Alternatively, the grave must be fenced off prior to development commencing.
3. Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during preparation of the lands for cultivation, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (Ms Natasha Higgit 021 462 4502). Burials, etc. must not be removed or disturbed until inspected by the archaeologist.
4. The above recommendations must be incorporated into the Environmental Management Plan (EMP) for the proposed development

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1. INTRODUCTION

ACRM was appointed by Pieter Badenhorst Professional Services on behalf of Oseiland Eiendomme (Pty) Ltd to conduct an Archaeological Impact Assessment (AIA) for a proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies (Kai! Garib Municipality), near Kakamas in the Bushmanland region of the Northern Cape (Figures 1 & 2).

The proposed agricultural development will cover a footprint area of about 77 ha. Water for the new vineyards will be supplied from a pump station located on the banks of the Orange River. The vineyards will be supplied with water via a 3.2km long buried pipeline placed alongside existing gravel farm roads.

The property is currently zoned Agriculture. Existing access roads will be used, and no new access roads will be constructed. The farm is approximately 1km from the Orange / Gariep River.

Eight fairly contiguous portions of land (Blocks 1-8) have been identified for the new vineyard development (Figure 3). These have mostly been determined by the botanical constraints study.

The AIA forms part of an Environmental Impact Assessment (EIA) process that is being conducted by Pieter Badenhorst Professional Services.

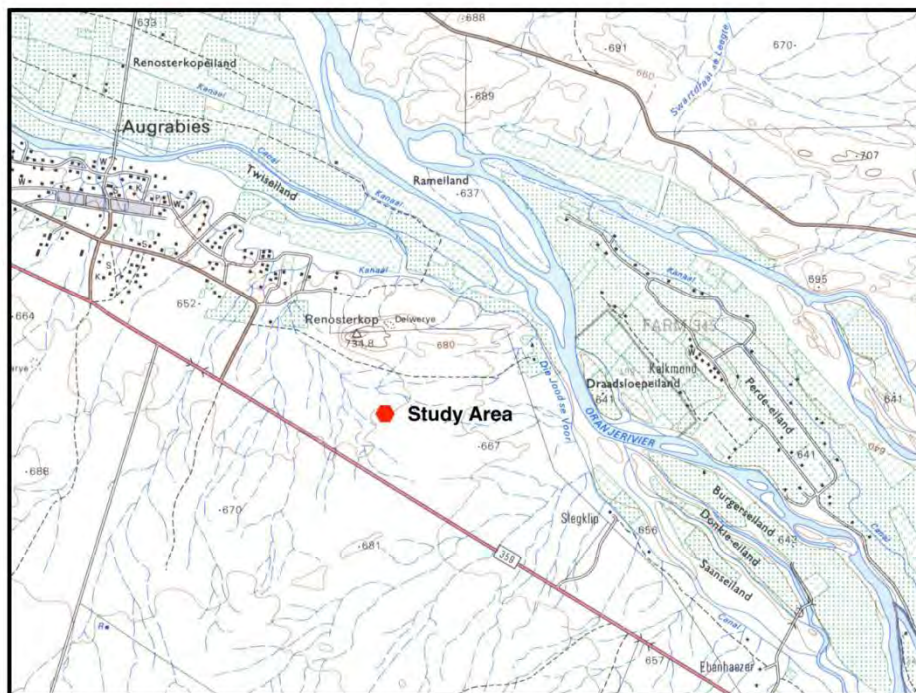


Figure 1. Locality Map. Red polygon illustrates the location of the study area

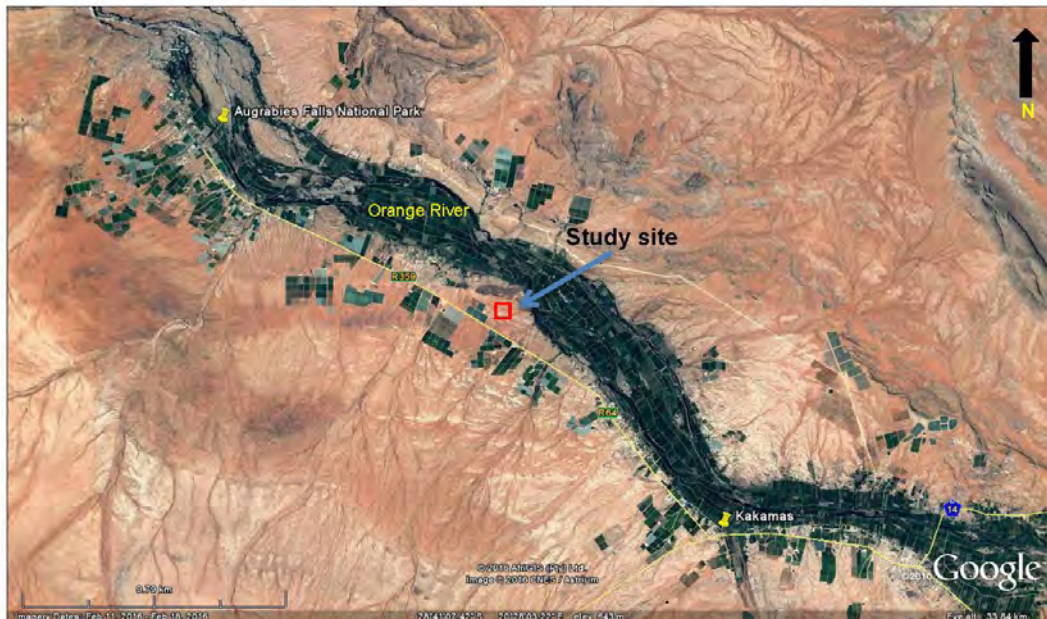


Figure 2. Google image illustrating the location of the proposed development site (red polygon) in relation to Augrabies Falls National Park and the small town of Kakamas.

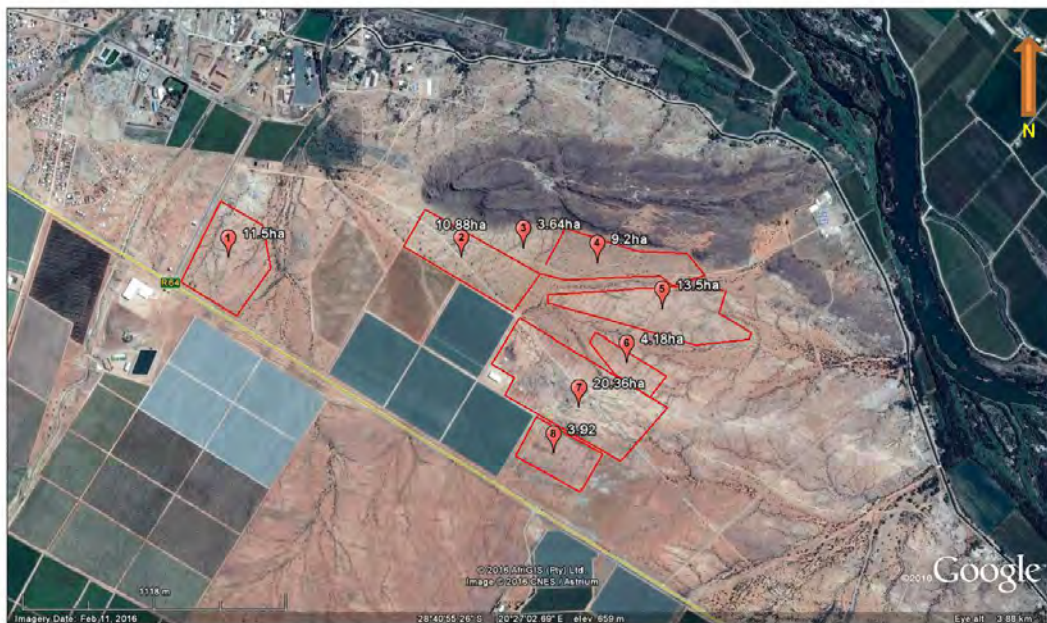


Figure 3. Google satellite map of the proposed development site. Note that Block 1 was not searched as it was only identified after the archaeological assessment had been concluded

2. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No. 25 of 1999) makes provision for a compulsory Heritage Impact Assessment (HIA) when an area exceeding 5000 m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

The NHRA provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xxi)).

Section 38 (1) (a) of the Act specifically indicates that any person constructing a powerline, pipeline or road, or similar linear development or barrier exceeding 300m in length is required to notify the responsible heritage resources authority, who will in turn advise whether an impact assessment report is needed before development can take place.

3. TERMS OF REFERENCE

The terms of reference for the archaeological study were to:

- Determine whether there are likely to be any important archaeological resources that may potentially be impacted by the proposed development;
- Indicate any constraints that would need to be taken into account in considering the development proposal;
- Identify potentially sensitive archaeological areas, and
- Recommend any further mitigation action.

4. THE STUDY SITE

The study site is part of the Farm Renosterkop 1726, and is situated on the right hand side (i. e. north) of the R64/MR359, approximately 2kms before one enters the small town of Augrabies. It lies immediately south east of the town, and northwest of the settlement known as Marchand. The affected landholdings (refer to Figure 3) are located between the tar road and Renosterkop Peak, a prominent inselberg which more or less defines the northern boundary of the proposed development site, and south of the Orange River. The inselberg is the only significant landscape feature in an otherwise flat and fairly featureless landscape. Numerous ephemeral streams dissect the site, mostly in the east, but these have been excluded from the proposed development layout.

The terrain is generally flat, sloping gently from the base of Renosterkop Peak. Soils consist of shallow red sandy topsoils, with large exposed/wind eroded surface gravels. Small outcrops of rocks occur in places. The predominant vegetation is tufts of yellow grassland, with scattered low and mid high shrubs such as thorny blackthorn. Isolated trees occur in places on the open plains (Figures 4-7).

Large areas of the study site (e. g. Block 8) are severely degraded. The landholdings alongside the R64 have been heavily ripped by bulldozers when, this area was being prepared for cultivation. East of the new site office (i. e. Block 7); deep excavations and large gravel dumps dominate the arid landscape, which were historically subjected to intensive diamond prospecting. Extensive drainage channels (visible on Google Earth) have also been excavated across most of Block 2 and Blocks 5-8 (refer to Figure 3).

Apart from Renosterkop Peak, there are no other significant landscape features on the proposed development site. The Orange River is located about a kilometre from the proposed new vineyards. Surrounding land use is agriculture (vineyards & citrus), roads, residential, and vast tracts of vacant agricultural land.



Figure 4. Block 2. Panoramic view of the study site. View facing east. Note the extensive gravels below Renosterkop Peak



Figure 5. Panoramic view of the study site from the base of Renosterkop Peak. View facing south west



Figure 6. Block 8. Panoramic view of the study site. View facing north from the R64.



Figure 7. Block 8. Panoramic view of the study site. View facing north from the R64. Note the heavily ripped fields

5. STUDY APPROACH

5.1 Method of survey

The overall purpose of the HIA is to assess the sensitivity of archaeological resources in the affected area, to determine the potential impacts on such resources and to avoid and/or minimize such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

Survey track paths were captured and the position of identified archaeological occurrences was fixed by a hand held GPS unit set on the map datum WGS 84 (Figures 8-11). A literature survey was also carried out to assess the archaeological context surrounding the proposed development site.

5.2 Constraints and limitations

Access to the site was easy and archaeological visibility was very good.

It is important to note that the layout of the proposed vineyard development was changed since the field assessment was done in August 2016. An 11.4ha area of land alongside the R359 (i. e. Block 1) was not searched for archaeological remains. However, given the overall results of the study, and the disturbed context in which most of the archaeological resources were recorded, indications are that the affected piece of land is not likely to be a sensitive archaeological landscape. The possibility that a grave(s) may occur on the proposed site cannot be discounted. However, this is considered to be unlikely as the soils here are made up of extremely hard gravels and not conducive for internment of bodies.

5.3 Identification of potential risks

While a relatively large number of archaeological resources (i. e. stone implements) were found, these comprise mostly single isolated finds, with a few dispersed scatters of tools occurring in places (mostly outside the proposed development site). It is maintained that the study has captured a good record of the archaeological heritage present on the proposed development site.

A pre-colonial grave (Site 891) was found at the base of Renosterkop Peak and must be protected throughout the operational phase of the proposed agricultural development.

5.4 Results of the desk top study

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. According to Beaumont *et al* (1995:240) "thousands of square kilometres of Bushmanland are covered by a low density lithic scatter".

Some archaeological work has been done in the Augrabies area (mainly impact assessments as part of the EIA process), while Morris and Beaumont (1991) undertook

a combined impact assessment and mitigation of sites on Renosterkop Peak, also known (historically), to pre-colonial local Namneiqua pastoralists as !Nawabdanas. Several, mostly low-density surface scatters of Middle (MSA) and Later Stone Age (LSA) material were identified on and around the hill, which is also the site of the historic Renosterkop Tin Mine (circa 1940). Archaeological investigation of a Ceramic LSA surface scatter (Renosterkop 1) and a small LSA rock shelter (Renosterkop 2) were undertaken by Morris and Beaumont (1991), who showed that the two sites likely pre-date the late 18th Century. Morris and Beaumont (1991) were also able to show, based on extensive historical research, a rapidly changing cultural and linguistic landscape from as early as the mid 1700's, up until the violent Northern Border (frontier) War of 1869/9.

In the wider region, Orton (2012) recorded low density scatters of LSA, MSA and ESA tools during a survey for a proposed solar energy farm near the Augrabies Falls National Park about 12kms from Renosterkop. Orton (2012) also describes a Stone Age sequence in the Augrabies Falls area where much of the information has been generated by excavations of open scatters containing stone tools, pottery and ostrich eggshell, as well as excavations of several small shelters near the falls, and the town of Augrabies (Morris & Beaumont 1991).

Small numbers of MSA tools were also documented by Van Schalkwyk (2013) during a HIA for a township development near Augrabies, while Pelser (2012) recorded small numbers of LSA as well as ESA implements during an AIA for a solar energy farm near the National Park. Several other impact assessment reports were not available on the SAHRIS website (e.g. Van Schalkwyk 2011, & Beaumont 2008).

Morris and Beaumont (1991) also note that many skeletons, most dating to the 18th and 19th Centuries were exhumed from the area, along the banks of the Orange River near Augrabies in the late 1930s.

Finally, Morris (2014; Morris & Beaumont 1991) notes that there are substantial herder encampments along the floodplain of the Orange River, but these tend to be short duration visits by small groups of hunter-gatherers. Most of these camps have, however, been destroyed by intensive farming alongside the river.

6. FINDINGS

A 3-day foot survey of the proposed development site, including associated activities (i.e. pump station & pipeline route) was undertaken by ACRM in October 2016. Track paths and archaeological occurrences recorded during the survey are illustrated in Figures 8-11. A spreadsheet of waypoints and a description of archaeological finds are presented in Table 1.

A relatively large number of archaeological resources were documented during the study, but these are spread very thinly and unevenly over the surrounding landscape. Most of the implements comprise single, isolated finds, but dispersed (low & medium density) scatters of tools were also encountered on extensive surface gravels below Renosterkop Peak. However, the more coherent scatters were recorded outside the revised footprint area (Sites 927-932), not surprisingly, alongside the numerous dendritic drainage lines (refer to Figure 11).

The majority of the tools encountered are assigned to the LSA, while a few MSA flakes (Sites 972, 973, 876, 927-929, 998 & 1006), blade tools (Sites 910 & 924) and points (Sites 877 & 986), in indurated shale, banded ironstone and quartzite, were also found. No Early Stone Age (ESA) implements were encountered during the study.

More than 95% of the tools documented are made on locally available, fine-grained banded ironstone, which is a favoured raw material on many sites in the Northern Cape. Many pieces of unworked banded ironstone pebbles and quartz were encountered on some of the surface gravels. The remainder are in indurated shale, chert, quartzite and quartz. Quartz outcrops locally and pebbles of chalcedony and banded ironstone are derived from an older gravel/Dwyka tillite flushed from an area on top of Renosterkop Peak (Morris & Beaumont 1991).

Most of the tools comprise unmodified, utilised and miscellaneous retouched pieces, flakes and chunks, while a smaller number of cores were also found. Cortex flakes and chunks were also identified. Most of the cores are in banded ironstone, but several cores in quartz (Sites 887, 943 & 990) and chert (Site 906) were also noted. No formal retouched tools such as scrapers, points, backed pieces, awls or adzes were found, although many of the implements display scraper-type secondary retouch, occasional backing, and step flake retouch, and are best described as crude and unstandardized tools. One possible quartz point (Site 889) was found. One anvil (Site 977) was found, but no hammerstones or grindstones were noted. No organic remains such as pottery or bone were encountered, but two small fragments of weathered ostrich eggshell (Sites 888 & 896) were recorded.

Most of the tools recorded, occur *ex-situ* on exposed gravels, where the top soils have either eroded/washed away, or have been scraped by heavy plant machinery. Extensive channels (clearly visible on Google Earth) have also been excavated across much of the proposed development site. The south eastern portion of the farm alongside the R64, particularly has been heavily ripped by bulldozers while the landholdings east of the new site office/parking complex (Farm 1726), was historically, subjected to intensive diamond prospecting where large spoil dumps of gravel and excavations are visible over the transformed landscape.

As archaeological sites are concerned, most of the occurrences are lacking in context. While several dispersed scatters of tools were recorded, mostly outside the proposed footprint area, no evidence of any factory or workshop site, or the result of any human settlement was identified within the proposed development site. It is maintained that most of the archaeological remains therefore comprise discarded flakes, flake debris and debitage.

A collection of tools documented during the study and the context in which they were found are illustrated in Figures 12-29.

6.1 Grading of archaeological resources

Overall, despite the relatively large numbers of tools that were, recorded during the study, the mostly disturbed context in which they were found, means that the archaeological remains have been graded as having *low* (Grade 3C) significance.

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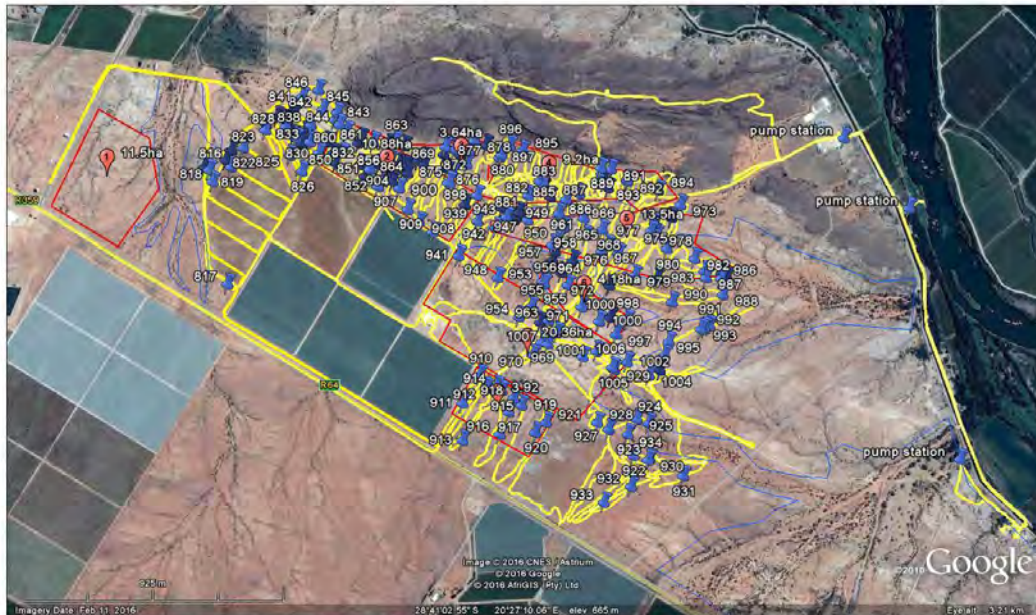


Figure 8. Google satellite map of the proposed development site, including waypoints of archaeological finds and survey track paths (in yellow)



Figure 9. Close up Google satellite map of the proposed development site, including waypoints of archaeological finds and survey track paths (in yellow)

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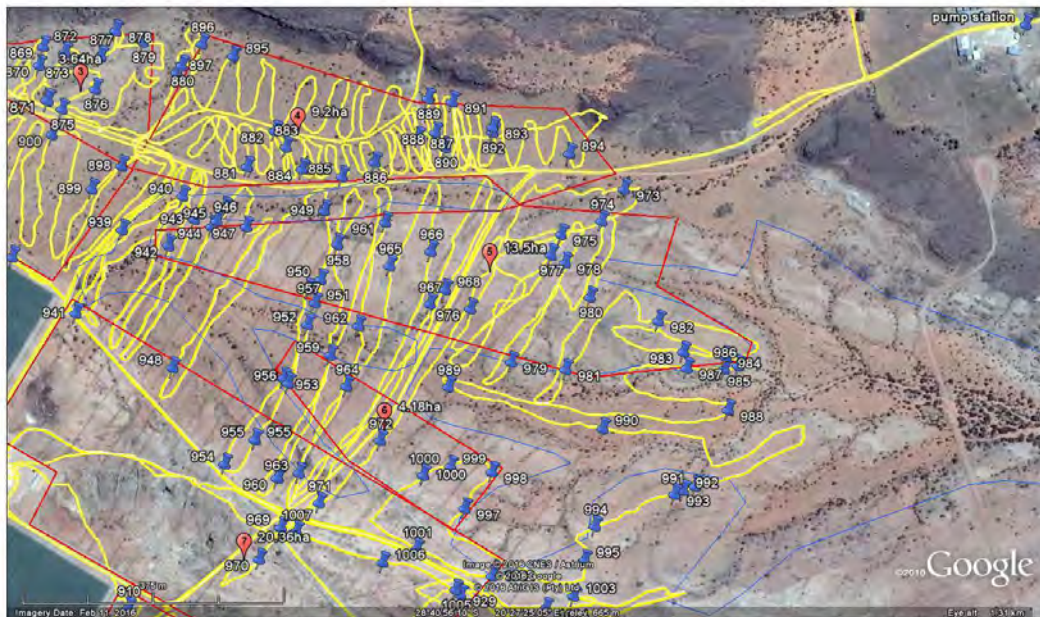


Figure 10. Close up Google satellite map of the proposed development site, including waypoints of archaeological finds and survey track paths (in yellow)



Figure 11. Close up Google satellite map of the proposed development site, including waypoints of archaeological finds and survey track paths (in yellow)

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| Site | Farm name | Lat/long | Description of finds | Grading | Suggested mitigation |
|------|--------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------|---------|----------------------|
| | Farm 1726 Renosterkop | | All in banded ironstone unless otherwise stated | | |
| 815 | | S28° 40.767' E20° 26.464' | Retouched flake | 3C | None required |
| 816 | | S28° 40.772' E20° 26.475' | Retouched flake | 3C | None required |
| 817 | | S28° 40.989' E20° 26.515' | Retouched chunk | 3C | None required |
| 818 | | S28° 40.795' E20° 26.482' | Chunk | 3C | None required |
| 819 | | S28° 40.766' E20° 26.523' | Utilized flake | 3C | None required |
| 820 | | S28° 40.753' E20° 26.511' | Retouched flake | 3C | None required |
| 821 | | S28° 40.734' E20° 26.524' | Chunk and flake | 3C | None required |
| 822 | | S28° 40.729' E20° 26.550' | Chunk | 3C | None required |
| 823 | | S28° 40.695' E20° 26.598' | Flaked chunk/cobble | 3C | None required |
| 824 | | S28° 40.685' E20° 26.599' | Core | 3C | None required |
| 825 | | S28° 40.744' E20° 26.650' | Core/broken chunk | 3C | None required |
| 826 | | S28° 40.774' E20° 26.675' | Quartz chunk | 3C | None required |
| 827 | | S28° 40.670' E20° 26.623' | Thin, punch-struck utilised flake/bladelet | 3C | None required |
| 828 | | S28° 40.689' E20° 26.642' | Large core | 3C | None required |
| 829 | | S28° 40.705' E20° 26.657' | Broken core/chunk | 3C | None required |
| 830 | | S28° 40.710' E20° 26.663' | 2 utilised/retouched flakes & round core | 3C | None required |
| 831 | | S28° 40.721' E20° 26.676' | Chunk, 2 flakes | 3C | None required |
| 832 | | S28° 40.739' E20° 26.713' | Flake | 3C | None required |
| 833 | | S28° 40.718' E20° 26.693' | Dispersed (low density) scatter of tools on surface gravels, including utilized/retouched flakes, chunks | 3C | None required |
| 834 | | S28° 40.700' E20° 26.681' | Same as above, low density scatter of tools in surface gravels, including chunks, flakes, utilised, retouched pieces | 3C | None required |
| 835 | | S28° 40.679' E20° 26.645' | Utilised/retouched flake | 3C | None required |
| 836 | | S28° 40.661' E20° 26.652' | Pebble/chunk | 3C | None required |
| 837 | | S28° 40.666' E20° 26.659' | Dispersed (low density) scatter of tools on surface gravels | 3C | None required |
| 838 | | S28° 40.686' E20° 26.695' | Dispersed (low density) scatter of tools on surface gravels / possibly scraped | 3C | None required |
| 839 | | S28° 40.718' E20° 26.730' | Same as above | 3C | None required |
| 840 | | S28° 40.740' E20° 26.744' | Same as above | 3C | None required |
| 841 | | S28° 40.632' E20° 26.677' | Same as above, including indurated shale flake & round core | 3C | None required |
| 842 | | S28° 40.394' E20° 26.433' | Same as above – low density | 3C | None required |
| 843 | | S28° 40.676' E20° 26.747' | Same as above – low density | 3C | None required |
| 844 | | S28° 40.685' E20° 26.758' | Medium density scatter, on extensive surface gravels | 3C | None required |
| 845 | | S28° 40.662' E20° 26.753' | Same as above | 3C | None required |

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| | | | | | |
|-----|--|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------|
| 846 | | S28° 40.619' E20° 26.712' | Same as above | 3C | None required |
| 847 | | S28° 40.784' E20° 26.813' | Dispersed scatter of tools on surface gravels | 3C | None required |
| 848 | | S28° 40.761' E20° 26.803' | Same as above | 3C | None required |
| 849 | | S28° 40.758' E20° 26.750' | Same as above | 3C | None required |
| 850 | | S28° 40.740' E20° 26.764' | Medium-higher density scatter of tools on surface gravels, including utilised/retouched flakes, some quartz | 3C | None required |
| 851 | | S28° 40.770' E20° 26.824' | Dispersed (low density) scatter of tools surface gravels, including chunks, utilised/retouched flakes & round core. | 3C | None required |
| 852 | | S28° 40.804' E20° 26.842' | Blade & flake | 3C | None required |
| 853 | | S28° 40.794' E20° 26.853' | Dispersed – low density scatter on surface gravels | 3C | None required |
| 854 | | S28° 40.780' E20° 26.863' | Same as above | 3C | None required |
| 855 | | S28° 40.760' E20° 26.888' | Same as above | 3C | None required |
| 856 | | S28° 40.755' E20° 26.870' | Same as above | 3C | None required |
| 857 | | S28° 40.762' E20° 26.844' | Same as above | 3C | None required |
| 858 | | S28° 40.720' E20° 26.799' | Same as above | 3C | None required |
| 859 | | S28° 40.711' E20° 26.805' | Same as above, including weathered indurated shale chunk & core-reduced flake (slightly higher density) | 3C | None required |
| 860 | | S28° 40.698' E20° 26.774' | Dispersed scatter around small outcrop at base of Renosterkop Peak. Low / medium density scatter including retouched & utilised flakes, chunks | 3C | None required |
| 861 | | S28° 40.719' E20° 26.832' | Low density dispersed scatter | 3C | None required |
| 862 | | S28° 40.722' E20° 26.865' | Same as above | 3C | None required |
| 863 | | S28° 40.718' E20° 26.880' | Slightly lower density scatter on red sandy slope | 3C | None required |
| 864 | | S28° 40.736' E20° 26.869' | Low density scatter on red sandy slopes | 3C | None required |
| 865 | | S28° 40.726' E20° 26.900' | Same as above | 3C | None required |
| 866 | | S28° 40.748' E20° 26.941' | Same as above | 3C | None required |
| 867 | | S28° 40.753' E20° 26.930' | Same as above, including occasional quartz, chunk, flake, core & porphyry | 3C | None required |
| 868 | | S28° 40.762' E20° 26.943' | Low density scatter on surface gravels, including indurated shale (alongside road) | 3C | None required |
| 869 | | S28° 40.728' E20° 26.989' | Low density scatter on upper red sandy slopes below Renosterkop | 3C | None required |
| 870 | | S28° 40.742' E20° 26.986' | Dispersed scatter on surface gravels/? Scraped | 3C | None required |
| 871 | | S28° 40.769' E20° 26.993' | Low-density dispersed | 3C | None required |

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| | | | | | |
|-----|--|---------------------------|---------------------------------------------------------------------------------------------------------|----|---------------|
| | | | scatter on surface gravels included MSA prepared platform | | |
| 872 | | S28° 40.732' E20° 27.008' | Low density, mostly isolated tools on upper red sandy slopes at base of Renosterkop | 3C | None required |
| 873 | | S28° 40.743' E20° 27.021' | Low-density scatter – same as above including quartz & MSA flake | 3C | None required |
| 874 | | S28° 40.743' E20° 27.021' | - | 3C | None required |
| 875 | | S28° 40.776' E20° 27.008' | Isolated tools on gravel surface gravel | 3C | None required |
| 876 | | S28° 40.761' E20° 27.035' | Low-density, dispersed scatter on extensive surface gravels, also weathered indurated shale MSA | 3C | None required |
| 877 | | S28° 40.736' E20° 27.040' | Pointed MSA flake | 3C | None required |
| 878 | | S28° 40.715' E20° 27.054' | Dispersed scatter on base of mountain | 3C | None required |
| 879 | | S28° 40.724' E20° 27.078' | Medium density scatter on slope below mountain. | 3C | None required |
| 880 | | S28° 40.743' E20° 27.112' | Flake | 3C | None required |
| 881 | | S28° 40.821' E20° 27.170' | Flake | 3C | None required |
| 882 | | S28° 40.793' E20° 27.194' | Chunk & flake | 3C | None required |
| 883 | | S28° 40.806' E20° 27.203' | Utilized/retouched flake | 3C | None required |
| 884 | | S28° 40.823' E20° 27.218' | Chunk and 2 flakes utilized/retouched | 3C | None required |
| 885 | | S28° 40.829' E20° 27.253' | Dispersed scatter, including vein quartz flake on surface gravels | 3C | None required |
| 886 | | S28° 40.818' E20° 27.282' | Dispersed scatter, including on surface gravels including large indurated shale flake | 3C | None required |
| 887 | | S28° 40.798' E20° 27.320' | Quartz core. Red sands, tufts of grass and sporadic trees | 3C | None required |
| 888 | | S28° 40.795' E20° 27.336' | Ostrich egg-shell fragment | 3C | None required |
| 889 | | S28° 40.768' E20° 27.329' | Indurated shale flake, quartz point, quartz chunk, indurated shale chunk, low density dispersed scatter | 3C | None required |
| 890 | | S28° 40.806' E20° 27.344' | Banded ironstone flake, quartz chunk & flakes | 3C | None required |
| 891 | | S28° 40.771' E20° 27.351' | GRAVE | 3C | None required |
| 892 | | S28° 40.771' E20° 27.351' | Banded ironstone flake | 3C | None required |
| 893 | | S28° 40.791' E20° 27.386' | Indurated shale, cobble/core | 3C | None required |
| 894 | | S28° 40.811' E20° 27.454' | Flake | 3C | None required |
| 895 | | S28° 40.735' E20° 27.158' | Flake & cortex/cobble chunk on red sands | 3C | None required |
| 896 | | S28° 40.726' E20° 27.130' | Fragment of ostrich egg shell | 3C | None required |

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| | | | | | |
|-----|--|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------|
| 897 | | S28° 40.748' E20° 27.107' | Dispersed scatter of tools on red sands and surface gravels. Manuports chunks, flakes (see Site 880) | 3C | None required |
| 898 | | S28° 40.821' E20° 27.059' | Quartz flake | 3C | None required |
| 899 | | S28° 40.839' E20° 27.032' | Indurated shale flake | 3C | None required |
| 900 | | S28° 40.796' E20° 26.997' | Dispersed scatter of tools on surface alongside excavated trench | 3C | None required |
| 901 | | S28° 40.778' E20° 26.906' | Chunk & flake | 3C | None required |
| 902 | | S28° 40.765' E20° 26.905' | Dispersed scatter of tools on surface gravels | 3C | None required |
| 903 | | S28° 40.807' E20° 26.889' | Flake on surface gravels | 3C | None required |
| 904 | | S28° 40.807' E20° 26.889' | Weathered MRP | 3C | None required |
| 906 | | S28° 40.794' E20° 26.874' | Cortex chunk & chert cobble core | 3C | None required |
| 907 | | S28° 40.847' E20° 26.907' | Dispersed scatter of tools between road and tunnel on gravelly red sands & diggings/drainage trench/spoil dump | 3C | None required |
| 908 | | S28° 40.872' E20° 26.932' | Flake and chunk (alles opgemeng) around spoil dumps. The whole area is degraded | 3C | None required |
| 909 | | S28° 40.891' E20° 26.962' | Lots of road gravel, loose piles of stone, pebbles, chunks and occasional flake | 3C | None required |
| 910 | | S28° 41.163' E20° 27.064' | Wide strip of gravel alongside vineyards. Lots of banded ironstone pebbles/cobbles. Some worked, including flakes, chunks, cores but LOW density dispersed MSA blade. Surrounding area very disturbed scraped roads | 3C | None required |
| 911 | | S28° 41.217' E20° 27.027' | Fields are heavily ripped, mainly dispersed and isolated tools on extensive gravels. Diggings, piles, ripped fields, excavated drainage lines. Large piles of spoil. Ripped top-to-bottom, almost entirely, totally degraded. | 3C | None required |
| 912 | | S28° 41.187' E20° 27.079' | Same as above - | 3C | None required |
| 913 | | S28° 41.288' E20° 27.026' | Same as above | 3C | None required |
| 914 | | S28° 41.184' E20° 27.100' | Same as above | 3C | None required |
| 916 | | S28° 41.193' E20° 27.112' | Same as above | 3C | None required |
| 917 | | S28° 41.234' E20° 27.127' | Same as above | 3C | None required |
| 918 | | S28° 41.207' E20° 27.139' | Same as above | 3C | None required |
| 919 | | S28° 41.221' E20° 27.156' | Same as above | 3C | None required |

Archaeological Impact Assessment, proposed agricultural development on Farm 1726, Farm 1290 and Farm 1537 Augrabies, Northern Cape

| | | | | | |
|-----|--|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------|
| 920 | | S28° 41.274' E20° 27.185' | Same as above | 3C | None required |
| 921 | | S28° 41.254' E20° 27.209' | Same as above | 3C | None required |
| 922 | | S28° 41.317' E20° 27.400' | Flake and chunk on extensive surface gravels | 3C | None required |
| 923 | | S28° 41.277' E20° 27.388' | Occasional flake and chunk on exposed gravels. Large numbers of ironstone pebbles. | 3C | None required |
| 924 | | S28° 41.255' E20° 27.433' | Quartz flake and indurated shale blade (MSA) | 3C | None required |
| 925 | | S28° 41.248' E20° 27.407' | Chunk & quartz flake. | 3C | None required |
| 927 | | S28° 41.267' E20° 27.346' | Lots of quartz stone alongside ripped fields and gravel road. Surface gravels, isolated and dispersed scatter of tools, including indurated shale (MSA) | 3C | None required |
| 928 | | S28° 41.254' E20° 27.321' | Thin scatter of tools on surface gravels, including large round core, chunks, flat flake, utilised and retouched chunks. Lots of smooth banded ironstone pebbles/stone, quartzite chunk, MSA quartzite flake (prepared platform) | 3C | None required |
| 929 | | S28° 41.153' E20° 27.358' | Dispersed scatter of tools on surface gravels; diggings, scrapings, spoil dump, ripped drainage channels, MSA quartzite flake. | 3C | None required |
| 930 | | S28° 41.326' E20° 27.432' | Low-density scatter of stone age flakes on sandy slope. Tufts of grass | 3C | None required |
| 931 | | S28° 41.357' E20° 27.509' | Scatter of flakes on exposed gravels | 3C | None required |
| 932 | | S28° 41.376' E20° 27.395' | Low density scatter on exposed gravels | 3C | None required |
| 933 | | S28° 41.407' E20° 27.335' | Vein quartz flake | 3C | None required |
| 934 | | S28° 41.324' E20° 27.435' | Indurated shale, banded ironstone, quartzite core. Chunks on red sands, along drainage channel (refer to Site 930). | 3C | None required |
| 936 | | S28° 40.845' E20° 28.001' | Chunk | 3C | None required |
| 937 | | S28° 41.324' E20° 28.112' | Flake | 3C | None required |
| 938 | | S28° 40.711' E20° 27.858' | Flake utilized/retouched | 3C | None required |
| 939 | | S28° 40.870' E20° 27.059' | Quartz flake, red sands, tufts of grass, quartz chunks | 3C | None required |
| 940 | | S28° 40.844' E20° 27.113' | Ironstone chunk | 3C | None required |
| 941 | | S28° 40.934' E20° 27.018' | Dispersed scatter of tools on surface gravels | 3C | None required |

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1290 and Farm 1537 Augrabies, Northern Cape

| | | | | | |
|-----|--|---------------------------|------------------------------------------------------------------------------|----|---------------|
| | | | alongside road. Chunks, quartz flake, quartz core. | | |
| 942 | | S28° 40.882' E20° 27.100' | Indurated shale flake | 3C | None required |
| 943 | | S28° 40.862' E20° 27.123' | Quartz core | 3C | None required |
| 944 | | S28° 40.868' E20° 27.138' | Chunk/cortex cobble | 3C | None required |
| 945 | | S28° 40.863' E20° 27.143' | Large ironstone chunk | 3C | None required |
| 946 | | S28° 40.853' E20° 27.150' | Chunk | 3C | None required |
| 947 | | S28° 40.868' E20° 27.169' | Isolated tools on extensive surface gravels of quartz | 3C | None required |
| 948 | | S28° 40.977' E20° 27.104' | Flake | 3C | None required |
| 949 | | S28° 40.855' E20° 27.237' | Chunk & flake | 3C | None required |
| 950 | | S28° 40.908' E20° 27.234' | Isolated tools on extensive surface gravels | 3C | None required |
| 951 | | S28° 40.926' E20° 27.229' | Dispersed scatter of tools including, flakes, chunk, manuports | 3C | None required |
| 952 | | S28° 40.943' E20° 27.223' | Small flake | 3C | None required |
| 953 | | S28° 40.984' E20° 27.201' | Several flakes on surface gravel | 3C | None required |
| 954 | | S28° 41.052' E20° 27.150' | Dispersed low-density scatter of isolated tools on extensive surface gravels | 3C | None required |
| 955 | | S28° 41.032' E20° 27.177' | Same as above | 3C | None required |
| 956 | | S28° 40.989' E20° 27.205' | Same as above | 3C | None required |
| 957 | | S28° 40.915' E20° 27.223' | Same as above | 3C | None required |
| 958 | | S28° 40.881' E20° 27.249' | Same as above | 3C | None required |
| 959 | | S28° 40.967' E20° 27.243' | Same as above | 3C | None required |
| 960 | | S28° 41.063' E20° 27.196' | Same as above | 3C | None required |
| 961 | | S28° 40.864' E20° 27.291' | Same as above | 3C | None required |
| 962 | | S28° 40.944' E20° 27.267' | Same as above | 3C | None required |
| 963 | | S28° 41.058' E20° 27.215' | Same as above | 3C | None required |
| 964 | | S28° 40.991' E20° 27.257' | Same as above | 3C | None required |
| 965 | | S28° 40.898' E20° 27.295' | Same as above | 3C | None required |
| 966 | | S28° 40.887' E20° 27.332' | Same as above, including large quartzite core/chunk | 3C | None required |
| 967 | | S28° 40.927' E20° 27.331' | Low-density scatter of isolated tools alongside road on surface gravels | 3C | None required |
| 968 | | S28° 40.916' E20° 27.344' | Low-density scatter of isolated tools alongside road on surface gravels | 3C | None required |
| 969 | | S28° 41.101' E20° 27.199' | Same as above | 3C | None required |
| 970 | | S28° 41.125' E20° 27.180' | Same as above | 3C | None required |
| 971 | | S28° 41.082' E20° 27.233' | Same as above | 3C | None required |
| 972 | | S28° 41.033' E20° 27.287' | Same as above | 3C | None required |
| 973 | | S28° 40.839' E20° 27.503' | Same as above | 3C | None required |
| 974 | | S28° 40.863' E20° 27.483' | Worked out core alongside drainage channel | 3C | None required |
| 975 | | S28° 40.874' E20° 27.447' | Isolated tools alongside drainage channel | 3C | None required |
| 976 | | S28° 40.931' E20° 27.367' | Same as above | 3C | None required |
| 977 | | S28° 40.889' E20° 27.438' | Quartzite chunk/?miscellaneous grindstone/Anvil | 3C | None required |

Archaeological Impact Assessment, proposed agricultural development on Farm 1726, Farm
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| | | | | | |
|------|--|---------------------------|-------------------------------------------------------------|----|---------------|
| 978 | | S28° 40.896' E20° 27.451' | Core | 3C | None required |
| 979 | | S28° 40.972' E20° 27.403' | Chunk | 3C | None required |
| 980 | | S28° 40.922' E20° 27.473' | 2 flakes | 3C | None required |
| 981 | | S28° 40.978' E20° 27.451' | Large chunk/core | 3C | None required |
| 982 | | S28° 40.940' E20° 27.533' | Quartzite cobble chunk | 3C | None required |
| 983 | | S28° 40.964' E20° 27.555' | Indurated shale flake & cobble chunk/core | 3C | None required |
| 984 | | S28° 40.968' E20° 27.593' | Indurated shale / cortex cobble flake | 3C | None required |
| 985 | | S28° 40.975' E20° 27.604' | Small flake | 3C | None required |
| 986 | | S28° 40.978' E20° 27.591' | Large bifacial retouched MSA point & broken flake | 3C | None required |
| 987 | | S28° 40.977' E20° 27.558' | Ironstone chunk | 3C | None required |
| 988 | | S28° 41.009' E20° 27.595' | Cobble cortex core | 3C | None required |
| 989 | | S28° 40.991' E20° 27.347' | Weathered ironstone chunk/cortex | 3C | None required |
| 990 | | S28° 41.024' E20° 27.484' | Round quartz core | 3C | None required |
| 991 | | S28° 41.068' E20° 27.566' | Core-reduced flake & chunk | 3C | None required |
| 992 | | S28° 41.072' E20° 27.555' | Round core | 3C | None required |
| 993 | | S28° 41.075' E20° 27.547' | Isolated tools on gravels near drainage channel | 3C | None required |
| 994 | | S28° 41.100' E20° 27.477' | Same as above – deep drainage channels | 3C | None required |
| 995 | | S28° 41.126' E20° 27.468' | Same as above – drainage channels | 3C | None required |
| 997 | | S28° 41.086' E20° 27.362' | Same as above & quartzite flaked chunk | 3C | None required |
| 998 | | S28° 41.058' E20° 27.386' | Same as above & MSA flake | 3C | None required |
| 999 | | S28° 41.053' E20° 27.349' | Isolated core, flake chunk – drainage channels | 3C | None required |
| 1000 | | S28° 41.060' E20° 27.325' | Flaked chunk – drainage channels | 3C | None required |
| 1001 | | S28° 41.118' E20° 27.319' | Occasional isolated tools on exposed gravels alongside road | 3C | None required |
| 1002 | | S28° 41.139' E20° 27.386' | Same as above – drainage channels | 3C | None required |
| 1003 | | S28° 41.154' E20° 27.458' | Same as above | 3C | None required |
| 1004 | | S28° 41.163' E20° 27.433' | Same as above | 3C | None required |
| 1005 | | S28° 41.149' E20° 27.354' | Same as above | 3C | None required |
| 1006 | | S28° 41.128' E20° 27.289' | Same as above & MSA quartzite flake | 3C | None required |
| 1007 | | S28° 41.104' E20° 27.213' | Same as above | 3C | None required |

Table. Spreadsheet of waypoints and description of archaeological finds



Figure 12. Collection of tools. Scale is in cm



Figure 13. Context in which some of the finds were made



Figure 14. Collection of tools. Scale is in cm



Figure 15. Collection of tools. Scale is in cm



Figure 16. Context in which some of the finds were made



Figure 17. Collection of tools. Scale is in cm



Figure 18. Context in which some of the finds were made



Figure 19. Collection of tools. Scale is in cm



Figure 20. Context in which some of the finds were made



Figure 21. Collection of tools. Scale is in cm



Figure 22. Context in which some of the finds were made



Figure 23. Collection of tools. Scale is in cm



Figure 24. Collection of tools. Scale is in cm



Figure 25. Collection of tools. Scale is in cm



Figure 26. Anvil/flake chunk (Site 977). Scale is in cm



Figure 27. Collection of tools. Scale is in cm



Figure 28. Collection of tools. Scale is in cm



Figure 29. Collection of tools. Scale is in cm



Figure 30. Context in which some of the tools were found



Figure 31. Context in which some of the tools were found

6.2 Built environment/historical structures

In terms of the built environment, apart from existing farm infrastructure, including a new office/parking/store complex currently being built, no old buildings, structures or features, or any old equipment was found on the proposed development site.

The insubstantial stone walled structures associated with the short lived Renosterkop diamond diggings (1927), and tin/tungsten mining (circa 1940) on Renosterkop Peak (Morris & Beaumont 1991), will not be impacted by the proposed development or associated activities.

6.3 Graves

A single grave (Site 891) was recorded on the soft, red sands at the base of Renosterkop Peak (Figure 32). Comprising a pile of deliberately arranged stone, no head or foot stone is evident, suggesting that the grave is not a Christian burial (Figures 33 & 34). Historical evidence indicates that Renosterkop Peak, also known as! Nawabdanas, was settled by Namneiqua pastoralists, while groups of people, including 'Bastards', 'Kafirs', Korannas and Bushman were reported from the area in the late 1800s. The grave could conceivably belong to any one of these groups. It is also noted that some of the known Kakamas-Augrabies burials were exhumed from the banks of the Orange River at Renosterkop in 1936 (Dreyer & Meiring 1937; Morris & Beaumont 1991). No grave goods such as shell, glass or metal items/containers were found associated with the grave, therefore indicating considerable antiquity. The grave is about 30m from Site 889 which comprises a thin scatter of tools in banded ironstone, indurated shale and quartz.

Graves/burials are graded as having *high* (3A) local significance.

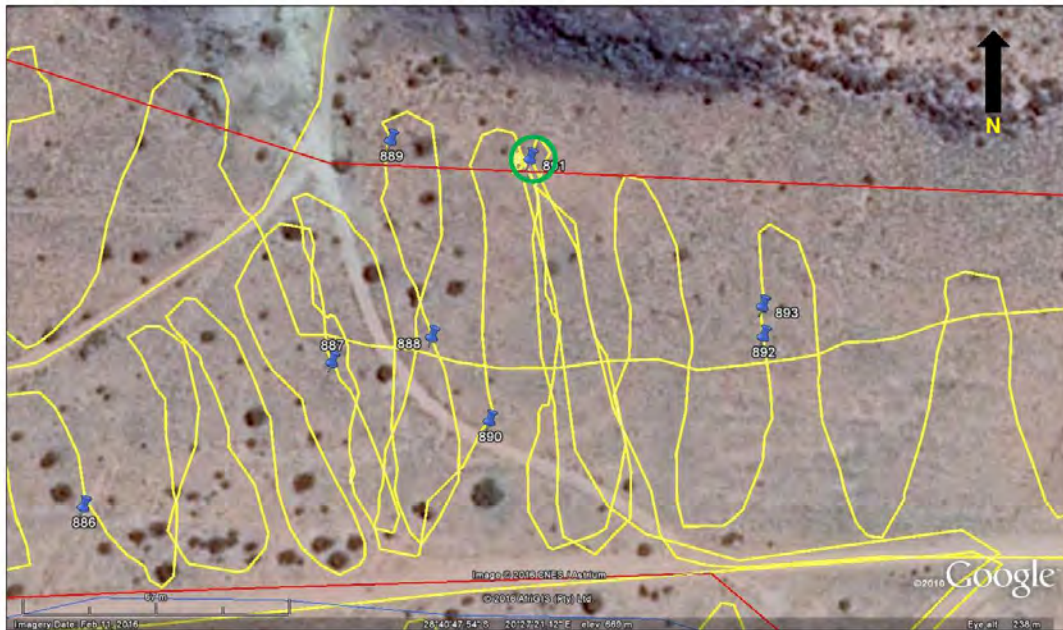


Figure 32. Green polygon indicates the grave (Site 891) at base of Renosterkop Peak. Yellow lines are track paths



Figure 33. Grave (Site 891). View facing south



Figure 34. Grave (Site 891). View facing north west

7. ASSESSMENT OF IMPACTS

In the case of a proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, including associated infrastructure (i.e. pump station & water pipeline), it is expected that archaeological impacts will occur during the implementation phase of the project, but that the overall impact on archaeological resources will be *LOW* (Table 2).

| Potential impacts on archaeological heritage | |
|----------------------------------------------|---------------|
| Extent of impact: | Site specific |
| Duration of impact; | Permanent |
| Intensity | Low |
| Probability of occurrence: | Probable |
| Significance without mitigation | Low |
| Significance with mitigation | Negative |
| Confidence: | High |

Table 2. Assessment of archaeological impacts.

8. CONCLUSION

The study has captured a good record of the archaeological heritage present on the proposed development site. Indications are that, in terms of archaeological heritage, the affected environment is not a sensitive or threatened landscape. The impact significance of the proposed development on important archaeological heritage is therefore assessed as *LOW*.

Therefore, there are no objections to the authorization of the proposed vineyard development.

9. RECOMMENDATIONS

With regard to the proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, the following recommendations are made:

1. No mitigation is required prior to proposed development activities commencing.
2. A buffer of 10m must be set around the grave (Site 891). Alternatively, the grave must be fenced off prior to development activities commencing.
3. Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during preparation of the lands for cultivation, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (Ms Natasha Higgitt 021 462 4502). Burials, etc. must not be removed or disturbed until inspected by the archaeologist.
4. The above recommendations must be incorporated into the Environmental Management Plan (EMP) for the proposed development.

10. REFERENCES

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11.3.2.2 Palaeontology letter

Proposed new vineyard development on Farm 1726 Renosterkop, Farm 1290 & Farm 1537 Augrabies, Northern Cape

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January 2017

Executive summary

The proposed agricultural development comprises new vineyards and a short buried pipeline on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 near Augrabies, c. 1 km south of the River Orange, Northern Cape. The development footprint is underlain by (1) ancient Precambrian igneous and metamorphic bedrocks that do not contain fossils as well as (2) sparsely fossiliferous or unfossiliferous superficial sediments (alluvium, aeolian sands, surface gravels) of probable Quaternary to Recent age. In view of the small development footprint and the very low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned. However, should substantial fossil remains (e.g. vertebrate bones and teeth) be encountered during construction, the responsible ECO should inform SAHRA at the earliest opportunity to consider possible mitigation measures.

1. Project description

Oseiland Eiendomme (Pty) Ltd is proposing to develop new vineyards on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies situated c. 11 km NW of Kakamas, Kai! Garib Municipality, Northern Cape (Fig. 1). The proposed agricultural development will cover a footprint area of about 77 ha and is located about one kilometre south of the River Orange and due east of Augrabies settlement. Water for the new vineyards will be supplied from a pump station located on the banks of the Orange River on the north-eastern edge of the study area. The vineyards will be supplied with water via a 3.2 km-long buried pipeline placed alongside existing gravel farm roads. The property is currently zoned for Agriculture. Existing access roads will be used, and no new access roads will be constructed.

An EIA for this agricultural development proposal is being co-ordinated by Pieter Badenhorst Professional Services (PO Box 1058, Wellington, 7654. CelL: 0827763422. Fax: 0866721916. E-mail: pbps@iafrica.com). The present report contributes to the HIA component being compiled by Jonathan Kaplan of ACRM (5 Stuart Road, Rondebosch, 7700. Ph/Fax: 021 685 7589. Cell: 082 321 0172. E-mail: acrm@wcaccess.co.za).



Figure 1. Google earth© satellite image showing the broader vineyard and pipeline study site (red polygon) on Farm 1726 Renosterkop, Farm 1290 and Farm 1537 Augrabies situated just east of Augrabies settlement and c. 11 km NW of Kakamas, Northern Cape. Internal roads and the R359 tar road are indicated in red and yellow respectively. The pump station is located along the banks of the Orange River on the north-eastern edge of the study area.

2. Geological context

Field photos and satellite images show an arid, sparsely-vegetated, fairly flat-lying study area at 650-670 m amsl that is mantled in orange-brown sandy soils and gravels and drained by numerous dendritic ephemeral stream systems, tributaries of the Orange River that runs about one kilometre to the north. The area lies on the southern and southwestern side of a small, west-east trending hill called Renosterkop and has been disturbed in part by trenching.

The geological setting of the study area is shown on the 1: 250 000 geology sheet 2820 Upington (Fig. 2; Council for Geoscience, Pretoria) (Moen 2007). The underlying bedrocks are ancient Precambrian granite-gneisses such as the **Augrabies** and **Riemvasmaak Gneisses** of the **Namaqua-Natal Province** that are some 1.5 billion years old and entirely unfossiliferous (Cornell *et al.* 2006, Almond & Pether 2008).

The study area lies well away from the deeply-incised valley of the River Orange, so ancient (Tertiary - Quaternary) alluvial gravels of the Orange River system – which are known to be highly fossiliferous elsewhere (*e.g.* Partridge *et al.* 2006) are unlikely to be present here.

Superficial sediments away from the main drainage courses largely comprise surface gravels (mainly alluvial, sheetwash and deflation deposits), scree breccias derived from local elevated exposures of bedrock), reddish aeolian and locally-derived sands and perhaps near-surface calcretes, the last especially over lime-rich bedrock. The red sands may in part be assigned to the upper part of the **Kalahari Group (Gordonia Formation)** of late Caenozoic (Neogene /

Quaternary) age and the remaining alluvial sediments and probably of a similar, geological youthful age. Although fossil remains are occasionally encountered in these younger fluvial and terrestrial units – for example reworked mammalian bones and teeth, freshwater molluscs, calcretised root casts, termitaria, ostrich egg shells, land snail shells (Almond 2008, Almond & Pether 2008 and refs. therein) - they are sparsely distributed and occur over a very wide area, so the chances of serious impacts on unique fossil heritage resources here are only slight.

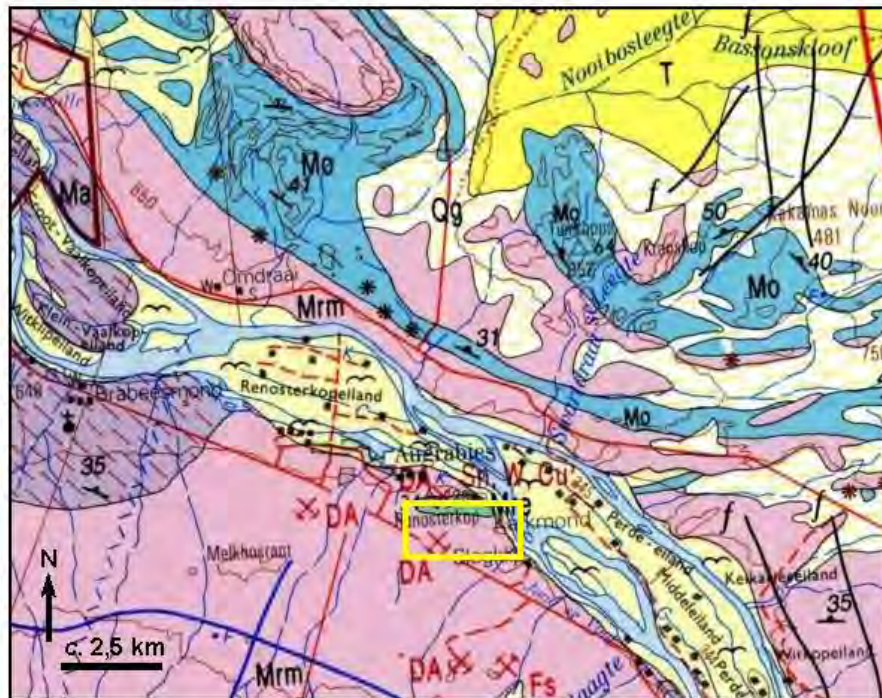


Figure 2. Extract from 1: 250 000 sheet 2820 Uppington (Council for Geoscience, Pretoria) showing the geology of the Augrabies vineyard project study area (yellow rectangle) on the southern side of the Orange River and c. 11 km NW of Kakamas, Northern Cape. Bedrock units Ma (purple, Augrabies Gneiss) and Mrm (pink, Riemvasmaak Gneiss) beneath the study area are unfossiliferous Precambrian (Proterozoic) basement rocks of the Namaqua-Natal Metamorphic Province. Renosterkop ridge is likewise built of gneissose Precambrian rocks (Mre, pale green, Renosterkop Gneiss).

3. Conclusions & recommendations

In view of the low palaeontological sensitivity of both the ancient Precambrian bedrocks as well as of the geologically recent superficial sediments along the Orange River in the Kakamas – Augrabies region, the proposed agricultural development – including new vineyards and a short buried pipeline - is not considered to pose a significant threat to palaeontological heritage.

Pending any significant new fossil discoveries in the area, no further specialist studies or mitigation are considered necessary for this agricultural project.

All South African fossil heritage is protected by the National Heritage Resources Act, 1999. Should substantial fossil remains - such as vertebrate bones and teeth, or petrified logs of fossil wood - be

encountered at surface or exposed during construction, the ECO should safeguard these, preferably *in situ*. They should then alert the relevant provincial heritage management authority as soon as possible - i.e. SAHRA (Contact details: Dr Ragna Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651. Email: rredelstorff@sahra.org.za). This is to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense.

These mitigation recommendations should be incorporated into the Environmental Management Programme (EMPr) for this agricultural project. Please note that:

- All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;
- The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);
- All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).

4. References

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5. Qualifications & experience of the author

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the

John E. Almond (2017)

4

Natura Viva cc

Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape, Limpopo, Mpumalanga, Northwest and Free State under the aegis of his Cape Town-based company *Natura Viva* cc. He was a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHP (Association of Professional Heritage Assessment Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Dr John E. Almond
Palaeontologist (*Natura Viva* cc)

11.3.3 Socio-Economic BBBEE Report

AgriBEE Management Report

Oseiland Boerdery

February 2017

AgriBEE MANAGEMENT REPORT

in compliance to National Water Act (1998)

for

Oseiland Boerdery

The farm Reingeluk 107

Rooipad

Augrabies

District of Kakamas

February 2017

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ACRONYMS

AgriBEE: The current finalised B-BBEE Sector Code for Agriculture co-signed by Departments Agriculture and Water Affairs (Government Gazette, 28 December 2012)

BEE: Black Economic Empowerment (Narrow Based Approach)

B-BBEE: Broad-Based Black Economic Empowerment (2007)

DTI: Department of Trade and Industry

EE: Employment Equity

QSE: Qualifying Small Enterprise (annual turnover between R5 and 35 million)

SETA: Sector Education Training Authority

WSP: Work Skills Plan

Black: As per definition in the finalised B-BBEE Codes of Good Practice of 2007: all Black, Coloured and Indian people that are South African Citizens by birth or prior to the elections of 1994

M: Male

F: Female

Oseiland Boerdery: The farming operation on the property portion farm Reingeluk 107, Rooipad in Augrabies district of Kakamas is operated under the name Oseiland Boerdery. The farming operation Oseiland Boerdery is therefor called the *measured entity* in terms of the AgriBEE Scorecard in this report. (See explanation under *Introduction*)

1 INTRODUCTION

The farm Reingeluk 107, Rooipad, near Kakamas district of Augrabies was bought by the Du Plessis family in 1980. It was at that time totally undeveloped land which was previously owned by the Trans-Hex mining company. The late Burger du Plessis (father of the current owners) was one of the first farmers in this area that experimented and started to plant and produce table grapes on this undeveloped land. His two sons, Jan and Piet took the development of this farming operation further after his death and developed a successful farming operation. More land was acquired over time and also citrus farming included. The entities Sitrusdal, Alkantrand Boerdery and Renosterkop Druive (grapes) are also today part of Oseiland Boerdery. The farming entity is therefore today one of the major employers of black people in the region.

The farming operation, Oseiland Boerdery (hereafter referred to as *Oseiland*) is the entity that employs all the employees and is therefore the AgriBEE measured entity in this report. This farming operation is now to be developed to its full potential, thus the need for the new water application.

The farming operation is from an AgriBEE perspective currently a QSE (Qualifying Small Enterprise). They were as such recently (September 2016) measured against 5 of the 7 elements of the existing AgriBEE QSE Scorecard as published in the Government Gazette of 28 December 2012.

The entity is aware of the fact that the generic B-BBEE Codes were recently amended and that alignment of the AgriBEE Sector Codes may follow in future. The entity is prepared to adjust to any amendments to the applicable sector Code as far as such amendments are economically viable.

The entity has committed itself to become AgriBEE compliant to an above average level of at least Level 3 (110% BEE Recognition based on the existing Codes) and has succeeded in this already by following a strict BEE strategy. The AgriBEE level of compliance for this entity was recently verified by the accredited BEE auditor NCB (Northern Cape BEE Verifications Pty Ltd). See attached certificate dated 9 September 2016.

This report will now summarise the result of the above-mentioned BEE audit and also outline their planned initiatives to keep and sustain this above-average level of compliance based on the current finalised AgriBEE Sector Codes.

The future strategic planning for the AgriBEE compliance of Oseiland is for now thus based on the targets as set out in the AgriBEE QSE Scorecard as published in the Government Gazette of 28 December 2012.

1.1 Background to this project

Efficient Empowerment Consultants has been appointed to assist Oseiland Boerdery with their farming operation in Augrabies near Kakamas in complying with the requirements in terms of reporting in the National Water Act (Act 36 of 1998). This was done to include a thorough insight into the current AgriBEE status of Oseiland in line with the most recent finalised legislation in this regard (*AgriBEE Codes of Good Practice, Dec. 2012*).

1.2 Purpose of this report

The National Water Act (NWA) came into operation in 1998. The purpose of the NWA is amongst others to ensure that South Africa's water resources "... are protected, used, developed, conserved, managed

and controlled in ways which take into account amongst other factors:

- 1.1.1 Promoting equitable access to water
 - 1.1.2 Redressing the results of past racial and gender discrimination
 - 1.1.3 Promoting the efficient, sustainable and beneficial use of water in public interest
 - 1.1.4 Facilitating social and economic development"
- (Act no 36, 1998, page 18, Government Gazette, 26 September 1998)

The Act also makes it very clear that when considering this socio-economic element, not only the impact if the application is authorised must be taken into account, but also the impact on "the failure to authorise the water use or uses" (27(1)(d)(ii))

This report thus aims to:

- Report on the social and economic management of access to a new water use licence as part of this specific farm and land area,
- Outline an AgriBEE Strategy that is aimed at employment, promoting and development of people, with specific emphasis on previously disadvantaged black people, inclusive of black women and rural people.

1.3 Submission of this AgriBEE Management Report

This AgriBEE Management Report details a summary of their current status, as well as a transformation programme where Oseiland sets out exactly how progress is going to be made in all the above-mentioned content areas and applicable elements on the AgriBEE Scorecard.

Compliance to the current finalised *AgriBEE Codes of Good Practice*, now also plays a part next to the existing EE (Employment Equity) and SD (Skills Development) legislation, in their current and future transformation initiative.

This document details the three programmes that form the heart of the report, namely:

- AgriBEE compliancy,
- EE and SD compliancy
- Local Economic Development (in the farm's locality as well as in the communities from which the bulk of its workforce is drawn and live)

With a proper AgriBEE strategy in place *Oseiland* now has the opportunity to not only sustain their above-average level of compliance, but also to correct any shortages they currently might have.

Breakdown of employees per sending area:

- All permanent employees are from the rural areas around Augrabies.
- Should this application for new water be successful, some seasonal positions will become permanent positions. It will also open up the opportunity for the owners to create new permanent employment and supervisory positions and a number of new seasonal positions. Preference will be given to appoint local new black applicants from the areas around Augrabies for these positions.

1.4 Vision for Oseiland

Oseiland wishes to obtain access to a new water use licence for the further development of the farming operation in a sustainable, environmental sensitive and socially responsible manner.

1.4.1 Farming

The farm is currently mostly planted with table grapes and citrus. The cultivatable portion of this farm is very favourable for the cultivation of high quality table grapes and citrus and can be further developed if more water is allocated. The intention is to develop and plant more vineyards and citrus trees on the farm for the production of table grapes and citrus fruit for mainly the export market. This will have a direct influence on sustainable profitability and employment opportunities on the farm.

1.4.1.1 Value-adding activities on the farm

Two value-adding initiatives were over years developed on the farm and the neighbouring portions to increase profitability as well as to increase and lengthen employment opportunities.

- **Packing facility**

A facility was developed over years to pack table grapes as well as citrus fruit mainly for the export market. This initiative favours the employment of women, with the result that much needed employment and also supervisory opportunities for black females were created. If more water can become available, more cultivars with different harvest times may be planted to further lengthen the season of employment for these mainly female black workers.

- **Raisin production**

The entity also developed an initiative to produce raisins from grapes not used to pack. These raisins are also now produced and packed for the export market. This initiative further lengthens seasonal employment opportunities for mainly black female workers.

Table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

More sustainable water will thus directly create more employment opportunities and also ensure growth in production and a lengthening of seasonal work for mainly black female workers and supervisors at both the value-adding facilities.

Oseiland aims to enhance the positive management of its operations, whilst supplying demand commodities for the local and export markets and as such creating more sustainable employment opportunities, mainly for rural black people inclusive of black females.

1.5 Objectives for utilisation of water

Application for this new water use licence to *Oseiland* is being made for the expansion of agricultural development and the value-adding initiatives on the farm.

The objectives for additional agricultural development include:

- Expansion of economic activity
- To create sustainable profitability to farming at *Oseiland*

- To create and ensure sustainable employment opportunities at *Oseiland*
- Increased inflow of revenue to a rural community with high poverty rate amongst black people
- *Oseiland* will also use this opportunity to create and sustain a farming entity that will be AgriBEE compliant, in line with the applicable AgriBEE Scorecard and a proper AgriBEE strategy.

2 AgriBEE (Agri Black Economic Empowerment)

2.1 Commitment to the Broad-Based Approach

In line with the most recent finalised legislation, Act 53 of 2003, and the B-BBEE Codes of Good Practice of 2007, The AgriBEE Codes of 28 December 2012, as well as the alignment of the *Preferential Procurement Policy Framework Act* (PPPFA of 2000) by Government with the Broad-Based approach to BEE (2011), *Oseiland* has embraced the Broad-Based approach to BEE as aligned with the AgriBEE Sector Codes. All current and future staff appointments, career progression, procurement of goods and/or services, skills development, enterprise development (including mentorship) and socio-economic development planning and spend, will be aligned with the objectives of their respective AgriBEE strategies.

2.2 AgriBEE Scorecard

As discussed under Introduction, the entity was recently measured against the latest finalised target of at least 5 of the 7 elements of the AgriBEE QSE Scorecard.

The following 6 elements emerged as the current best ones to concentrate on to maximise their level of compliance:

- Management Control
- Employment Equity
- Skills development
- Preferential Procurement
- Enterprise Development
- Socio-economic Development

The entity already started in the past to actively participate in B-BBEE initiatives.

They contracted our B-BBEE Consultancy to do a proper assessment of the current level of compliance for *Oseiland*, as well as a strategy on how to sustain and improve on this above-average level in future. The attached AgriBEE QSE Scorecard for *Oseiland* was verified by the B-BBEE approved registered Auditor Northern Cape BEE Verifications (Pty) Ltd in September 2016. This AgriBEE Scorecard was done not only as a starting point with the process of transformation, but is also now also used as an assessment on which their future AgriBEE initiatives will be based.

| AgriBEE QSE Scorecard: 9 September 2016 | | | |
|-----------------------------------------|------------|--------------|------|
| Name of company | Oseiland | Boerdery | |
| VAT Number | 4940114475 | | |
| Total BEE Score | 75,47 | | |
| BEE Status | LEVEL 3 | Recognition: | 125% |
| Ownership Fulfillment | | | |
| | | 20 | |

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| Category | Weighting Points | Compliance targets | Actual Level | Score |
|------------------------------------------------------------------------------------------------|-------------------------|---------------------------|---------------------|--------------|
| <i>Voting rights:</i> | | | | |
| Exercisable Voting Rights in the Enterprise in the hands of black People | 5 | 25% + 1vote | 0 | 0 |
| <i>Economic Interest:</i> | | | | |
| Economic Interest of Black People in the enterprise | 9 | 25% | 0 | 0 |
| <i>Realization points:</i> | | | | |
| Ownership Fulfillment | 1 | | 0 | 0 |
| Net Equity Interest: | 9 | | 0 | 0 |
| 10% of the Target (Year 1) | | | | |
| 20% of the Target (Year 2) | | | | |
| 40% of the Target (Year 3,4) | | | | |
| 60% of the Target (Year 5,6) | | | | |
| 80% of the Target (Year 7,8) | | | | |
| 100% of the Target (Year 9,10) | | | | |
| <i>Bonus points:</i> | | | | |
| Involvement of black women in the ownership of the Enterprise | 2 | 10% | 0 | 0 |
| <i>Land Ownership:</i> | | | | |
| Commercial agricultural land transferred or sold to black people | 20 | 30% | 0 | 0 |
| <i>Bonus points:</i> | | | | |
| Contribution to achieving in excess of 30% land transfer. Bonus point per each percentage >30% | 5 | >30% | 0 | 0 |
| <i>If full 20 points here add 25% to element</i> | | | | |
| Sub Total | | | | 0 |
| Management Control/Top management | | | 20 | |
| Owner-Manager Participation | Weighting points | Compliance targets | Actual Level | Score |
| Black representation at owner/top manager level | 20 | 50.10% | 30% | 11,98 |
| <i>Bonus points:</i> | | | | |
| Black women representation at owner/top manager | 2 | 25% | 0 | 0 |
| Sub Total | | | | 11,98 |
| Employment Equity | | | 20 | |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| Black representation at Controller/Supervisor level as a total of all management | 6 | 60% | 80% | 6 |
| Black women representation at Controller/Supervisor level as a total of all management | 6 | 30% | 22% | 4,40 |
| Black employees as percentage of all employees | 4 | 70% | 95,38% | 4 |
| Black women as percentage of all employees | 4 | 35% | 36,36% | 4 |
| Bonus point for meeting or exceeding the EAP targets in each of the above categories | 2 | EAP | Yes | 1 |

| | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------|----------------------|--------------|
| Sub Total | | | | 19,40 |
| Skills Development | | | | 20 |
| Skills Development Element | Weighting points | Compliance targets | Actual Level | Score |
| Employee enrollment/involvement in Recognised Training Programs | 5 | 30% | 0,55 | 4,09 |
| Skills development spend on black employees as a percentage of Leivable Amount (85% of spend focused on core skills as identified and accredited by the relevant SETA) | 15 | 2% | 0% | 0 |
| Percentage of employees participating in ABET level 3 training as a percentage of all employees | 2 | 2% | 0 | 0 |
| Sub Total | | | | 4,09 |
| Preferential Procurement | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| BEE Procurement Spend from all Suppliers based on the BEE Procurement Recognition Levels as a percentage of total measured procurement spend | 20 | 50% | 51,13% | 20 |
| Sub Total | | | | 20 |
| Enterprise Development | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| Average annual value of all Enterprise Development Contributions and Sector Specific Programs made by the Measured Entity as a percentage of target | 20 | 3% of NPAT | 0% | 0 |
| Sub Total | | | | 0 |
| Socio-Economic Development | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Levels | Score |
| Average annual value of all SED Contributions and Sector Specific Programs made by the Measured Entity as a percentage of target and/ or Land made available to farm workers measured from the commencement date of this Sector Code or the inception date over 10 years of the Code period. The inception date chosen by the measured entity must not be earlier than 5 years before the commencement date of this statement, but binds the measured entity for the duration of this statement | 20 | 1% of NPAT or 10% (land for farm workers) | 6,36% | 20 |
| Bonus Points: | | | | |

| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|--|---|--------------|
| Lease of 20% land or capital assets on a long term basis to black persons which meets the criteria of a qualifying transaction (par.5.1.1.2) | | | 0 | 0 |
| Sub Total | | | | 20 |
| Total | | | | 75,47 |

2.3 AgriBEE Status and Strategy

The current AgriBEE status for *Oseiland* as measured against the current AgriBEE QSE Scorecard is Level 3 which represents an AgriBEE recognition percentage of 125%.

Based on this information, the following 6 elements emerged as the ones that will be addressed in the immediate future to maintain and maximise the AgriBEE level of compliance for *Oseiland*:

2.3.1 Management Control

This element measures the representation of black managers on Top Management Level, with a target of 50,1% and a separate target for black females in such positions of 25%. The entity has black male employees on this level (30%), but currently no black female employees on this level.

2.3.2 Employment Equity

• Management (Controller/Supervisory positions)

On the current QSE AgriBEE Scorecard the first category of this element measures the percentage of black people and black females in **controller** and/or **supervisor positions**. The previous Adjusted Recognition of Gender (ARG) principle has now been replaced with a separate category to also measure the percentage of black females in such positions. The previous target of 40% black managers has now increased to 60%. Should this water application be successful, and the amount of workers and managers on the farm increase as expected, the measured entity will have to appoint and train black managers in a planned way, to make sure at least 60% of all managers are black. The separate target for black female employees in these positions is now 30%.

The entity has currently more (80%) than the target (60%) black men on this level, but not enough black women (22%, target 30%) in such supervisory positions. The entity will need to address this ratio when any supervisory positions needs to be created or filled in future.

• Black employees

The second category of this element measures the percentage of **black employees**. Again was the ARG replaced with a separate target for black female employees. This farming operation is currently employing more black employees (95,38%) than the target (70%), as well as more black female employees (36,36%) than the target of 35%. The entity plans to sustain this ratio with any new appointments.

Potential new positions

It is envisaged that *Oseiland* will need to create some new permanent and a number of new seasonal employee positions in the near future should the new water use be allocated. The entity also plans to convert some of the current seasonal positions to permanent positions should this water licence use

application be successful.

As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

The new water use licence will therefore create an immediate need to appoint more workers and supervisors.

The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.

- Skilled agricultural labourers
- Specific knowledge of vineyards and citrus fruit production will be needed
- Specific knowledge of fruit packing will be needed
- Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers.

Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

To identify candidates for career progression, the following methodology will be employed:

- Performance management process
- Informal discussions regarding career options
- Observation of performance of individuals whilst performing current tasks
- Review of years in service and likelihood of progressing further
- Review of performance via formalised performance assessment process

Commitment to Employment Equity and AgriBEE

Oseiland has now AgriBEE and EE strategies in place and all appointments are made in the spirit of EE and AgriBEE legislation, ensuring that people from previously disadvantaged groups are afforded the opportunity to obtain as far as possible permanent employment through the expansion and sustainability of the farming operation.

All employees employed by *Oseiland* are employed:

1. within the parameters of the Basic Conditions of Employment Act of 1997
2. as per the definition of "black person" in the B-BBEE Codes and AgriBEE Sector Codes
3. in accordance with Section 15 of the EE Act

In doing so, the following will thus always be taken into account in the employment process:

- Compliance to the race and gender targets/ratios as per AgriBEE Scorecard
- Demographic profile of the local population as per EE targets
- Inclusion of measures to identify and eliminate employment barriers
- Inclusion of measures to address and avoid unfair discrimination on the grounds of gender, sexual orientation or cultural background

- Ensuring that suitably qualified people from designated groups have equal employment opportunities
- Ensuring that people from designated groups are equally represented in all levels of the workforce
- Inclusion of measures designed to further diversity in the workplace based on equal dignity and respect for all people
- Retention and development of people from designated groups and implementation of appropriate training measures and skills development for all staff

Should there be vacancies in future positions will be filled to ensure that there is equitable representation from designated groups and all advertising for such positions shall state that *Oseiland* is an equal opportunity employer.

2.3.3 Skills development

A considerable effort was put into training and the transfer of skills to unskilled black employees, with measurable success. A huge portion of salaries and wages were spent on employees per definition *temporary* with the result that a relative high target were created for this element. The percentage compliance on this scorecard does not therefore reflect the correct picture for training to permanent employees. All future training will be correctly documented according to the guidelines of the *B-BBEE Verification Manual* and the regulations of the SD legislation. As in the past, care will also be taken in future to only use SETA accredited training providers as far as possible to ensure that employees gain the maximum benefit through the selection of suitable, tested providers and receive quality course material in line with accepted standards and current best practice. Efforts to comply with the SD Legislation and the Skills element on the AgriBEE Scorecard, will in future be aligned to ensure the maximum transfer of skills to black people. Again the previous ARG principle was replaced with a separate target for black female employees, which will result in the correct percentage of training and transfer of skills to black women. Training was last year done to improve technical as well as life skills of workers.

The primary objective of their Skills development programme is to ensure the availability of farming specific skills and competencies of the workforce, and also mentorship and skilling of employees for portable skills utilisable by the employees outside the context of agriculture.

Skills development of all staff is managed by *Oseiland*, who oversees and facilitates training. *Oseiland* provides all financial and logistical resources required to deliver such training and skills transfer.

As with the current staff, any new to be appointed staff will consist of skilled agricultural employees. Where skilled people are not available, unskilled workers will be recruited and then in-house trained to become skilled.

Training and development

Oseiland endorses a policy of undertaking training and development of its employees on a proactive basis, in order to:

- Ensure that employees have the core potencies required to carry out agricultural practices,
- Ensure that employees are in possession of transferable skills that can be used in other similar operations
- Ensure employees are in possession of life skills that would enable them to function in their day-to-day lives without difficulty, and

- Enable staff to reach realistic development aspirations, whilst encouraging them to grow and develop their personal capacity.

Identification of training courses and sources

Suitable training courses are sourced through the AgriSETA. Specific product- and technical training are also available from suppliers who supply products, seedlings, fertilizers, equipment, etc. to the farm, and workers are encouraged to do this training on an on-going basis.

Training is continuously to be aligned with the AgriSETA Sector Skills plan to ensure scarce and critical skills are addressed.

Historical training done for 2015/6:

| Training intervention | Percentage spend on Black employees |
|--------------------------|-------------------------------------|
| In-house training | 100% |
| SETA accredited training | 100% |

The following training was done:

- Occupational Health and Safety
- Forklift operator
- Team leaders
- Tractor driver
- Tractor maintenance/basic mechanics
- Fire fighting
- Vineyard preparation, pruning, monitoring and harvesting
- Orchard monitoring, pruning and harvesting
- Hygiene
- Pump operator
- Irrigation operator
- Hazardous substances

Focus on life skills training

Oseiland has currently set a training and development objective focusing also on the main problem areas in this community, namely:

- First aid and Occupational Health and Safety: This is not only necessary in the work environment, but also an important skill for workers living in a rural community where family and neighbours cannot always afford the basic medical attention needed.
- Literacy and numeracy skills development for all employees: The current employees are all literate, but it is expected that some of the seasonal workers needed, will not have the same literacy and numeracy skills. A percentage of people from the rural region do not have a secondary school education and cannot read or write properly. The new AgriBEE Codes has now a specific target for ABET training and *Oseiland* will now identify candidates that will qualify to do this.
- HIV/Aids and TB (tuberculosis) are constant health problems in rural areas: There is a clinic on the farm and the farm subsidises the services of a qualified nurse who visits the clinic every week. From

this clinic she also gives preventative information in this regard to workers and their families.

Life Skills training by accredited service providers are done annually where needed.

Beneficiaries per population group

Whereas the previous SD legislation measured the training of all workers, the current AgriBEE Scorecard more specifically now only award points for training and skills transfer of people per definition black and/or black women. Therefore the beneficiaries of training for compliance reasons will be in the ratio of the employees for SD purposes, but then predominantly black as per AgriBEE definition and targets.

To motivate individuals to participate in training programmes, the following incentives are set in place:

- Training is offered free of charge
- Employees are transported free of charge to training venues, if not on the farm
- Facilitated training sessions are provided
- Employees could schedule training during work hours so that no leave benefits are used up.
- Where possible and relevant, training is provided also free to spouses and registered dependents of employees.

Focus on non-farming skills for staff

Oseiland implements a strategy whereby employees are also equipped with portable skills to assist them in everyday life outside of the farming environment. Examples of such training include:

- Forklift licences
- Vineyard management and monitoring
- Orchard management and monitoring
- Health and safety
- Gardening skills
- First aid Skills
- Hygiene
- Basic mechanics
- Fire fighting

Mentorship Plan

Mentorship will now be approached in 2 areas:

- a.) In-house mentorship focussing on the transfer of general life skills to existing employees,
- b.) Mentorship outside the business to pre-identified suppliers/sub-contractors/service providers as part of the Enterprise development and Preferential Procurement initiatives of *Oseiland* in their efforts to comply with the relevant AgriBEE legislation (more about this under *Enterprise Development*)

The **mentorship plan for employees**, will be aligned with their WSP, and will be part of the budget for SD in direct relation to and as a percentage of salaries and wages. Through mentorship the management of *Oseiland* will ensure that employees with potential and drive are equipped with the necessary skills to maximise their potential.

Mentorship shall involve in-house training and guidance, together with motivation being provided for the individual to further his skills and interest on a personal basis. Whilst the SDP aims to assist the individual in the development of skills to be used in-house, the mentorship plan aims to improve general life skills

to be applied outside of the farming environment. Ultimately it is hoped that the individual would pass on these skills to people at home and in his/her community and in so doing improve his/her standard of living as well as those around them.

Identification of individuals to receive mentorship will be based on the level of interest shown by the individual.

2.3.4 Preferential Procurement

This element measures the percentage of procurement from B-BBEE compliant and black- and black-women owned suppliers. The previous target of 40% increased to 50% on the current Scorecard. The enterprise did well on this element and exceeded the previous and current targets, because of their procurement from mostly B-BBEE compliant suppliers. Care will be taken in future to procure as far as possible only goods and services from B-BBEE compliant suppliers and sub-contractors to not only sustain, but also increase their level of compliance. It is expected that this target will increase to 70% once the AgriBEE Sector Code is aligned with the Revised Generic Codes. As part of this new procurement policy, a bigger effort will be made to find, help develop and support upcoming black owned and black women owned enterprises. This also now unlocks the potential to develop such enterprises in their vicinity as part of their future Enterprise Development strategy and mentorship initiatives.

2.3.5 Enterprise Development

Although this element was not measured now, the entity now needs to start planning initiatives in this regard in anticipation of the expected alignment of the Agri Sector Codes with the already finalised Revised Generic Codes.

The finalised Revised Generic Codes, that is currently not applicable to the Agri Sector, combines the existing Preferential Procurement element with the existing Enterprise Development element to form a new element Supplier Development. It is expected that the AgriBEE Sector Code will in future also follow this route.

Mentorship and support to upcoming entrepreneurs, and then using the same entrepreneurs as suppliers/sub-contractors/service providers to the farm, will have therefor in the near future a considerable influence on the AgriBEE level of compliance of this measured entity.

The target and budget for this element went up from the previous 2% to a new target of **3% of NPAT** on the current AgriBEE QSE Scorecard.

2.3.6 Socio-economic Development

The measured entity did well on this element, and exceeded the target of 1% of NPAT. They made qualifying contributions to the following projects:

- Fully subsidised (free) transport to and from work as well as for sport and church attendance.
- Subsidised housing, electricity and water for workers living on the farm.
- Sport fields and facilities on the farm build and maintained by the farm.

Socio-economic projects will now be planned in advantage with a proper budget as per AgriBEE Scorecard targets, to achieve the goals in the spirit of AgriBEE, in such a way that at least 75% of the benefit will go to black people.

It should be noted that the following applies to the current farming operation, and will also apply in future:

- Protective clothing provided
- Access to products from the farm at a subsidised price or free.
- A funeral plan for all permanent workers and their immediate families

4. SOCIAL PROVISION

4.1 Measures to address housing and living conditions

- Most permanent employees live on the farm in subsidised housing with subsidised water and electricity.
- Workers not living on the farm and seasonal workers live in the nearby town and are transported daily to and from work.
- To increase the income of households, spouses of farm workers are used whenever possible for extra temporary and/or seasonal work on the farm.
- Workers are encouraged to establish vegetable gardens at their homes.

4.2 Measures to provide medical assistance

- All employees have easy access to medical clinic services. There is a permanent clinic on the farm and the farm has contracted a qualified nurse to visit this clinic every week.
- If more medical attention is needed than the clinic can supply, employees are taken to doctor/hospital. *Oseiland* subsidises medical cost by paying the service provider upfront and the workers can then pay back interest free.
- HIV/Aids and TB are a problem in the community, so regular information and training sessions are held on the farm by the nurse as a preventative measure.

4.3 Measures to address educational facilities and opportunities

- Children have easy access to a crèche on the farm.
- There are two Primary Schools in the nearby town Augrabies. Augrabies is only 5km from the farm and a Government subsidised bus transport primary school children from the farm on a daily basis to and from school.
- The nearest High school is in Kakamas, about 30km from the farm. A subsidised bus service also transport these high school learners on a daily basis to and from school.

5. FINANCIAL PROVISION

5.1 Budget for 2017/18 training and development

To align their Skills Development efforts with that of the Skills Development element on the AgriBEE Scorecard, the current target to spend 1% of salaries and wages on Skills Development, will now increase to 2% of salaries and wages (inclusive of directors fees).

The budget for training will thus be in direct relation to salaries and wages, inclusive of Directors fees, in the following percentages:

| | |
|-----------------------------------------------------------------|----------------------------------------------------------------------|
| Training budget in compliance to Skills Development legislation | 1% of salaries, wages, directors fees |
| Training budget in compliance to AgriBEE QSE Scorecard | A further 1% (i.e. 2% in total) of salaries, wages, director's fees. |

5.2 Budget for 2017/18 Enterprise Development

As per target in the applicable AgriBEE QSE Scorecard, the annual budget for this element will be at least, but not less than the new target of 3% of the NPAT of the farming operation, and will only count in as far as only black people/black women benefit. It is expected that the future revised Agri Code will have a new target of at least 1% of NPAT to be spend on Supplier Development alone.

5.3 Budget for 2017/18 Socio-economic Development including staff welfare

As per target specified in the AgriBEE Scorecard, the annual budget for Socio-economic Development will be at least, but not less than 1% of the NPAT of the farming operation. As prescribed by the AgriBEE Codes, this amount will be spend in such a way that at least 75% of the benefit will go to black people. It is expected that this target will stay the same in future.

6 INFLUENCE OF NEW WATER RIGHT ON LOCAL ECONOMY

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.

Not only are the new employment opportunities important, but also the fact that:

- Existing jobs can be secured: Enough water will directly secure existing and new job opportunities.
- More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.
- The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

7 UNDERTAKING

I, the undersigned and duly authorised thereto by

Oseiland farming operation (measured entity) undertook to adhere to the information, requirements, commitment and conditions a set out in this AgriBEE Management Report.

Signed at on this day of 2017

Signature:

Designation:

References

Oseiland AgriBEE QSE Certificate issued by NCB Pty Ltd dated 9 September 2016

National Water Act, Act 36 of 1998

11.3.4 Water Use Licence Application

INTEGRATED WATER USE LICENSE APPLICATION REPORT

PROPOSED TRANSFER OF WATER FROM VARIOUS PROPERTIES TO FARM 1726, RENOSTERKOP AND CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP, FARM 1290 AND FARM 1537, AUGRABIES, NORTHERN CAPE



Prepared by:
Elanie Kühn
Pieter Badenhorst Professional Services
August 2017



APPLICATION FOR A LICENSE FOR THE USE OF WATER (CONTROLLED
ACTIVITY) IN TERMS OF THE NATIONAL WATER ACT, 1998 (ACT NO 36 OF 1998)

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SYNOPSIS

Application for a license in terms of the National Water Act, 1998 (NWA) is made by the developer, Oseiland Eiendomme (PTY) Ltd for the taking of existing water rights from the Kakamas/Augrabies Canal and taking the rights from the Orange River via a new pump station during periods in which the canal is undergoing maintenance. The application is further for the transfer of water from various small properties and to transfer the water rights to Kakamas South Settlement no 1726. Approval is also necessary for the development of agricultural areas across small ephemeral streams/drainage areas and pipelines crossing these streams. The application is summarised for the following water usages:

| | |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) taking water from a water resource; | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| (c) impeding or diverting flow of water in a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |
| (i) altering the bed, banks, course or characteristics of a watercourse | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of a pump at the Orange River. |

The applicant, Oseiland Eiendomme PTY Ltd, wants to expand their farm by extending the existing agricultural areas with approximately 67.68ha. The applicant wishes to transfer water from various small properties owned by the applicant, which are currently due to location and size uneconomical to farm separately, to the property, Kakamas South Settlement no 1726 (Renosterkop), where the new agricultural areas will be developed.

The farm is currently irrigating their vineyards with water that is pumped directly from the canal at an existing abstraction point. The water can also be pumped from the existing pump on the canal and pumped via existing pipelines and be stored in an existing storage dam on the adjacent property. The new proposal is to construct a new pump station at the canal as shown below in Figure 2. Water can also be pumped directly from this new off take. The additional water allocation (879 000m³/a from the Kakamas WUA from the various properties) and (147 000m³/a from the Kakamas WUA existing rights left) will be pumped directly from the canal and irrigated onto the vineyards or pumped to the storage dam.

However, during periods in which the canal undergoes maintenance, normally three times a year, the applicant wishes to pump directly from the Orange River. Therefore a new pump will be constructed on the bank of the Orange River, note the location was selected due to existing disturbance to this section along the Orange River and the fact that it provides the best location to construct the pulley system proposed. Note the proposed abstraction point and new pump is located on Kakamas South Settlement no 1537 and the new Canal abstraction point and pump station on Kakamas South Settlement no 1290.

It has already been confirmed by the Kakamas WUA that the additional water allocation can be accommodated and that they have no objections to the abstraction from the Orange River and the Kakamas/Augrabies Canal. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

The establishment of these vineyards will be close to small sections of the unnamed drainage system that is located on site. The drainage system is classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse. Please note: There will be NO planting of vineyards within these drainage channels as far as possible and a buffer of at least 20m surrounding the larger drainage systems will be kept at all times.

The proposed development areas fall within the Lower Orange River catchment area, (SANBI (BGIS Maps)). The proposed pump falls within the NEFPA outlined wetlands, however the small section of the Orange River is heavily disturbed. The ephemeral drainages systems spring from the canal and within the new proposed agricultural areas and then flows downwards towards the R64. The begin flow of these streams/areas is at the canal. However, none of this water flows into the Orange River and is therefore not supplementary flow towards to Orange River. It is therefore cut from potentially ending up in the Orange River via heavy agricultural activities, flow direction and the canal.

1. THE APPLICATION AND TECHNICAL DETAIL

1.1 The applicant

The applicant, Oseiland Properties PTY Ltd is applying for a section 21 (c) and (i) for changing the bank edge of a river and diverting flow for the construction of a pump along the Orange River. Further applying for the section 21 (a) for transfer of water from various small properties to Kakamas South Settlement no 1726 to allow for additional water for the new proposed 67.68ha of irrigation area.

1.2 The property on which the water use is intended

The proposed properties on which the expansion of agricultural activities, pipelines, pump station and associated infrastructure will take place are situated on Kakamas South Settlement no 1726, no 1537 and no 1290, Augrabies. The farms are situated on the right side of the R64 approximately 2km before you enter the small town of Augrabies in the Northern Cape Province, see Figure 1. The site lies north of the R64 (MR 359) and south and west of Renosterkop Peak, a prominent inselberg in an otherwise flat landscape, and south of the Orange/Gariep River. Small ephemeral streams cross the site.



Figure 1: Project Locality

1.3 Water Use License Application

Application for a license in terms of the National Water Act, 1998 is made by the developer, Oseiland Eiendomme PTY Ltd, for the following water usages:

| | |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>(a) taking water from a water resource;</i> | [taking existing water rights specified for canal use from the Orange River] [transfer of water between properties] |
| <i>(c) impeding or diverting flow of water in a watercourse</i> | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the pump at the Orange River |
| <i>(i) altering the bed, banks, course or characteristics of a watercourse</i> | For the construction of agricultural areas across ephemeral streams/natural drainage areas. For the construction of pipelines across the ephemeral drainage areas. For the pump on the Orange River |

Table 1: Water Use License activities triggered

1.4 Existing lawful water use and development on the property

The applicant has the following existing water use rights: Please see Appendix B for the Water Use Allocation confirmations.

| Kakamas WUA | | | |
|--------------------|----------------|-----------|----------------|
| Property | Canal | m³ | m³/a |
| Kakamas Suid 1304 | 0,5 | 15 000 | 7500 |
| Kakamas Suid 1288 | 5,1 | 15 000 | 76500 |
| Kakamas Suid 1215 | 8,6 | 15 000 | 129000 |
| Kakamas Suid 1216 | 11,1 | 15 000 | 166500 |
| Kakamas Suid 1290 | 11,4 | 15 000 | 171000 |
| Kakamas Suid 1291 | 8.2 | 15 000 | 123000 |
| Kakamas Suid 1537 | 13.7 | 15 000 | 205500 |
| Kakamas Suid 1726 | 64.6 | 15 000 | 969000 |
| Total | 123.2ha | | 1848000 |

Table 2: Existing water allocation

1.5 Details of the water use intended

1.5.1 Section 21 a – Transfer of the water

The applicant, Oseiland Eiendomme PTY Ltd wishes to transfer water from various properties to Kakamas South Settlement no 1726 to ensure the property and new developments comply with the National Water Act (1998). The intention is to transfer a total of 58.9ha of water from various properties to Kakamas South Settlement no 1726. The various properties is shown below in Tabel 3.

| From | Transferred to | Area | Irrigate tempo | Allocation m ³ /a |
|-------------------|-------------------|-------------|------------------------------|-------------------------------|
| Kakamas Suid 1304 | Kakamas Suid 1726 | 0,5 | 15000m ³ /ha | 7500 |
| Kakamas Suid 1288 | Kakamas Suid 1726 | 5,1 | 15000m ³ /ha | 76500 |
| Kakamas Suid 1215 | Kakamas Suid 1726 | 8,6 | 15000m ³ /ha | 129000 |
| Kakamas Suid 1216 | Kakamas Suid 1726 | 11,1 | 15000m ³ /ha | 166500 |
| Kakamas Suid 1290 | Kakamas Suid 1726 | 11,4 | 15000m ³ /ha | 171000 |
| Kakamas Suid 1291 | Kakamas Suid 1726 | 8,2 | 15000m ³ /ha | 123000 |
| Kakamas Suid 1537 | Kakamas Suid 1726 | 13,7 | 15000m ³ /ha | 205500 |
| TOTAL | | 58.6 | 15000m³/ha | 879 000m³/a |

Table 3: Proposed transfer and new water allocations

1.5.1.1 Irrigation of any land

The farm is currently irrigating their vineyards with water that is pumped directly from the canal at an existing abstraction point. The water can be pumped from the existing pump (D) on the canal and pumped via existing pipelines to the new areas (C) and be stored in an existing storage dam (1B) on the adjacent property. The proposal is to construct a new pump station (B - purple) at the canal as shown below in Figure 2, water can also be pumped directly from this new off take. The additional water allocation (879 000m³/a from the Kakamas WUA from the various properties) and (147 000m³/a from the Kakamas WUA existing rights left) will be pumped directly from the canal and irrigated onto the vineyards or pumped to the storage dam.

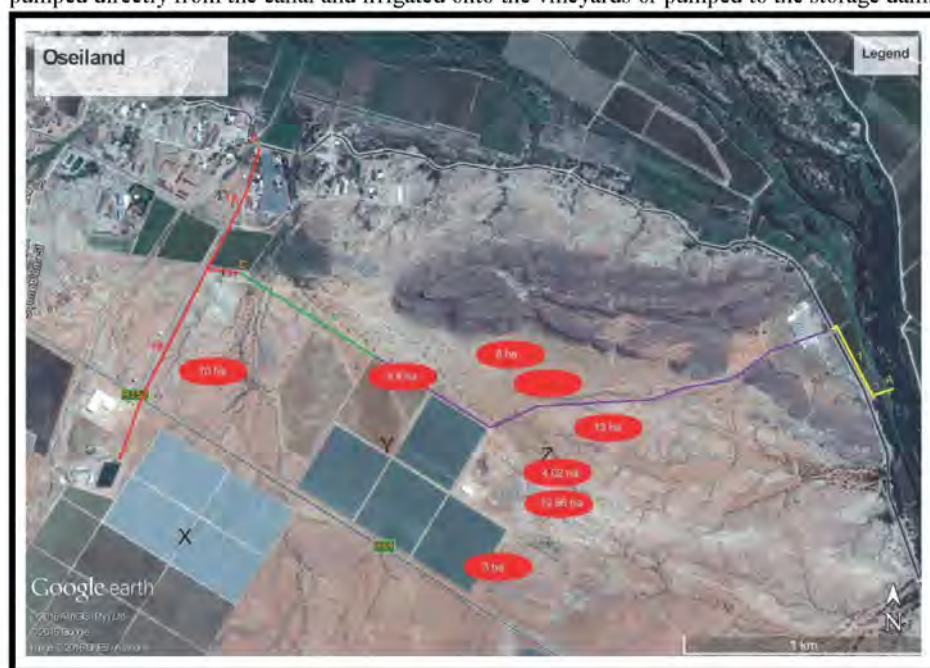


Figure 2: Pump system

However, during periods in which the canal undergoes repairs, normally three times a year, the applicant wishes to pump directly from the Orange River (B-purple). The additional water from the various small properties will be transferred to Kakamas South Settlement no 1726 for the establishment of additional 67.68ha of vineyards to be established as shown below in Figure 3.

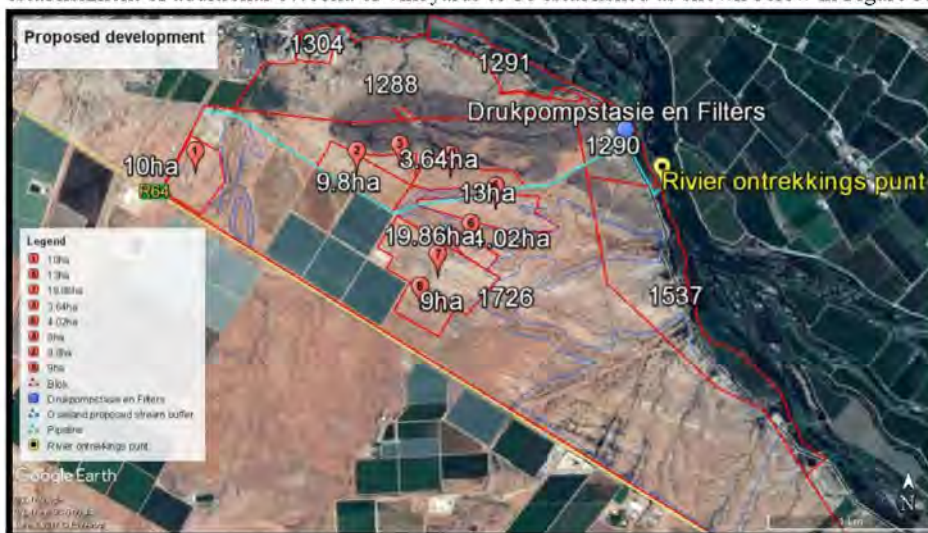


Figure 3: Proposed new irrigation areas

It has already been confirmed by the Kakamas WUA that the additional water allocation can be accommodated and that they have no objections to the abstraction from the Orange River and the Kakamas/Augrabies Canal. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

1.5.2 Section 21c –impeding and diverting flow in a watercourse and Section 21i - altering the bed, banks, course or characteristics of a watercourse.

1.5.2.1 Pump on bank of Orange River

It is proposed to construct a pump station, see design in Figure 4, on the bank of the Orange River, see Figure 5, to allow for pumping of water during periods when the canal is closed for repairs and maintenance.

The proposed pump falls within the NEFPA outlined wetlands, see Figure 6, however the small section of the Orange River is heavily disturbed. This site was selected due to existing disturbance to this section along the Orange River and the fact that it provides the best location to construct the pulley system proposed. Note the proposed abstraction point and new pump is located on Kakamas South Settlement no 1537 and the new Canal abstraction point and pump station on Kakamas South Settlement no 1290, see Figure 3 above.

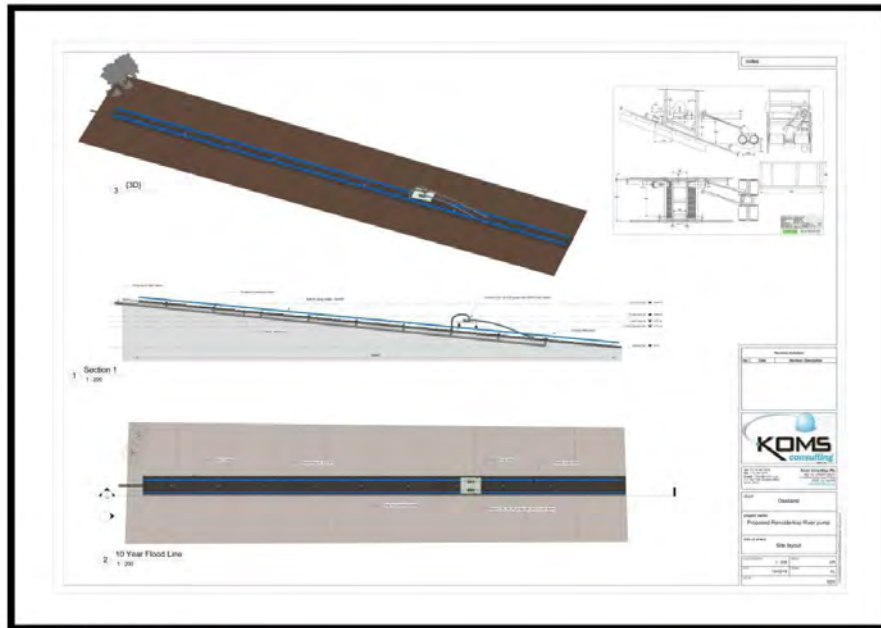


Figure 4: Pump design



Figure 5: Pump location



Figure 6: NEFPA Wetlands

1.5.2.2 Transformation of the drainage system for construction of irrigation area

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse. See Figure 7. Please note: There will be NO planting of vineyards within the larger drainage channels as far as possible and a buffer of at least 20m of the larger drainage systems will be kept at all times.

The unnamed drainage system is therefore classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern. **However, it does fall within an area outlined as CBA1, see Figure 8.**

The proposed agricultural development areas fall within the Lower Orange River catchment area. It however does not fall within any NEFPA catchment priority areas, see Figure 6. The only structure within the NEFPA wetland is the proposed pump/offtake from the Orange River described above in section 1.5.2.1.

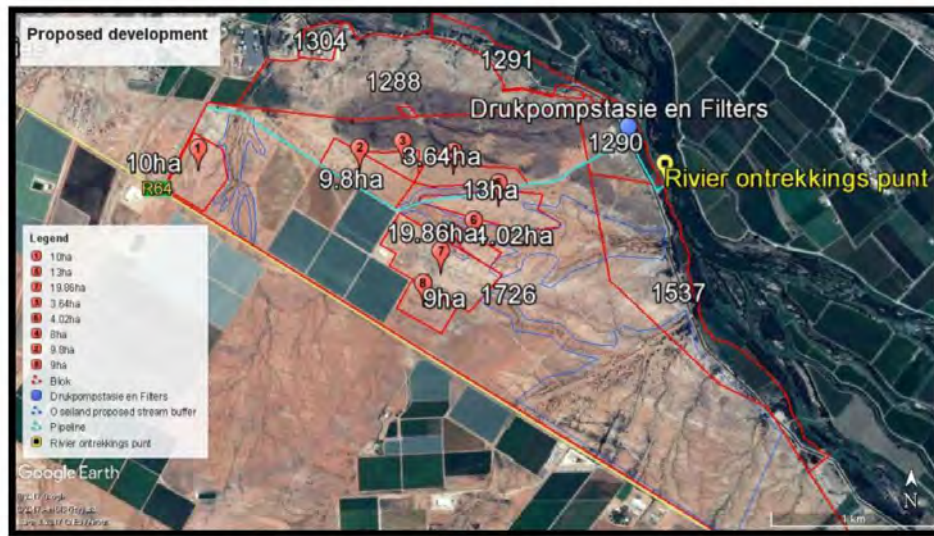


Figure 7: Google Aerial indicating the study area (red) and the drainage channels(light blue) over which the development is proposed.

The drainage lines for most of the year are dry and sandy and flow for short periods after relatively heavy rains. They are mostly ephemeral streams. The flow of water along the main drainage lines should not be impeded and prevention of erosion should be a high priority if the area is to be developed, see Figure 8 (dark blue lines).

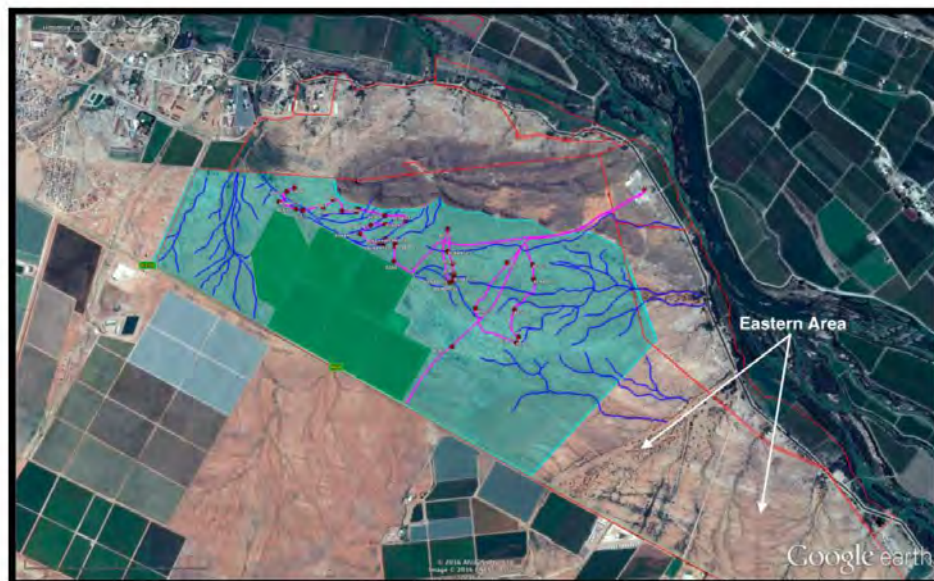


Figure 8: Ephemeral streams/drainage areas

Stream crossings

10ha

9.8ha

3.64ha

8ha

13ha

4.02ha

19.86ha

9ha

Stream crossing

Grave site

R64

Google Earth

Legend

- 10 m buffer
- 1.0ha
- 1.3ha
- 19.86ha
- 3.64ha
- 4.02ha
- 8ha
- 9.8ha
- 9ha
- Gravel pit
- Gravel site
- Proposed stream bed
- Pipeline
- Stream

1.5.2.3 Present Ecological Status (PES) & Ecological Importance Sensitivity (EIS)

This Report provides the PES and EIS of the Orange River at EWR 02, located upstream of the confluence of the water courses that flow into the Orange River from the project site, and at EWR 03, downstream of the Augrabies Falls and downstream of the confluence of the watercourses that flow into the Orange River from the project site. Refer to Figure 10 below for the location of the Project Site (Farm 1726) in relation to EWR 02 and EWR 03.

- PES of C (Moderately Modified); and,
- EIS as High (the river in terms of biota and habitat may be sensitive to flow modifications but in some cases may have a substantial capacity for use.)



Figure 10: Extract of map that shows the locality of the EWR sites in context of the MRUs (referenced from Figure 3.1 in Report No. RDM/WMA06/00/CON/COMP/2016).

2. CONSIDERATIONS AND ASSESSMENT CRITERIA

Management actions in the Development of an Integrated Water Quality Management Strategy for the Upper and Lower Orange Water Management Areas for the Lower Orange Water Management Area include the following:

Area 1: Boegoeberg to Kanon Islands

It is the vision of all interested and affected parties within Visioning Area 1:

To contribute towards the integrated management of the surface and groundwater resources in all LOWMA catchments between Douglas and Boegoeberg Dam, to secure sufficient water that is fit for all beneficial uses, specifically including domestic and variable agricultural use, and to support a healthy aquatic ecosystem, particularly for ecological sensitive areas such as the Douglas Conservancy.

Area 2: Boegoeberg to Kanon Islands

It is the vision of all interested and affected parties within Visioning Area 2:

(Kakamas/Augrabies/Keimoes falls within this area)

To contribute towards securing suitable water supplies of qualities for all LOWMA catchments between Boegoeberg and Kanon Islands, that will sustain:

- a thriving table grape export market and wine production;
- local agricultural activities via an extensive irrigation canal system;
- a thriving stock farming industry;
- domestic and light industrial water use in all towns, specifically including Upington;
- supplying water to rural communities via both the Kalahari West and Karos- Geelkoppan water supply schemes.

Area 3: Kanon Islands to Pella It is the vision of all interested and affected parties within

Visioning Area 3: To promote the participatory and integrated management of all water resources pertaining to the LOWMA catchments situated between Kanon Islands and Pella in order to ensure that water supplies are of an acceptable quality to all water users, in particular to sustain a prominent conservation and ecotourism industry, as well as livestock and private game farming, while allowing room for beneficial water use.

Other legislation and guidelines that have been considered includes the following:

- The Constitution Of South Africa Act No.108 Of 1996
- The National Environmental Management Act, 1998 (Act No. 107 Of 1998)
- The National Heritage Resources Act, 1999 (Act No. 25 Of 1999)
- Conservation Of Agricultural Resources Act No 43 Of 1983
- Subdivision Of Agricultural Land Act, 1970 (Act No. 70 Of 1970)
- Urban Structure Plan for the Cape Metropolitan Area, Volume 4:Paarl/Wellington Region
- National Environmental Management: Biodiversity Act (Act 10 Of 2004)
- Planning Legislation And Guideline

2.1 The reserve

The Department of Water Affairs and Forestry have recently completed the reserve determination for the Berg River: Directorate of Scientific Services in Pretoria.

From the reserve determination it could now be ascertained by your department as to the availability of water for the allocation of the water usages requested as per the issue of a license to the applicant. This application is for the transfer of water between three Irrigation Boards and will have little effect on the quantity of water available from within the catchment. Please see attached (Appendix B.4) letter from the Upington-Islands Head Irrigation Board a confirmation letter that the water allocation can be handled in the Olyvenhoutsdrift-South Irrigation board.

2.2 The class and resource quality objectives of the water resource

These aspects could only be addressed and commented on by the Department of Water Affairs.

2.3 The strategic importance of the water to be authorized

This water use has no strategic importance.

2.4 The existing lawful water use in the catchment under consideration

This authorization will have no impact on any existing lawful water use within the investigation area. Please see attached letter from the Kakamas Water Users Associations confirming that the water allocation can be transferred (Appendix B.4).

2.5 The likely effect of the water use to be authorized on the water resource and on other water users in the catchment

It has already been confirmed by the Kakamas Water Users Association that the additional water allocation can be accommodated. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

2.6 The impact on the environment

The transfer of the water between the said properties will not have a negative impact on the existing water use within the catchment region. The water can be accommodated, as confirmed by the Kakamas Water Users Association. There will be a minimal impact on the bank edge of the Orange River due to the proposed pump constructed; care will be taken to have as low as possible impact.

2.7.1. Assessment of the impacts associated with the water use:

The transfer of the water (879 000m³/a) from the various properties owned by the applicant within the Kakamas WUA to Kakamas South Settlement 1726 also within the Kakamas WUA will not have a negative impact on the existing water use within the catchment or the Water Users Association region. The water can be accommodated, as confirmed by the Kakamas Water Users Association (Appendix B.4).

2.7 The need to redress the results of the past racial and gender discrimination

It is envisaged that Oseiland will need to create some new permanent and a number of new seasonal employee positions in the near future should the new water use be allocated. The entity also plans to convert some of the current seasonal positions to permanent positions should this water licence use application be successful.

As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

The new water use licence will therefore create an immediate need to appoint more workers and supervisors.

The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.

- ☐ Skilled agricultural labourers
- ☐ Specific knowledge of vineyards and citrus fruit production will be needed
- ☐ Specific knowledge of fruit packing will be needed
- ☐ Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers.

Preference will be given to black/coloured people for these positions, and more specific **black/coloured women** where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

2.8 Efficient and beneficial use of the water in public interest

The new water use will have the following benefits:

Enough water will directly secure existing and new job opportunities.

☐ More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.

☐ The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

2.9 Socio economic impact of water use to be authorized

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.

Not only are the new employment opportunities important, but also the fact that:

☐ Existing jobs can be secured: Enough water will directly secure existing and new job opportunities.

☐ More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.

□ The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government. See Appendix H for the Agri-BEE Report.

2.10 Investment already made and to be made by the water user in respect of the water use in question

The water allocations are from small properties currently owned by the applicant and therefore no purchase of water needed.

2.11 The period for which the license is to be issued

The license should be issued for the maximum possible period, as the water use will be of a permanent nature.

3. CONCLUSION

The transfer of the water (879 000m³/a from the Kakamas WUA from the various properties) and (147 000m³/a from the Kakamas WUA existing rights left) from various properties will not have a negative impact on the existing water use within the catchment or the Water Users Association region. The water can be accommodated, as confirmed by the Kakamas Water Users Association.

The new pump at the Orange River will greatly contribute to farming activities, due to the fact that the applicant can continue to pump water during periods when the canal needs to be closed for maintenance and previous financial losses during these periods will be eliminated.

The expansion of the farm will have numerous positive socio-economical impacts not only on the farm but also the region and result in job creations, skills development, social upliftment and earning of foreign currency.

4. CONDITIONS

When instructed to do so by the Responsible Authority the user must fit a self- registering meter at the user's expense to measure water use and the user at his expense must maintain the meter in satisfactory working condition.

Officers from the Department of Water Affairs will at all times have free access to the property and the water works for supervision and control purposes.

The Department's or Responsible Authority's local representative will issue the necessary instructions to the user with regard to the keeping of proper registers of water use and quality, and the owner must at all times comply with such instructions.

The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of: shortage of water; inundation or flood; siltation of the river or dam basin; and/or the shifting of water work in the event of a rise or drop in the water level of river or dam.

The quality or suitability of the water for any purpose is not guaranteed.

The water abstracted/used in terms of this license may only be used for the authorized purposes.

This license is not a permanent, lawful right and is not transferable from one user to another or from one property to another.

The user must take every possible precaution to the satisfaction of the Department, to prevent pollution of water resources.

The Department of Water Affairs reserves the right to withdraw this license in the event of failure to comply with any of the said conditions or provisions.

The applicant has a period of 2 (two) years within which to commence/implement this water use, failing which, the license will lapse.

5. RECOMMENDATION

The following recommendations should be adhered to:

- Any further recommendations outlined in the Environmental Authorisation and the Water Use License issued.
- When instructed to do so by the Responsible Authority the user must fit a self- registering meter at the user's expense to measure water use and the user at his expense must maintain the meter in satisfactory working condition.
- Officers from the Department of Water Affairs will at all times have free access to the property and the water works for supervision and control purposes.
- The Department's or Responsible Authority's local representative will issue the necessary instructions to the user with regard to the keeping of proper registers of water use and quality, and the owner must at all times comply with such instructions.
- The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of: shortage of water; inundation or flood; siltation of the river or dam basin; and/or the shifting of water work in the event of a rise or drop in the water level of river or dam.
- The quality or suitability of the water for any purpose is not guaranteed.
- The water abstracted/used in terms of this license may only be used for the authorized purposes.
- This license is not a permanent, lawful right and is not transferable from one user to another or from one property to another.
- The user must take every possible precaution to the satisfaction of the Department, to prevent pollution of water resources.
- The Department of Water Affairs reserves the right to withdraw this license in the event of failure to comply with any of the said conditions or provisions.
- The applicant has a period of 2 (two) years within which to commence/implement this water use, failing which, the license will lapse.

It is recommended that the permanent transfer of water from Kakamas South Settlement no 1304, 1288, 1215, 1216, 1290, 1291 and 1537 to Kakamas South Settlement (Farm Renosterkop) 1726. It is recommended that the pump constructed at the Orange River be allowed. It is also recommended that the irrigation area across small ephemeral streams on Kakamas South Settlement no 1726 be allowed.

6. APPENDICES

APPENDIX A: Completed License Application Forms



APPENDIX B: Existing Water Use Confirmation



Watergebruikersvereniging
Water User's Association

Oosthuizenstraat Oosthuizen Street
Private Bag x4 Private Bag x4
Kakamas 8870 Kakamas 8870

Tel (054) 431 0725/6
Faks/fax: (054) 431 0348
E-Pos/e Mail ooskwegv@sat.co.za

 G.J.J. van Niekerk
 473/D2/Oseiland

22 Junie 2017

Vir Aandag : Elani/Pieter Badenhorst
Vir Aandag : Oseiland

Hiermee bevestig Kakamas Watergebruikersvereniging dat daar geen beswaar is teen die voorgename permanente oordrag van watergebruiksreg uit die Augrabies Hoofkanaal soos wat in ondergenoemde Tabel uiteengesit is nie.

Die water word steeds uit dieselfde Kanaal onttrek.

| From | Transferred to | Area | Irrigate tempo | Allocation m ³ /a |
|-------------------|-------------------|------|-------------------------|------------------------------|
| Kakamas Suid 1304 | Kakamas Suid 1726 | 0,5 | 15000m ³ /ha | 7500 |
| Kakamas Suid 1288 | Kakamas Suid 1726 | 5,1 | 15000m ³ /ha | 76500 |
| Kakamas Suid 1215 | Kakamas Suid 1726 | 8,6 | 15000m ³ /ha | 129000 |
| Kakamas Suid 1216 | Kakamas Suid 1726 | 11,1 | 15000m ³ /ha | 166500 |
| Kakamas Suid 1290 | Kakamas Suid 1726 | 11,4 | 15000m ³ /ha | 171000 |
| Kakamas Suid 1291 | Kakamas Suid 1726 | 8,2 | 15000m ³ /ha | 123000 |
| Kakamas Suid 1537 | Kakamas Suid 1726 | 13,7 | 15000m ³ /ha | 205500 |
| TOTAL | | 58,6 | 15000m ³ /ha | 879 000m ³ /ha |


G.J.J. VAN NIEKERK
WNDE HUB

From: [Charel](#)
To: [Elanie \(office\)](#)
Subject: Fw: Oseiland kanaalonttrekking
Date: Friday, 09 June 2017 1:45:49 PM

----- Original Message -----

From: CEO - Kakamas Watergebruikersvereniging
To: 'Charel Richter'
Cc: 'Pieter Badenhorst'
Sent: Thursday, April 20, 2017 10:44 AM
Subject: FW: Oseiland kanaalonttrekking

From: CEO - Kakamas Watergebruikersvereniging [mailto:ceokwgv@isat.co.za]
Sent: 22 March 2017 10:00
To: 'CEO - Kakamas Watergebruikersvereniging' <ceokwgv@isat.co.za>
Cc: 'Marina Jordaan' <marinakwgv@isat.co.za>
Subject: Oseiland kanaalonttrekking

23 Maart 2017
Koms konsultante
Pieter Badenhorst Professionele dienste.

Ek verwys u graag na die sketse en aansoekbrief wat in bogenoemde verband deur u voorsien is.

Kakamas Watergebruikersvereniging het die aansoek oorweeg en doen as volg verslag:

1. Ons het geen probleem met die kruising van die Renosterkopkanaal op twee afsonderlike punte deur middel van Staalpype nie. In albei die gevalle moet die kanaalstruktuur op geen manier beskadig of in gevaar gestel word nie.
2. KWGV het ook geen beswaar teen die voorgenome onttrekking van water uit die kanaal d.m.v. 'n bestaande sluis nie.
3. Verder is daar ook geen beswaar teen die twee voorgestelde punte vir die onttrekking van water uit die Oranjerivier nie.
4. Die voorgestelde pyplyn parallel met die kanaal, is eweneens toelaatbaar, mits dit buite die serwituutgebied van die kanaal is.

Verdere voorwaardes:

1. By elk van die onttrekkingspunte (kanaal en rivier) moet 'n geskikte elektroniese watermeter geïnstalleer word.
2. Geeneen van die beplande werke mag 'n gevaar vir die kanaalsisteem inhou nie.
3. KWGV moet in kennis gestel word van die datum wat werke 'n aanvang sal neem asook voltooi word.
4. Die geskeduleerde afsitperiodes vir die Renosterkopkanaal is :
 - a) 24 April tot 5 Mei
 - b) 5 Junie tot 16 Junie

c) 17 Julie tot 28 Julie

Dankie en groete,



GJJ van Niekerk

Voorsitter/Aflos HUB

Email : ceokwgv@isat.co.za

Tel No : 054 431 0725

Faks No : 054 431 0348

Information from ESET Smart Security, version of malware database:
15283 (20170420)

The message was checked by ESET Smart Security.

<http://www.eset.com>

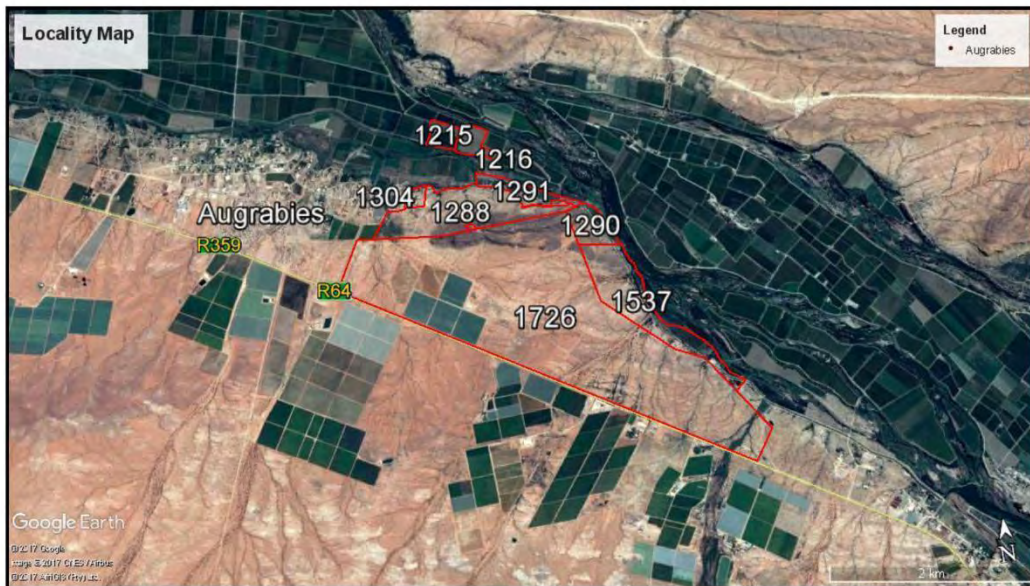
Information from ESET Smart Security, version of detection engine:
15555 (20170609)

The message was checked by ESET Smart Security.

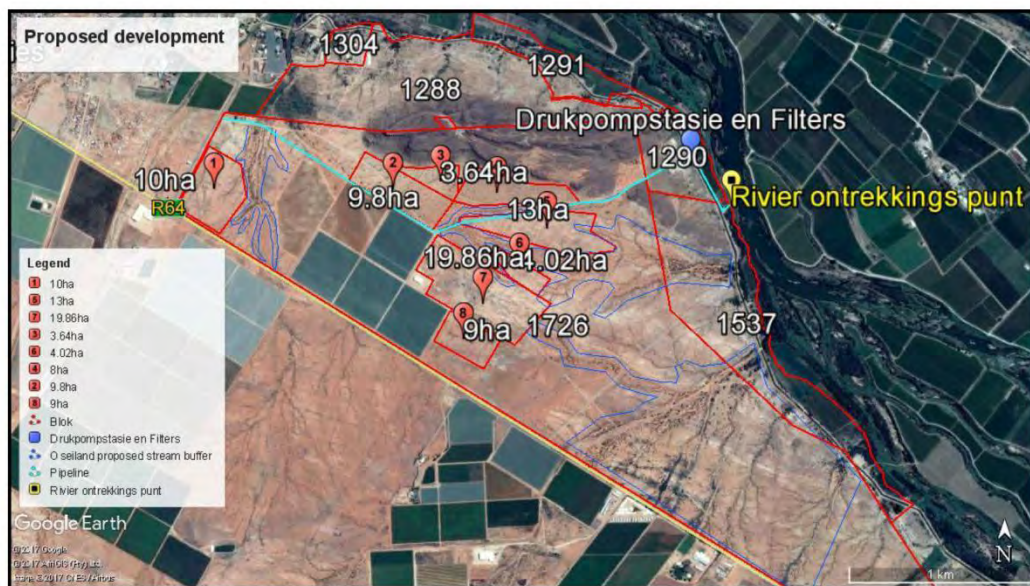
<http://www.eset.com>

APPENDIX C: Deed Search and Title Deeds

APPENDIX D: Power of Attorney

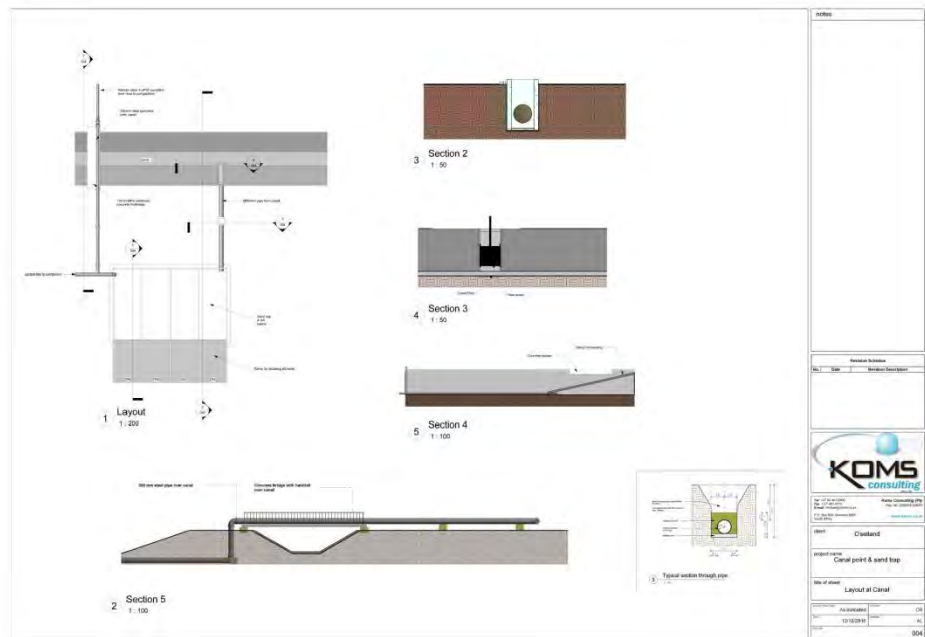


23

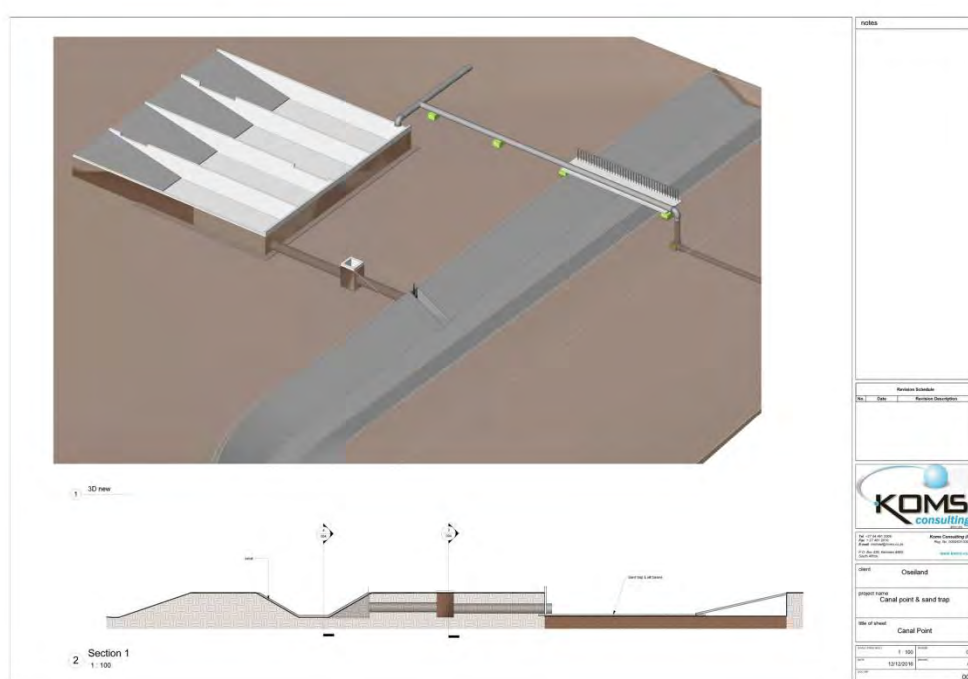


24

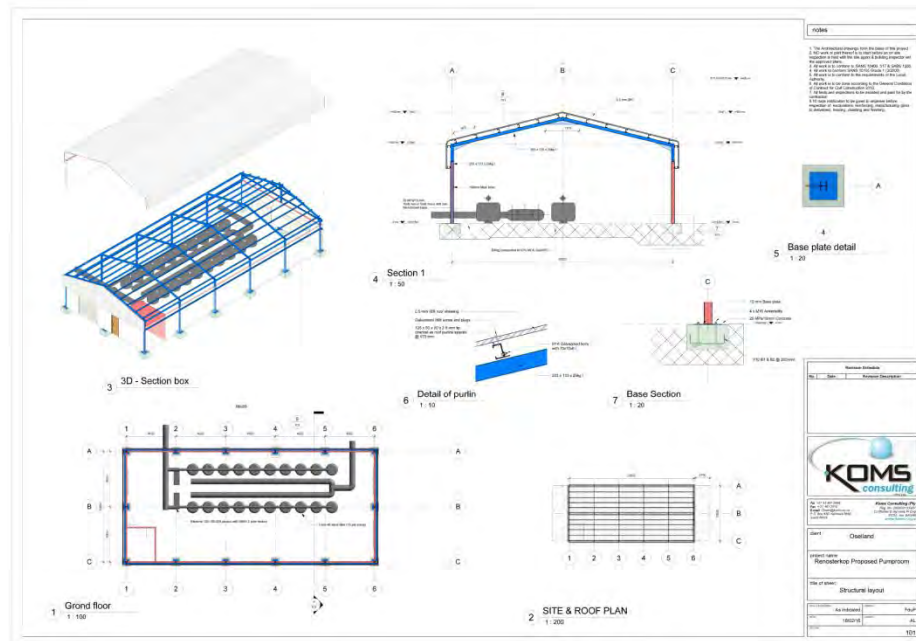
APPENDIX E2: Design Illustrations



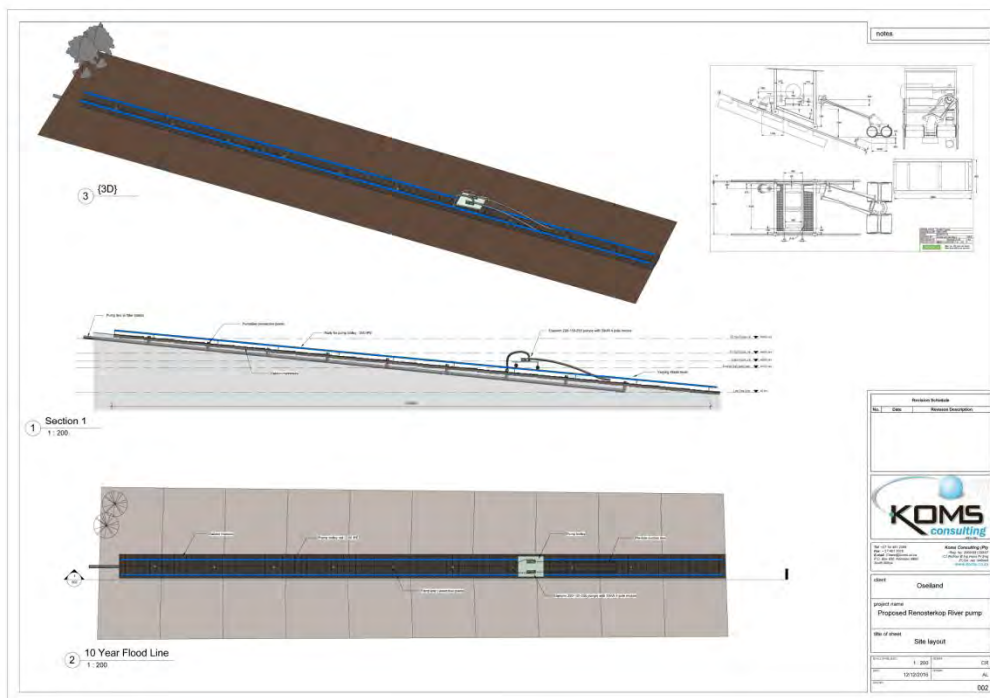
25



26



29



30

APPENDIX F: Technical Documents

Appendix F.1: Environmental Impact Report

EIA is in process. A final copy of this report will be submitted to this Department on request

APPENDIX G: Proof of Public Participation

EIA is in process. A final copy of this report will be submitted to this Department on request

APPENDIX H: BEE Report

AgriBEE Management Report

Oseiland Boerdery

February 2017

AgriBEE MANAGEMENT REPORT

in compliance to National Water Act (1998)

for

Oseiland Boerdery

The farm Reingeluk 107

Reolpad

Augrabies

District of Kakamas

February 2017

Contact Details: Ms. Retha Steyn Tel. 054 451 7005 Fax. 054 451 7006 e-mail: retha@oseiland.co.za

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 - Vision for Oseiland Boerdery
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 - Objectives for utilisation of water
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 - AgriBEE Scorecard
 - AgriBEE Strategy
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 - Employment Equity
 - Skills Development
 - Preferential Procurement
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 - Socio-economic Development
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 - Measures to provide medical assistance
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4. Financial Provision
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 - Budget for 2017/2018 Enterprise Development
 - Budget for 2017/2018 Socio-economic Development
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6. Undertaking

ACRONYMS

AgriBEE: The current finalised B-BBEE Sector Code for Agriculture co-signed by Departments Agriculture and Water Affairs (Government Gazette, 28 December 2012)

BEE: Black Economic Empowerment (Narrow Based Approach)

B-BBEE: Broad-Based Black Economic Empowerment (2007)

DTI: Department of Trade and Industry

EE: Employment Equity

QSE: Qualifying Small Enterprise (annual turnover between R5 and 35 million)

SETA: Sector Education Training Authority

WSP: Work Skills Plan

Black: As per definition in the finalised B-BBEE Codes of Good Practice of 2007: all Black, Coloured and Indian people that are South African Citizens by birth or prior to the elections of 1994

M: Male

F: Female

Oseiland Boerdery: The farming operation on the property portion farm Reingeluk 107, Rooipad in Augrabies district of Kakamas is operated under the name Oseiland Boerdery. The farming operation Oseiland Boerdery is therefor called the *measured entity* in terms of the AgriBEE Scorecard in this report. (See explanation under *Introduction*)

1 INTRODUCTION

The farm Reingeluk 107, Rooipad, near Kakamas district of Augrabies was bought by the Du Plessis family in 1980. It was at that time totally undeveloped land which was previously owned by the Trans-Hex mining company. The late Burger du Plessis (father of the current owners) was one of the first farmers in this area that experimented and started to plant and produce table grapes on this undeveloped land. His two sons, Jan and Piet took the development of this farming operation further after his death and developed a successful farming operation. More land was acquired over time and also citrus farming included. The entities Sitrusdal, Alkantrand Boerdery and Renosterkop Druive (grapes) are also today part of Oseiland Boerdery. The farming entity is therefore today one of the major employers of black people in the region.

The farming operation, Oseiland Boerdery (hereafter referred to as *Oseiland*) is the entity that employs all the employees and is therefore the AgriBEE measured entity in this report. This farming operation is now to be developed to its full potential, thus the need for the new water application.

The farming operation is from an AgriBEE perspective currently a QSE (Qualifying Small Enterprise). They were as such recently (September 2016) measured against 5 of the 7 elements of the existing AgriBEE QSE Scorecard as published in the Government Gazette of 28 December 2012.

The entity is aware of the fact that the generic B-BBEE Codes were recently amended and that alignment of the AgriBEE Sector Codes may follow in future. The entity is prepared to adjust to any amendments to the applicable sector Code as far as such amendments are economically viable.

The entity has committed itself to become AgriBEE compliant to an above average level of at least Level 3 (110% BEE Recognition based on the existing Codes) and has succeeded in this already by following a strict BEE strategy. The AgriBEE level of compliance for this entity was recently verified by the accredited BEE auditor NCB (Northern Cape BEE Verifications Pty Ltd). See attached certificate dated 9 September 2016.

This report will now summarise the result of the above-mentioned BEE audit and also outline their planned initiatives to keep and sustain this above-average level of compliance based on the current finalised AgriBEE Sector Codes.

The future strategic planning for the AgriBEE compliance of Oseiland is for now thus based on the targets as set out in the AgriBEE QSE Scorecard as published in the Government Gazette of 28 December 2012.

1.1 Background to this project

Efficient Empowerment Consultants has been appointed to assist Oseiland Boerdery with their farming operation in Augrabies near Kakamas in complying with the requirements in terms of reporting in the National Water Act (Act 36 of 1998). This was done to include a thorough insight into the current AgriBEE status of Oseiland in line with the most recent finalised legislation in this regard (*AgriBEE Codes of Good Practice, Dec. 2012*).

1.2 Purpose of this report

The National Water Act (NWA) came into operation in 1998. The purpose of the NWA is amongst others to ensure that South Africa's water resources "... are protected, used, developed, conserved, managed

and controlled in ways which take into account amongst other factors:

- 1.1.1 Promoting equitable access to water
- 1.1.2 Redressing the results of past racial and gender discrimination
- 1.1.3 Promoting the efficient, sustainable and beneficial use of water in public interest
- 1.1.4 Facilitating social and economic development"

(Act no 36, 1998, page 18, Government Gazette, 26 September 1998)

The Act also makes it very clear that when considering this socio-economic element, not only the impact if the application is authorised must be taken into account, but also the impact on "the failure to authorise the water use or uses" (27(1)(d)(ii))

This report thus aims to:

- Report on the social and economic management of access to a new water use licence as part of this specific farm and land area,
- Outline an AgriBEE Strategy that is aimed at employment, promoting and development of people, with specific emphasis on previously disadvantaged black people, inclusive of black women and rural people.

1.3 Submission of this AgriBEE Management Report

This AgriBEE Management Report details a summary of their current status, as well as a transformation programme where Oseiland sets out exactly how progress is going to be made in all the above-mentioned content areas and applicable elements on the AgriBEE Scorecard.

Compliance to the current finalised *AgriBEE Codes of Good Practice*, now also plays a part next to the existing EE (Employment Equity) and SD (Skills Development) legislation, in their current and future transformation initiative.

This document details the three programmes that form the heart of the report, namely:

- AgriBEE compliancy,
- EE and SD compliancy
- Local Economic Development (in the farm's locality as well as in the communities from which the bulk of its workforce is drawn and live)

With a proper AgriBEE strategy in place *Oseiland* now has the opportunity to not only sustain their above-average level of compliance, but also to correct any shortages they currently might have.

Breakdown of employees per sending area:

- All permanent employees are from the rural areas around Augrabies.
- Should this application for new water be successful, some seasonal positions will become permanent positions. It will also open up the opportunity for the owners to create new permanent employment and supervisory positions and a number of new seasonal positions. Preference will be given to appoint local new black applicants from the areas around Augrabies for these positions.

1.4 Vision for Oseiland

Oseiland wishes to obtain access to a new water use licence for the further development of the farming operation in a sustainable, environmental sensitive and socially responsible manner.

1.4.1 Farming

The farm is currently mostly planted with table grapes and citrus. The cultivatable portion of this farm is very favourable for the cultivation of high quality table grapes and citrus and can be further developed if more water is allocated. The intention is to develop and plant more vineyards and citrus trees on the farm for the production of table grapes and citrus fruit for mainly the export market. This will have a direct influence on sustainable profitability and employment opportunities on the farm.

1.4.1.1 Value-adding activities on the farm

Two value-adding initiatives were over years developed on the farm and the neighbouring portions to increase profitability as well as to increase and lengthen employment opportunities.

- **Packing facility**

A facility was developed over years to pack table grapes as well as citrus fruit mainly for the export market. This initiative favours the employment of women, with the result that much needed employment and also supervisory opportunities for black females were created. If more water can become available, more cultivars with different harvest times may be planted to further lengthen the season of employment for these mainly female black workers.

- **Raisin production**

The entity also developed an initiative to produce raisins from grapes not used to pack. These raisins are also now produced and packed for the export market. This initiative further lengthens seasonal employment opportunities for mainly black female workers.

Table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

More sustainable water will thus directly create more employment opportunities and also ensure growth in production and a lengthening of seasonal work for mainly black female workers and supervisors at both the value-adding facilities.

Oseiland aims to enhance the positive management of its operations, whilst supplying demand commodities for the local and export markets and as such creating more sustainable employment opportunities, mainly for rural black people inclusive of black females.

1.5 Objectives for utilisation of water

Application for this new water use licence to *Oseiland* is being made for the expansion of agricultural development and the value-adding initiatives on the farm.

The objectives for additional agricultural development include:

- Expansion of economic activity
- To create sustainable profitability to farming at *Oseiland*

- To create and ensure sustainable employment opportunities at *Oseiland*
- Increased inflow of revenue to a rural community with high poverty rate amongst black people
- *Oseiland* will also use this opportunity to create and sustain a farming entity that will be AgriBEE compliant, in line with the applicable AgriBEE Scorecard and a proper AgriBEE strategy.

2 AgriBEE (Agri Black Economic Empowerment)

2.1 Commitment to the Broad-Based Approach

In line with the most recent finalised legislation, Act 53 of 2003, and the B-BBEE Codes of Good Practice of 2007, The AgriBEE Codes of 28 December 2012, as well as the alignment of the *Preferential Procurement Policy Framework Act* (PPPFA of 2000) by Government with the Broad-Based approach to BEE (2011), *Oseiland* has embraced the Broad-Based approach to BEE as aligned with the AgriBEE Sector Codes. All current and future staff appointments, career progression, procurement of goods and/or services, skills development, enterprise development (including mentorship) and socio-economic development planning and spend, will be aligned with the objectives of their respective AgriBEE strategies.

2.2 AgriBEE Scorecard

As discussed under Introduction, the entity was recently measured against the latest finalised target of at least 5 of the 7 elements of the AgriBEE QSE Scorecard.

The following 6 elements emerged as the current best ones to concentrate on to maximise their level of compliance:

- Management Control
- Employment Equity
- Skills development
- Preferential Procurement
- Enterprise Development
- Socio-economic Development

The entity already started in the past to actively participate in B-BBEE initiatives.

They contracted our B-BBEE Consultancy to do a proper assessment of the current level of compliance for *Oseiland*, as well as a strategy on how to sustain and improve on this above-average level in future. The attached AgriBEE QSE Scorecard for *Oseiland* was verified by the B-BBEE approved registered Auditor Northern Cape BEE Verifications (Pty) Ltd in September 2016. This AgriBEE Scorecard was done not only as a starting point with the process of transformation, but is also now also used as an assessment on which their future AgriBEE initiatives will be based.

| AgriBEE QSE Scorecard: 9 September 2016 | | | |
|-----------------------------------------|------------|--------------|------|
| Name of company | Oseiland | Boerdery | |
| VAT Number | 4940114475 | | |
| Total BEE Score | 75,47 | | |
| BEE Status | LEVEL 3 | Recognition: | 125% |
| Ownership Fulfillment | | 20 | |

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| Category | Weighting Points | Compliance targets | Actual Level | Score |
|------------------------------------------------------------------------------------------------|-------------------------|---------------------------|---------------------|--------------|
| <i>Voting rights:</i> | | | | |
| Exercisable Voting Rights in the Enterprise in the hands of black People | 5 | 25%+ 1vote | 0 | 0 |
| <i>Economic Interest:</i> | | | | |
| Economic Interest of Black People in the enterprise | 9 | 25% | 0 | 0 |
| <i>Realization points:</i> | | | | |
| Ownership Fulfillment | 1 | | 0 | 0 |
| Net Equity Interest: | 9 | | 0 | 0 |
| 10% of the Target (Year 1) | | | | |
| 20% of the Target (Year 2) | | | | |
| 40% of the Target (Year 3,4) | | | | |
| 60% of the Target (Year 5,6) | | | | |
| 80% of the Target (Year 7,8) | | | | |
| 100% of the Target (Year 9,10) | | | | |
| <i>Bonus points:</i> | | | | |
| Involvement of black women in the ownership of the Enterprise | 2 | 10% | 0 | 0 |
| <i>Land Ownership:</i> | | | | |
| Commercial agricultural land transferred or sold to black people | 20 | 30% | 0 | 0 |
| <i>Bonus points:</i> | | | | |
| Contribution to achieving in excess of 30% land transfer. Bonus point per each percentage >30% | 5 | >30% | 0 | 0 |
| If full 20 points here add 25% to element | | | | |
| Sub Total | | | | 0 |
| Management Control/Top management | | | 20 | |
| Owner-Manager Participation | Weighting points | Compliance targets | Actual Level | Score |
| Black representation at owner/top manager level | 20 | 50,10% | 30% | 11,98 |
| <i>Bonus points:</i> | | | | |
| Black women representation at owner/top manager | 2 | 25% | 0 | 0 |
| Sub Total | | | | 11,98 |
| Employment Equity | | | 20 | |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| Black representation at Controller/Supervisor level as a total of all management | 6 | 60% | 80% | 6 |
| Black women representation at Controller/Supervisor level as a total of all management | 6 | 30% | 22% | 4,40 |
| Black employees as percentage of all employees | 4 | 70% | 95,38% | 4 |
| Black women as percentage of all employees | 4 | 35% | 36,36% | 4 |
| Bonus point for meeting or exceeding the EAP targets in each of the above categories | 2 | EAP | Yes | 1 |

| | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------|----------------------|--------------|
| Sub Total | | | | 19,40 |
| Skills Development | | | | 20 |
| Skills Development Element | Weighting points | Compliance targets | Actual Level | Score |
| Employee enrollment/involvement in Recognised Training Programs | 5 | 30% | 0,55 | 4,09 |
| Skills development spend on black employees as a percentage of Leviable Amount (85% of spend focused on core skills as identified and accredited by the relevant SETA) | 15 | 2% | 0% | 0 |
| Percentage of employees participating in ABET level 3 training as a percentage of all employees | 2 | 2% | 0 | 0 |
| Sub Total | | | | 4,09 |
| Preferential Procurement | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| BEE Procurement Spend from all Suppliers based on the BEE Procurement Recognition Levels as a percentage of total measured procurement spend | 20 | 50% | 51,13% | 20 |
| Sub Total | | | | 20 |
| Enterprise Development | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Level | Score |
| Average annual value of all Enterprise Development Contributions and Sector Specific Programs made by the Measured Entity as a percentage of target | 20 | 3% of NPAT | 0% | 0 |
| Sub Total | | | | 0 |
| Socio-Economic Development | | | | 20 |
| Criteria | Weighting points | Compliance targets | Actual Levels | Score |
| Average annual value of all SED Contributions and Sector Specific Programs made by the Measured Entity as a percentage of target and/ or Land made available to farm workers measured from the commencement date of this Sector Code or the inception date over 10 years of the Code period. The inception date chosen by the measured entity must not be earlier than 5 years before the commencement date of this statement, but binds the measured entity for the duration of this statement | 20 | 1% of NPAT or 10% (land for farm workers) | 6,36% | 20 |
| Bonus Points: | | | | |

| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|--|--|---|--------------|
| Lease of 20% land or capital assets on a long term basis to black persons which meets the criteria of a qualifying transaction (par.5.1.1.2) | | | 0 | 0 |
| Sub Total | | | | 20 |
| Total | | | | 75,47 |

2.3 AgriBEE Status and Strategy

The current AgriBEE status for *Oseiland* as measured against the current AgriBEE QSE Scorecard is Level 3 which represents an AgriBEE recognition percentage of 125%.

Based on this information, the following 6 elements emerged as the ones that will be addressed in the immediate future to maintain and maximise the AgriBEE level of compliance for *Oseiland*:

2.3.1 Management Control

This element measures the representation of black managers on Top Management Level, with a target of 50,1% and a separate target for black females in such positions of 25%. The entity has black male employees on this level (30%), but currently no black female employees on this level.

2.3.2 Employment Equity

• Management (Controller/Supervisory positions)

On the current QSE AgriBEE Scorecard the first category of this element measures the percentage of black people and black females in **controller** and/or **supervisor positions**. The previous Adjusted Recognition of Gender (ARG) principle has now been replaced with a separate category to also measure the percentage of black females in such positions. The previous target of 40% black managers has now increased to 60%. Should this water application be successful, and the amount of workers and managers on the farm increase as expected, the measured entity will have to appoint and train black managers in a planned way, to make sure at least 60% of all managers are black. The separate target for black female employees in these positions is now 30%.

The entity has currently more (80%) than the target (60%) black men on this level, but not enough black women (22%, target 30%) in such supervisory positions. The entity will need to address this ratio when any supervisory positions needs to be created or filled in future.

• Black employees

The second category of this element measures the percentage of **black employees**. Again was the ARG replaced with a separate target for black female employees. This farming operation is currently employing more black employees (95,38%) than the target (70%), as well as more black female employees (36,36%) than the target of 35%. The entity plans to sustain this ratio with any new appointments.

Potential new positions

It is envisaged that *Oseiland* will need to create some new permanent and a number of new seasonal employee positions in the near future should the new water use be allocated. The entity also plans to convert some of the current seasonal positions to permanent positions should this water licence use

application be successful.

As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

The new water use licence will therefore create an immediate need to appoint more workers and supervisors.

The new water use licence will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.

- Skilled agricultural labourers
- Specific knowledge of vineyards and citrus fruit production will be needed
- Specific knowledge of fruit packing will be needed
- Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers.

Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

To identify candidates for career progression, the following methodology will be employed:

- Performance management process
- Informal discussions regarding career options
- Observation of performance of individuals whilst performing current tasks
- Review of years in service and likelihood of progressing further
- Review of performance via formalised performance assessment process

Commitment to Employment Equity and AgriBEE

Oseiland has now AgriBEE and EE strategies in place and all appointments are made in the spirit of EE and AgriBEE legislation, ensuring that people from previously disadvantaged groups are afforded the opportunity to obtain as far as possible permanent employment through the expansion and sustainability of the farming operation.

All employees employed by *Oseiland* are employed:

1. within the parameters of the Basic Conditions of Employment Act of 1997
2. as per the definition of "black person" in the B-BBEE Codes and AgriBEE Sector Codes
3. in accordance with Section 15 of the EE Act

In doing so, the following will thus always be taken into account in the employment process:

- Compliance to the race and gender targets/ratios as per AgriBEE Scorecard
- Demographic profile of the local population as per EE targets
- Inclusion of measures to identify and eliminate employment barriers
- Inclusion of measures to address and avoid unfair discrimination on the grounds of gender, sexual orientation or cultural background

- Ensuring that suitably qualified people from designated groups have equal employment opportunities
- Ensuring that people from designated groups are equally represented in all levels of the workforce
- Inclusion of measures designed to further diversity in the workplace based on equal dignity and respect for all people
- Retention and development of people from designated groups and implementation of appropriate training measures and skills development for all staff

Should there be vacancies in future positions will be filled to ensure that there is equitable representation from designated groups and all advertising for such positions shall state that *Oseiland* is an equal opportunity employer.

2.3.3 Skills development

A considerable effort was put into training and the transfer of skills to unskilled black employees, with measurable success. A huge portion of salaries and wages were spent on employees per definition *temporary* with the result that a relative high target were created for this element. The percentage compliance on this scorecard does not therefore reflect the correct picture for training to permanent employees. All future training will be correctly documented according to the guidelines of the *B-BBEE Verification Manual* and the regulations of the SD legislation. As in the past, care will also be taken in future to only use SETA accredited training providers as far as possible to ensure that employees gain the maximum benefit through the selection of suitable, tested providers and receive quality course material in line with accepted standards and current best practice. Efforts to comply with the SD Legislation and the Skills element on the AgriBEE Scorecard, will in future be aligned to ensure the maximum transfer of skills to black people. Again the previous ARG principle was replaced with a separate target for black female employees, which will result in the correct percentage of training and transfer of skills to black women. Training was last year done to improve technical as well as life skills of workers.

The primary objective of their Skills development programme is to ensure the availability of farming specific skills and competencies of the workforce, and also mentorship and skilling of employees for portable skills utilisable by the employees outside the context of agriculture.

Skills development of all staff is managed by *Oseiland*, who oversees and facilitates training. *Oseiland* provides all financial and logistical resources required to deliver such training and skills transfer.

As with the current staff, any new to be appointed staff will consist of skilled agricultural employees. Where skilled people are not available, unskilled workers will be recruited and then in-house trained to become skilled.

Training and development

Oseiland endorses a policy of undertaking training and development of its employees on a proactive basis, in order to:

- Ensure that employees have the core potencies required to carry out agricultural practices,
- Ensure that employees are in possession of transferable skills that can be used in other similar operations
- Ensure employees are in possession of life skills that would enable them to function in their day-to-day lives without difficulty, and

- Enable staff to reach realistic development aspirations, whilst encouraging them to grow and develop their personal capacity.

Identification of training courses and sources

Suitable training courses are sourced through the AgriSETA. Specific product- and technical training are also available from suppliers who supply products, seedlings, fertilizers, equipment, etc. to the farm, and workers are encouraged to do this training on an on-going basis.

Training is continuously to be aligned with the AgriSETA Sector Skills plan to ensure scarce and critical skills are addressed.

Historical training done for 2015/6:

| Training intervention | Percentage spend on Black employees |
|--------------------------|-------------------------------------|
| In-house training | 100% |
| SETA accredited training | 100% |

The following training was done:

- Occupational Health and Safety
- Forklift operator
- Team leaders
- Tractor driver
- Tractor maintenance/basic mechanics
- Fire fighting
- Vineyard preparation, pruning, monitoring and harvesting
- Orchard monitoring, pruning and harvesting
- Hygiene
- Pump operator
- Irrigation operator
- Hazardous substances

Focus on life skills training

Oseiland has currently set a training and development objective focusing also on the main problem areas in this community, namely:

- First aid and Occupational Health and Safety: This is not only necessary in the work environment, but also an important skill for workers living in a rural community where family and neighbours cannot always afford the basic medical attention needed.
- Literacy and numeracy skills development for all employees: The current employees are all literate, but it is expected that some of the seasonal workers needed, will not have the same literacy and numeracy skills. A percentage of people from the rural region do not have a secondary school education and cannot read or write properly. The new AgriBEE Codes has now a specific target for ABET training and *Oseiland* will now identify candidates that will qualify to do this.
- HIV/Aids and TB (tuberculosis) are constant health problems in rural areas: There is a clinic on the farm and the farm subsidises the services of a qualified nurse who visits the clinic every week. From

this clinic she also gives preventative information in this regard to workers and their families.

Life Skills training by accredited service providers are done annually where needed.

Beneficiaries per population group

Whereas the previous SD legislation measured the training of all workers, the current AgriBEE Scorecard more specifically now only award points for training and skills transfer of people per definition black and/or black women. Therefore the beneficiaries of training for compliance reasons will be in the ratio of the employees for SD purposes, but then predominantly black as per AgriBEE definition and targets.

To motivate individuals to participate in training programmes, the following incentives are set in place:

- Training is offered free of charge
- Employees are transported free of charge to training venues, if not on the farm
- Facilitated training sessions are provided
- Employees could schedule training during work hours so that no leave benefits are used up.
- Where possible and relevant, training is provided also free to spouses and registered dependents of employees.

Focus on non-farming skills for staff

Oseiland implements a strategy whereby employees are also equipped with portable skills to assist them in everyday life outside of the farming environment. Examples of such training include:

- Forklift licences
- Vineyard management and monitoring
- Orchard management and monitoring
- Health and safety
- Gardening skills
- First aid Skills
- Hygiene
- Basic mechanics
- Fire fighting

Mentorship Plan

Mentorship will now be approached in 2 areas:

- a.) In-house mentorship focussing on the transfer of general life skills to existing employees,
- b.) Mentorship outside the business to pre-identified suppliers/sub-contractors/service providers as part of the Enterprise development and Preferential Procurement initiatives of *Oseiland* in their efforts to comply with the relevant AgriBEE legislation (more about this under *Enterprise Development*)

The **mentorship plan for employees**, will be aligned with their WSP, and will be part of the budget for SD in direct relation to and as a percentage of salaries and wages. Through mentorship the management of *Oseiland* will ensure that employees with potential and drive are equipped with the necessary skills to maximise their potential.

Mentorship shall involve in-house training and guidance, together with motivation being provided for the individual to further his skills and interest on a personal basis. Whilst the SDP aims to assist the individual in the development of skills to be used in-house, the mentorship plan aims to improve general life skills

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to be applied outside of the farming environment. Ultimately it is hoped that the individual would pass on these skills to people at home and in his/her community and in so doing improve his/her standard of living as well as those around them.

Identification of individuals to receive mentorship will be based on the level of interest shown by the individual.

2.3.4 Preferential Procurement

This element measures the percentage of procurement from B-BBEE compliant and black- and black-women owned suppliers. The previous target of 40% increased to 50% on the current Scorecard. The enterprise did well on this element and exceeded the previous and current targets, because of their procurement from mostly B-BBEE compliant suppliers. Care will be taken in future to procure as far as possible only goods and services from B-BBEE compliant suppliers and sub-contractors to not only sustain, but also increase their level of compliance. It is expected that this target will increase to 70% once the AgriBEE Sector Code is aligned with the Revised Generic Codes. As part of this new procurement policy, a bigger effort will be made to find, help develop and support upcoming black owned and black women owned enterprises. This also now unlocks the potential to develop such enterprises in their vicinity as part of their future Enterprise Development strategy and mentorship initiatives.

2.3.5 Enterprise Development

Although this element was not measured now, the entity now needs to start planning initiatives in this regard in anticipation of the expected alignment of the Agri Sector Codes with the already finalised Revised Generic Codes.

The finalised Revised Generic Codes, that is currently not applicable to the Agri Sector, combines the existing Preferential Procurement element with the existing Enterprise Development element to form a new element Supplier Development. It is expected that the AgriBEE Sector Code will in future also follow this route.

Mentorship and support to upcoming entrepreneurs, and then using the same entrepreneurs as suppliers/sub-contractors/service providers to the farm, will have therefor in the near future a considerable influence on the AgriBEE level of compliance of this measured entity.

The target and budget for this element went up from the previous 2% to a new target of **3% of NPAT** on the current AgriBEE QSE Scorecard.

2.3.6 Socio-economic Development

The measured entity did well on this element, and exceeded the target of 1% of NPAT. They made qualifying contributions to the following projects:

- Fully subsidised (free) transport to and from work as well as for sport and church attendance.
- Subsidised housing, electricity and water for workers living on the farm.
- Sport fields and facilities on the farm build and maintained by the farm.

Socio-economic projects will now be planned in advantage with a proper budget as per AgriBEE Scorecard targets, to achieve the goals in the spirit of AgriBEE, in such a way that at least 75% of the benefit will go to black people.

It should be noted that the following applies to the current farming operation, and will also apply in future:

- Protective clothing provided
- Access to products from the farm at a subsidised price or free.
- A funeral plan for all permanent workers and their immediate families

4. SOCIAL PROVISION

4.1 Measures to address housing and living conditions

- Most permanent employees live on the farm in subsidised housing with subsidised water and electricity.
- Workers not living on the farm and seasonal workers live in the nearby town and are transported daily to and from work.
- To increase the income of households, spouses of farm workers are used whenever possible for extra temporary and/or seasonal work on the farm.
- Workers are encouraged to establish vegetable gardens at their homes.

4.2 Measures to provide medical assistance

- All employees have easy access to medical clinic services. There is a permanent clinic on the farm and the farm has contracted a qualified nurse to visit this clinic every week.
- If more medical attention is needed than the clinic can supply, employees are taken to doctor/hospital. *Oseiland* subsidises medical cost by paying the service provider upfront and the workers can then pay back interest free.
- HIV/Aids and TB are a problem in the community, so regular information and training sessions are held on the farm by the nurse as a preventative measure.

4.3 Measures to address educational facilities and opportunities

- Children have easy access to a crèche on the farm.
- There are two Primary Schools in the nearby town Augrabies. Augrabies is only 5km from the farm and a Government subsidised bus transport primary school children from the farm on a daily basis to and from school.
- The nearest High school is in Kakamas, about 30km from the farm. A subsidised bus service also transport these high school learners on a daily basis to and from school.

5. FINANCIAL PROVISION

5.1 Budget for 2017/18 training and development

To align their Skills Development efforts with that of the Skills Development element on the AgriBEE Scorecard, the current target to spend 1% of salaries and wages on Skills Development, will now increase to 2% of salaries and wages (inclusive of directors fees).

The budget for training will thus be in direct relation to salaries and wages, inclusive of Directors fees, in the following percentages:

| | |
|-----------------------------------------------------------------|----------------------------------------------------------------------|
| Training budget in compliance to Skills Development legislation | 1% of salaries, wages, directors fees |
| Training budget in compliance to AgriBEE QSE Scorecard | A further 1% (i.e. 2% in total) of salaries, wages, director's fees. |

5.2 Budget for 2017/18 Enterprise Development

As per target in the applicable AgriBEE QSE Scorecard, the annual budget for this element will be at least, but not less than the new target of 3% of the NPAT of the farming operation, and will only count in as far as only black people/black women benefit. It is expected that the future revised Agri Code will have a new target of at least 1% of NPAT to be spend on Supplier Development alone.

5.3 Budget for 2017/18 Socio-economic Development including staff welfare

As per target specified in the AgriBEE Scorecard, the annual budget for Socio-economic Development will be at least, but not less than 1% of the NPAT of the farming operation. As prescribed by the AgriBEE Codes, this amount will be spend in such a way that at least 75% of the benefit will go to black people. It is expected that this target will stay the same in future.

6 INFLUENCE OF NEW WATER RIGHT ON LOCAL ECONOMY

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.

Not only are the new employment opportunities important, but also the fact that:

- Existing jobs can be secured: Enough water will directly secure existing and new job opportunities.
- More sustainable water will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.
- The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

7 UNDERTAKING

I, the undersigned and duly authorised thereto by

Oseiland farming operation (measured entity) undertook to adhere to the information, requirements, commitment and conditions a set out in this AgriBEE Management Report.

Signed at on this day of 2017

Signature:

Designation:

References

Oseiland AgriBEE QSE Certificate issued by NCB Pty Ltd dated 9 September 2016
National Water Act, Act 36 of 1998



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LIMITED ASSURANCE REPORT OF THE INDEPENDENT B-BBEE APPROVED REGISTERED AUDITOR

Name of Measured Entity: Oseiland Boerdery
Certificate Number: J2016/09/09
Expiry Date: 8 September 2017

To the directors of OSEILAND BOERDERY

We have undertaken a limited assurance engagement on the B-BBEE Status as at 9 September 2016, as set out on page 1 of the Broad-Based Black Economic Empowerment ("B-BBEE") Verification Certificate of OSEILAND BOERDERY (the "Certificate"), and the Scorecard as set out on pages ____ to ____ of the Certificate. We clarify that our engagement is on the basis of information provided by management and may not be complete in all respects.

Directors' responsibility

The directors are responsible for the preparation of the Scorecard and determining the B-BBEE status in accordance with the Codes of Good Practice on Black Economic Empowerment ("the Codes of Good Practice"), gazetted on 9 February 2007 in terms of the Broad-Based Black Economic Empowerment Act of South Africa ("the B-BBEE Act"). The directors are also responsible for such internal control as management determines is necessary to enable the preparation of information and the B-BBEE Scorecard that is free from material misstatement, whether due to fraud or error.

B-BBEE Approved registered auditor's responsibility

Our responsibility is to express a limited assurance conclusion on the B-BBEE Status reflected in the Certificate based on the procedures we have performed. We conducted our limited assurance engagement in accordance with the South African Standard on Assurance Engagements (SASAE) 3002: Assurance Engagements on Broad Based Black Economic Empowerment (B-BBEE) Verification Certificates. This standard requires us to comply with ethical requirements and to plan and perform this engagement to obtain limited assurance about whether the Certificate is free from material misstatement. A limited assurance engagement with respect to a B-BBEE Verification Certificate involves performing procedures regarding the Scorecard and B-BBEE Status of the measured entity based on the criteria and requirements contained in the relevant Codes. The procedures performed depend on the assurance provider's judgement. The nature of those procedures is different from and the extent is substantially less than in a reasonable assurance engagement, and consequently they do not enable us to obtain the assurance necessary to become aware of all significant matters that might be identified in a reasonable assurance engagement. We believe that the evidence we have obtained in our limited assurance engagement is sufficient and appropriate to provide a basis for our conclusion.

Summary of work performed

Our work performed included:

- Obtaining an understanding of the entity and its environment and the underlying records sufficient to identify areas in the Scorecard where material misstatements are likely to arise, to be able us to design procedures to address those areas;
- Inquiring of management and employees responsible for the preparation of the B-BBEE compliance information;
- Performing such additional procedures as we considered necessary;
- Re-performing calculations to determine whether the scores reflected in the relevant Scorecard elements have been classified and determined in all material respects in accordance with the Codes of Good Practice.

Limited assurance conclusion

Based on our procedures performed, nothing has come to our attention that causes us to believe that the B-BBEE Status reflected in the Certificate has not been determined, in all material respects, in accordance with the Codes of Good Practice on Black Economic Empowerment ("the Codes of Good Practice"), gazetted on 9 February 2007 in terms of the Broad-Based Black Economic Empowerment Act of South Africa ("the B-BBEE Act").

Restriction on liability

Our engagement has been undertaken so that we might report to OSEILAND BOERDERY in accordance with the terms of our engagement. We do not accept or assume responsibility to anyone other than OSEILAND BOERDERY, for our work, for this report, or for the conclusion we have reached.


JACO DE WITT VAN DEN HEEVER
IRBA REGISTRATION NUMBER: 403393B
B-BBEE APPROVED REGISTERED AUDITOR

Date Signed: 9 September 2016

| | | |
|------------|------------------------------------------------------------------|--------------------|
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Broad-Based Black Economic Empowerment Verification Certificate

Certificate No: J2016/09/09

Date of Issue: 9 September 2016
Expiry Date: 8 September 2017

OSEILAND BOERDERY

Registration no: N/a
VAT no: 4940114475
Head Office, Location: Farm Reingeluk No 430, Augrabies
Postal Address: PO Box 45, Augrabies, 8874

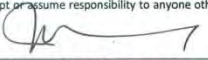
Verification standard applied: Codes of Good Practice on Black Economic Empowerment
Issue of the rating standard applied: Section 9 of the B-BBEE Act 53 of 2003
Scorecard applied: Qualifying Small Enterprise Scorecard – DTI Charter
Size of the enterprise: (< / or = R35 million annual turnover)

| Element | Score |
|----------------------------|--------------|
| Ownership | 0.00 |
| Management Control | 0.00 |
| Employment Equity | 23.88 |
| Skills Development | 1.97 |
| Preferential Procurement | 25.00 |
| Enterprise Development | 0.00 |
| Socio-Economic Development | 25.00 |
| Overall Score | 75.85 |

Broad Based BEE Status Level: A Level 3 Contributor to B-BBEE
BEE Procurement Recognition Level: 110%
Black Ownership: 0%
Black Women Ownership: 0%
Value Adding Supplier: Yes

Based on our work performed, we have no reason to believe that the B-BBEE status reflected in this Certificate has not been determined in all material respects, in accordance with the Codes of Good Practice on Black Economic Empowerment¹, gazetted on 9 February 2007 in terms of the Broad-Based Black Economic Empowerment Act of South Africa. Our independent limited assurance report dated 9 September 2016 is available for inspection at the registered office of **NORTHERN CAPE BEE VERIFICATION (PTY) LTD** together with the accompanying Scorecard and should be referred to for an understanding of our limited assurance engagement and the extent of work performed.

This Certificate has been determined on the basis of information provided by management that may not be complete in all respects. We do not accept or assume responsibility to anyone other than **OSEILAND BOERDERY**, for our work, for this report, or for the conclusion we have reached.


JACO DE WITT VAN DEN HEEVER
IRBA REGISTRATION NUMBER: 403393B
B-BBEE APPROVED REGISTERED AUDITOR

APPENDIX I: Certified copy of ID

APPENDIX J: Trust Details

APPENDIX K: Copy of Receipt

APPENDIX L: Section 21 c and i list of drainage lines coordinates and Risk Matrix

APPENDIX TO FORMS DW 763 21 (c) & DW 768 21(i)

**Oseiland Boerdery Farm 1726: LOCATION OF ALTERATIONS OF DRAINAGE LINES
WITHIN AREAS UNDER CULTIVATION (REFER TO FIGURE 1 to 3)**

| DRAINAGE BRANCH NO. | CO-ORDINATES: START OF ALTERATION ON DEVELOPMENT AREA | CO-ORDINATES: END OF ALTERATION ON DEVELOPMENT AREA | LENGTH OF WATERCOURSE AFFECTED BY ALTERATION OR DIVERSION |
|--------------------------|-------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|
| Stream 1 | 28°40'40.28"S 20°26'15.43"E | 28°40'50.86"S 20°26'09.29"E | 370m |
| Stream 2 | 28°40'44.17"S 20°26'20.48"E | 28°40'48.77"S 20°26'15.78"E | 200m |
| Stream 3 | 28°40'43.43"S 20°27'03.67"E | 28°40'48.84"S 20°26'55.36"E | 280m |
| Stream 4 | 28°40'53.35"S 20°27'05.05"E | 28°40'54.98"S 20°27'01.20"E | 120m |
| Stream 5 | 28°41'01.10"S 20°27'11.36"E | 28°41'04.29"S 20°27'15.41"E | 150m |
| | | | |
| Pump at Orange River | 28°40.49.45"S 20°28'01.37"E | | |
| | | | |
| Pipeline crossing stream | 28°40.54.18"S 20°27'03.22"E | | |
| | | | |

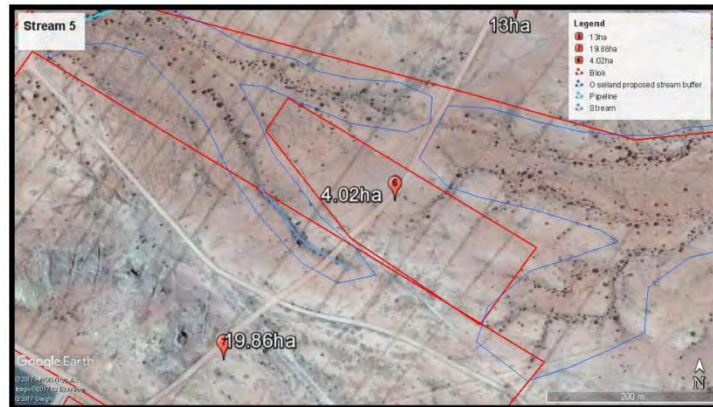
Figure 1: Stream 1 and 2



Figure 2: Stream 3 and 4



Figure 3: Stream 5



APPENDIX M: Lands Claim confirmation

APPENDIX N: Plough Certificate

APPENDIX O: Motivation for transfer of water from various properties

Appendix P: Permanent Transfer Forms

APPENDIX Q: Indemnity Forms

APPENDIX R: Termination in terms of Section 25 Forms

11.4.1.1 Alternative layout 1: Preferred layout (revised to accommodate water availability and reduced from 77ha to 67.68ha)

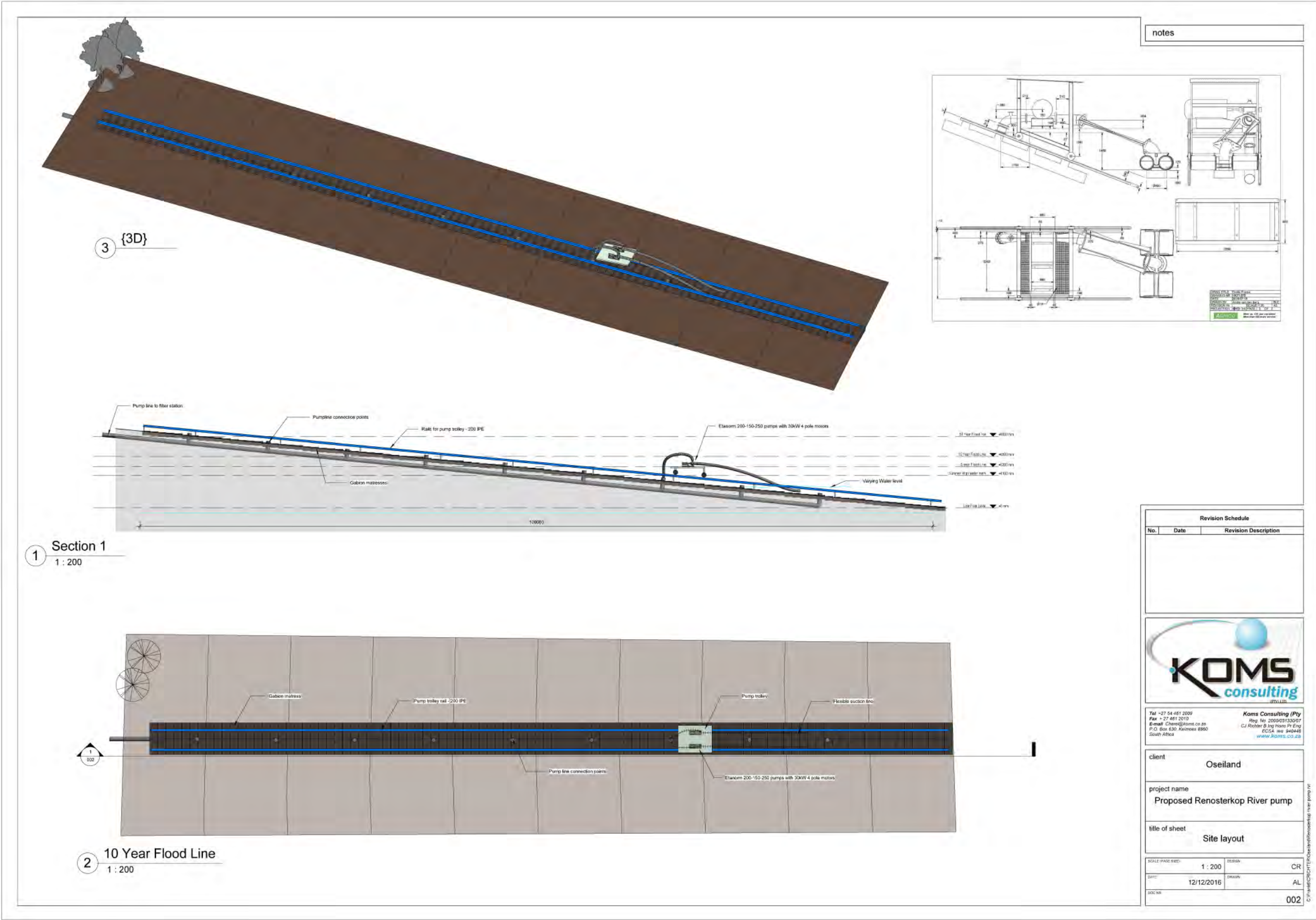


11.4.1.2 Alternative layout 2

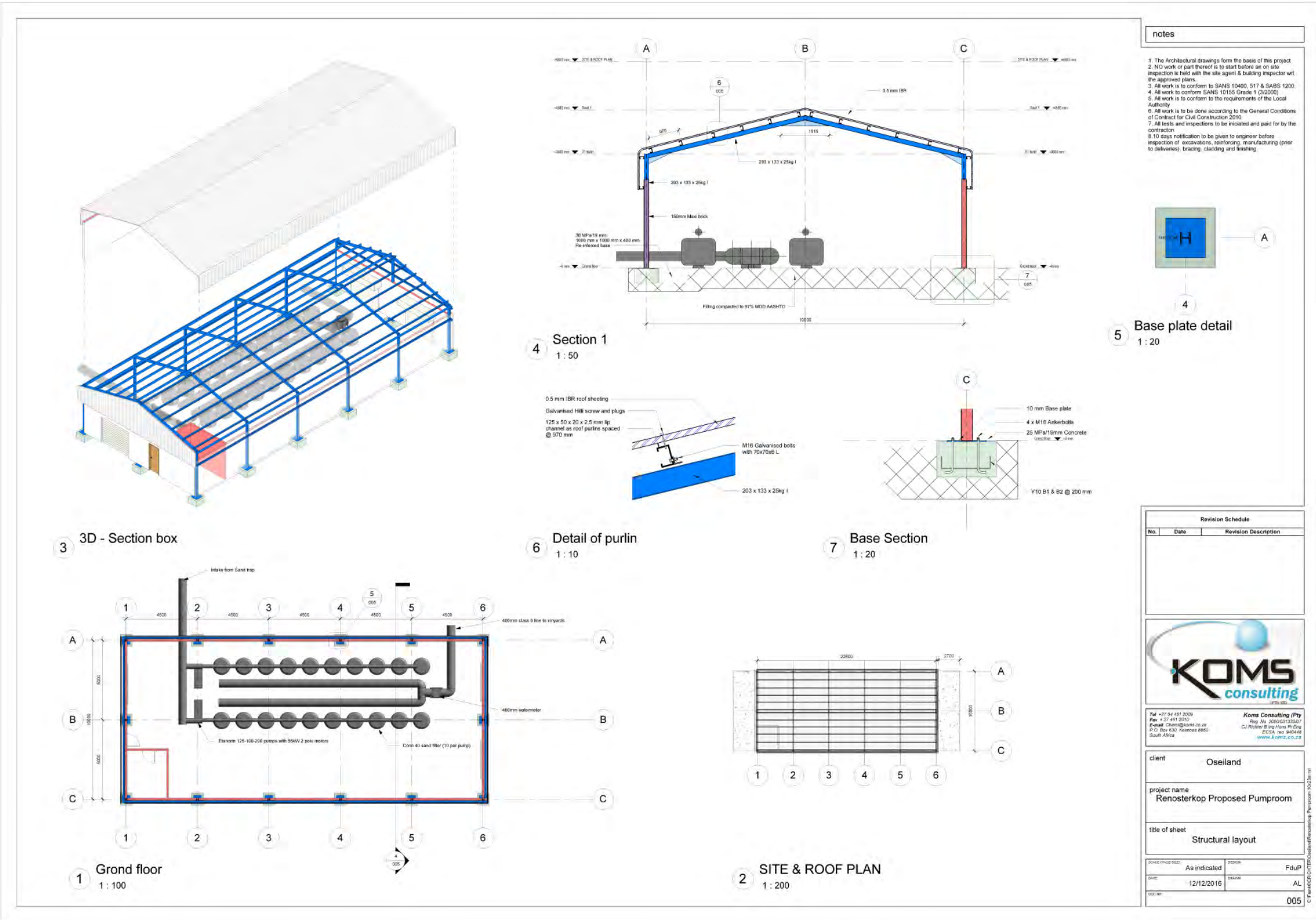


11.4.2 Design Layouts:

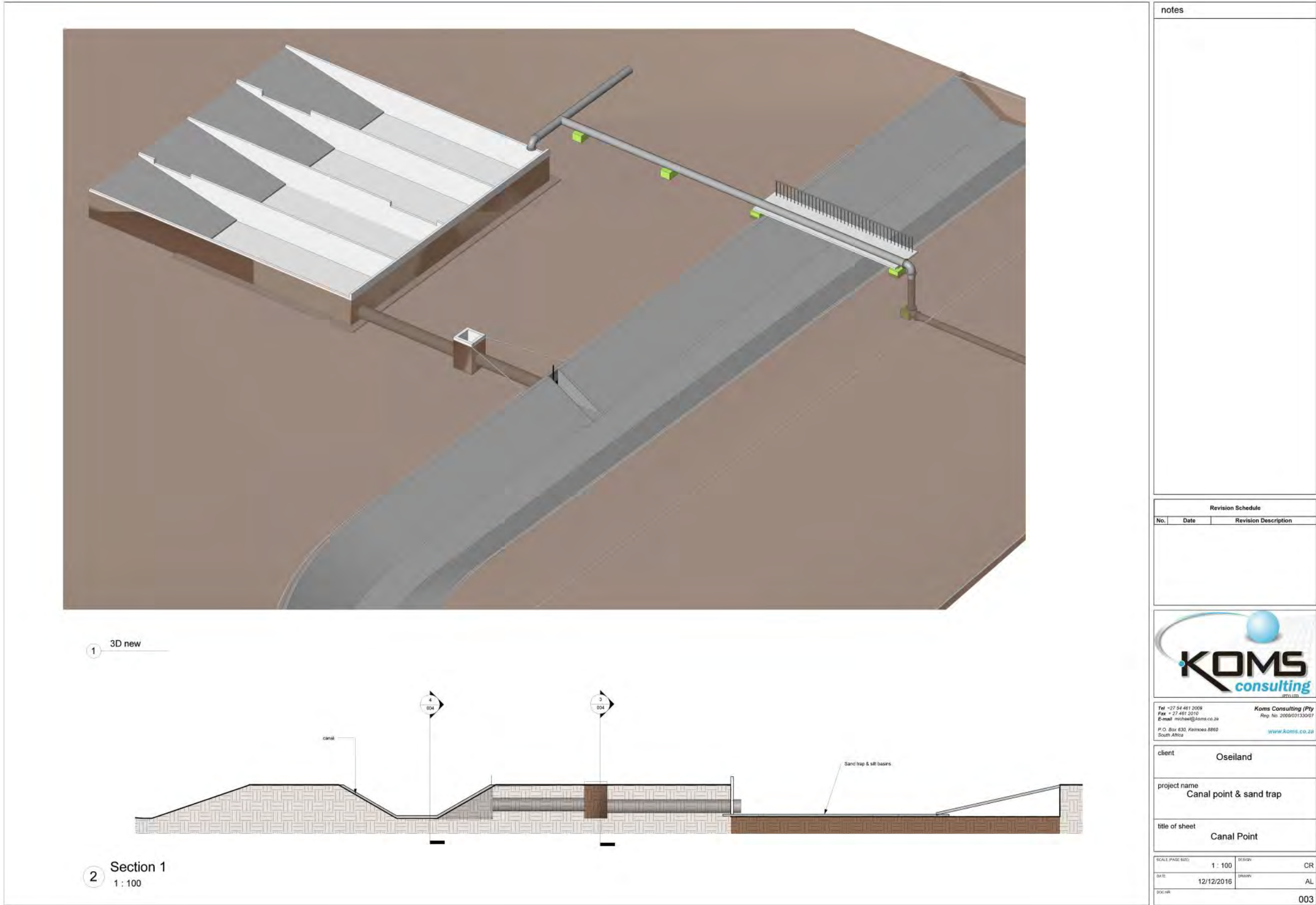
11.4.2.1 Proposed River pump



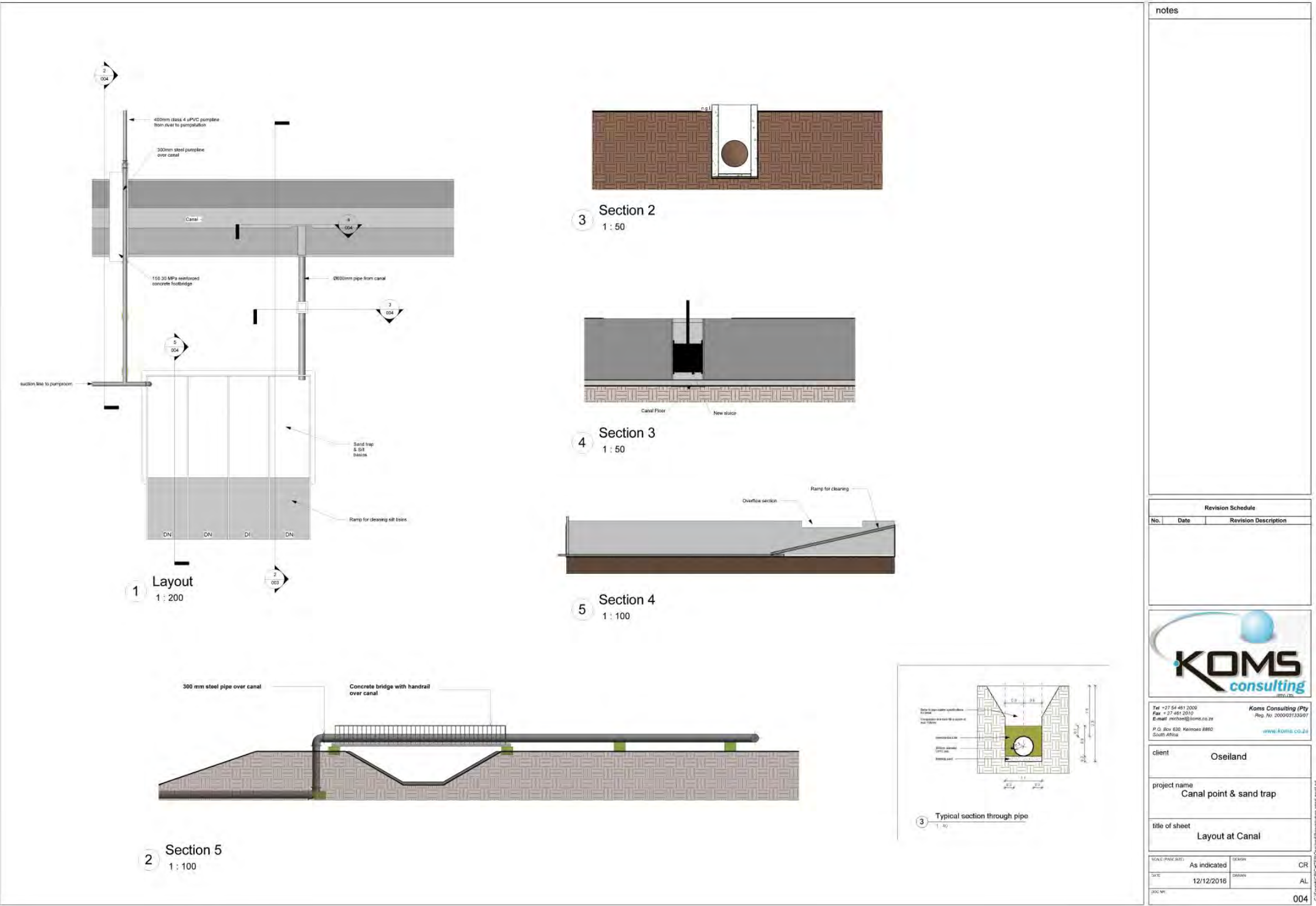
11.4.2.2 Proposed pump station



11.4.2.3 Pump station and canal intake structures



11.4.2.4 Canal crossing structure



12 ENVIRONMENTAL MANAGEMENT PROGRAMME

Application for Authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, December 2014, as amended March 2017

CONSTRUCTION & OPERATIONAL MANAGEMENT PLAN FOR

**PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND
ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP,
FARM 1290 AND FARM 1537, AUGRABIES, NORTHERN CAPE**

DENC Ref: NC/EIA,06/ZFM/KAI/AUG1/2017



Prepared by:

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Environmental Assessment Practitioner

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List of abbreviations

| | |
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| CA | Competent Authority |
| DENC:NC | Department of Environment and Nature Conservation: Northern Cape |
| DEAT | Department of Environmental Affairs and Tourism |
| dSR | Draft Scoping Report |
| fSR | Final Scoping Report |
| DWS | Department of Water and Sanitation |
| EA | Environmental Authorisation |
| EAP | Environmental Assessment Practitioner |
| ECO | Environmental Control Officer as per the environmental authorisation |
| EIA | Environmental Impact Assessment and the process to be followed in terms of the National Environmental Management Act, Act 107 of 1998 |
| EIR | Environmental Impact Report |
| ELU | Existing Lawful Use |
| EMF | Environmental Management Framework |
| EMP | Environmental Management Programme |
| EO | Environmental officer as appointed by the client or contractor |
| GG | Government Gazette |
| GN | Government Notice |
| I&AP | Interested and Affected Party |
| IAIAsa | International Association for Impact Assessment for South Africa |
| NEMA | National Environmental Management Act, Act 107 of 1998 |
| NID | Notice of Intent to Develop |
| PoSfEIA | Plan of Study for EIA |
| RE/Engineer | Resident Engineer overseeing the construction activity |
| ROD | Record of Decision |
| SDF | Spatial Development Framework |
| SR | Scoping Report |
| TOR | Terms of Reference |

Definitions

For the purposes of this Specification the following definitions shall apply:

Construction site, working area or Site - means any area within the boundaries of the property(ies) where construction is taking place.

No-Go area - means any area where no access is allowed.

Refuse - refers to all solid waste, including construction debris (cement bags, wrapping materials), waste and surplus food, food packaging, organic waste etc.

Expertise of the EAP

Pieter Badenhorst

The name and details of the EAP are provided in the front of the report. He has more than 41 years' experience in project management and report writing. He worked at the CSIR in environmental, coastal and estuarine management for 16 years. During that time he was part of the team that developed coastal management guidelines, the first process for EIAs and undertook numerous environmental studies for DEAT in collaboration with a team of ecologists. The last 15 years he has worked mainly in environmental control and environmental impact assessments and has completed EIAs for many projects. He has also undertaken an EIA peer review on a major development for DEAT.

He has a B.Sc. Civil Engineering Degree as well as B.Honours Degree (Irrigation), M. Engineering (Civil) and an MBA from Stellenbosch University.

The consultant is a member of the Engineering Council of South Africa and the South African Institute of Civil Engineers, as well as a member of the International Association for Impact Assessment (South Africa).

The consultant has organized many meetings/workshops/open days to identify issues for similar projects at the CSIR; Blue Flag for DEAT as well as other DEAT projects. The Blue Flag and other projects required interaction with large groups of stakeholders.

Elanie Kühn

The consultant has 9 years' experience in project management and report writing. She has worked for two other environmental assessment companies prior to this. She completed her BSc degree and after this gained an Honours Degree in Environmental Management from the North West University in Potchefstroom. She has been working with Pieter Badenhorst for the last six years working on environmental impact assessments.

1 Introduction

1.1 Locality:

The proposed properties on which the expansion of agricultural activities, pipelines and associated infrastructure will take place are situated on Farm 1726, Renosterkop, Farm 1537 and Farm 1290, Augrabies. The farms are situated on the right side of the R64 approximately 2km before you enter the small town of Augrabies in the Northern Cape Province, see Figure 1. The site lies north of the R64 (MR 359) and south and west of Renosterkop Peak, a prominent inselberg in an otherwise flat landscape, and south of the Orange/Gariep River. Small ephemeral streams cross the site. See Figure 2. Accesses to the farms are via existing gravel roads that gain access off the R64. The property is currently zoned Agriculture. The owner of the properties is Oseiland Eiendomme (PTY) Ltd and has appointed PBPS as the independent consultant to undertake the EIA process.



Figure 1: Locality

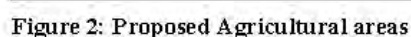
Proposed development:

The proposed development is to establish additional agricultural areas for the cultivation of vineyards and orchards on areas with indigenous vegetation and across small streams. It is also proposed to construct additional pipelines, that will cross streams and to construct a new intake from the canal as well as a small pumping station adjacent to the Orange/Gariep River for taking water out of the stream during periods where the canal will be closed for repairs. All proposed cultivation areas have existing access. The farm is also approximately 1km from the Orange/Gariep River. The proposed agricultural areas and pipelines are shown in the Figure 2.

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Proposed construction of an agricultural areas, pipelines and associated infrastructure on Farm 1726, Renosterkop, Farm 1290 and Farm 1537, Augrabies
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1. Transformation of approximately 67.68ha of indigenous vegetation to vineyards. This extent has been reduced from 77ha due to the confirmation of the availability of water for irrigation.
2. Construction of approximately 3km of new pipelines,
3. Construction of a pumping station adjacent to the Canal, approximately 0.1ha in size,
4. A small intake structure within the Orange/Gariep River, and
5. Construction of two pipeline crossings over the Canal.

| Property details | Sizes of properties | Ha of proposed new development area. |
|------------------------|---------------------|--------------------------------------------------------------------------|
| Farm 1726, Renosterkop | 468.85ha | 67.68 hectares; 0.1ha for pump station, 3km pipelines, intake structure. |
| Farm 1290, Renosterkop | 17.98ha | |
| Farm 1537, Renosterkop | 60.58ha | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 7 | 2 | 6 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 2 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 0 | 3 | 6 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 5 | 3 | 7 | 0 | 0 | 0 | 0 | 0 |

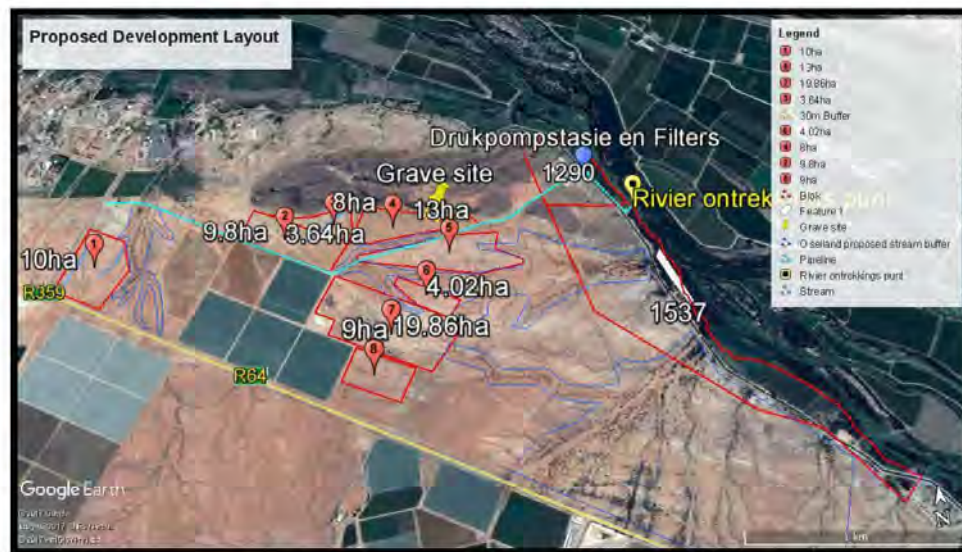


Figure 2: Proposed new agricultural areas

As per the above Figure 2 it will provide transformation of approximately 67.68ha of indigenous vegetation to vineyards.

This document is a requirement for environmental authorization (EA) which is shown in Appendix A. All mitigation measures included in the EA will be inserted into Appendix C. On approval by DENC the developer must ensure that its conditions are implemented by making the document available to the contractor and also ensure that an ECO or the Resident Engineer are appointed and systems are in place to evaluate compliance. The contractor(s) is expected to familiarise himself with the contents of this document and to implement its conditions.

Overall the EMP will aim to:

- Control the construction activities in such a way that negative impacts on the physical environment, sensitive areas and surrounding residential areas are prevented or minimised.
- Ensure that mitigation and rehabilitation measures are implemented where required.

Please note that this document does not replace any other regulations, laws and bylaws that the contractor must adhere to. It specifically does not replace the regulations of the Occupational Health and Safety act of 1993 (Act No. 85 of 1993).

Funding for the implementation of the Construction EMP is the financial responsibility of the developer.

The project environmental issues are shown in section 2 with the construction EMP in section 3 and the operational EMP in section 4.

2 Environmental issues

2.1 Vegetation

As outlined in Section 5.2.1 of the Botanical Impact Assessment Report attached at Appendix 11.3.1 in the EIR. The vegetation types found on site is of low botanical sensitivity; however the proposed development will probably have low negative impact on the vegetation if the appropriate mitigation measures are implemented.

Mitigation:

Mitigation during the planning, construction and operation phases of this proposed development are as follows:

Very little scope is available for mitigation measures to compensate for the loss of natural or near natural habitat in the study area itself since, wherever there would be future cultivation, the vegetation and habitat would be lost.

Recommended mitigation for the loss, particularly of seasonal watercourses, would be the conservation of the 'eastern area' of the farm outside the area targeted for agriculture. The 'eastern area' is rocky and has very little agricultural potential while also having many seasonal drainage lines. Conservation of the eastern area would ensure that a significant population of protected trees and viable habitat is formally protected and would offset the loss of equivalent habitat in the area targeted for agriculture.

Only two protected plant species were encountered in the study area namely, *Boscia albitrunca* (Witgatboom; shepherd's tree) and *Vachellia (Acacia) erioloba* (kameeldoring; camelthorn). Both these tree species are protected in terms of the National Forests Act 1998 (Act 94 of 1998).

B. albitrunca is common and is most abundant along drainage lines. *Vachellia erioloba* (Camelthorn – see photograph inserted below in Figure 3) is not common at Renosterkop 1726 being represented by only a few individuals.

Mitigation

- It is recommended that to mitigate the loss of Bushmanland Arid Grassland in the study area, the eastern area of Renosterkop 1726 should be set aside and conserved in perpetuity (effectively an 'on-site offset') as shown on the environmental sensitivity map (Figure 4)
- It would be necessary to apply for a permit for the removal of *Boscia albitrunca* and, if necessary, *Vachellia erioloba* (Camelthorn)
 - The Camelthorn tree (Figure 3) provides habitat for the social weaver and should not be disturbed.
 - Loss of any protected trees due to clearing for cultivation would therefore require that permits should be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF).



Figure 3: *Vachellia erioloba* (camelthorn) with nests of White-browed Sparrow-weaver. This is one of only very few of these trees in the study area and should remain undisturbed.



Figure 4: Botanical sensitivity map

2.2 Fauna

Although not observed during the site visit, it is expected that small game such as klipspringer, steenbok, porcupines, baboons and dassies will be found in the area. Some bird species were also found. Refer to Figure 3 above which shows the Camelthorn tree with nests of White-browed

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Sparrow-weavers. This is one of only very few of these trees in the study area. Yellow mongoose (*Cynictis penicillata*), an inhabitant of the open plains and the seasonal watercourses was observed by the Botanical specialist at Renosterkop 1726 (Refer to Figure 22 in Appendix 11.3.1 of the EIR).

Habitat destruction and the possible genetic contamination of species are however all factors that can negatively impact on vertebrate species, but can be minimized through applying the following mitigation measures:

Mitigation

- Preservation of the camelthorn tree shown in Figure 3 above.
- Conservation of the Eastern Section of the Farm 1726, Renosterkop (as shown on the Environmental Sensitivity Map included as Figure 4) to provide habitat for fauna.
- Regular maintenance of the water network will minimize the damage done by porcupines.
- No hunting of small game with dogs will be allowed.
- In order to ensure that all fauna will be able to relocate to the adjacent veld, openings should be made in the fences surrounding the proposed development area before any construction work may commence
- To ensure environmentally friendly farming practices, the site manager will have to adhere to the requirements and prescriptions which will be included in the environmental management plan to be included as part of the EIA process. This plan will also deal with issues such as the prohibition of the hunting of small game etc.

2.3 Heritage, Archaeology and Palaeontology

A Heritage/Archaeological specialist Dr Jonathan Kaplan was appointed to conduct an assessment of the site and his report is attached at Appendix 11.3.2 in the EIR. It was outlined by the specialist that the impact of significance of the proposed development on important archaeological heritage is therefore assessed as LOW. If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution. A buffer of 10m must be established around the recorded grave (Pre-colonial grave). Alternatively, the grave must be fenced off prior to development commencing.

The letter written by Dr John Almond is included in Appendix 11.3.2 in the EIR and recommended that: *"In view of the small development footprint and the very low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project as far as fossil heritage is concerned."*

The mitigation recommendations should be incorporated into the Environmental Management Programme (EMPr) for this agricultural project. Please note that:

- *All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;*
- *The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);*

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- *All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).*

The proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, including associated infrastructure (i.e. pump station & water pipeline), is expected that archaeological impacts will occur during the implementation phase of the project, but that the overall impact on archaeological resources are rated as LOW.

The following comments from SAHRA was received on 31-07-2017, see in section 11.1.7 with the following recommendations:

- *A 30 m no-go buffer must be maintained around the identified grave. It must be fenced with an access gate and a Heritage Management Plan (HMP) must be developed to be implemented as part of the EMP. The HMP must be developed via the consulting process in terms of section 36 of the National Heritage Resources Act, Act No 25 of 1999 (NHRA) and the Chapter XI of the NHRA Regulations. The HMP must include monitoring and maintenance protocols, as well as access arrangements;*
- *The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes;*
- *If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.*

The specialist Dr Jonathan Kaplan had the following recommendations with regards to SAHRA's final comment:

- *The pre-colonial grave (Site 891) is located 10m outside the northern boundary of Block 4, and will not be directly impacted by the proposed agricultural development (refer to Figure 1). The grave will therefore not be damaged or altered as a result of the proposed activities.*
- *The applicant (Oseiland Eiendom (Pty) Ltd) agrees to maintain a 30m protective buffer around the grave, with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. Fencing will prevent any damage that may occur during the operational phase of the proposed development.*
- *We do not agree that an access gate is required. A small sign will be erected indicating the presence of a protected grave site.*
- *All of the above will be included in the Environmental Management Plan (EMP) for the proposed development.*

- We further do not believe a Heritage Management Plan is required, as the grave will be located 30m outside the boundary of the development footprint, and the above proposed management actions will ensure its long term protection.

With regard to the proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 and Farm 1537, the following final recommendations are made:

1. No mitigation is required prior to proposed development activities commencing.
2. The applicant (Oseiland Eiendomme (Pty) Ltd) agrees to maintain a 30m protective buffer around the grave, with a fence around the grave. The fence will be erected under the supervision of the contracted archaeologist. Fencing will prevent any damage that may occur during the operational phase of the proposed development.
3. A small sign will be erected indicating the presence of a protected grave site.
4. The Final EIA and appendices must be submitted to the case on SAHRIS for record purposes;
5. If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and
6. If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.
7. The above recommendations must be incorporated into the Environmental Management Plan (EMP) for the proposed development.



Figure 5: Grave site just above block 4.

2.4 Socio-Economic Environment

Socio:

The farm Renosterkop as part of the Oseiland Eiendomme PTY Ltd/Bruger Du Plessis Familie Trust is a highly commercial agricultural (farming) unit, which is currently being farmed on a commercial basis. The farms are situated within an area surrounded by other farms and farming communities.

The closest town to the farm is the town of Kakamas. A very competent and motivated workforce manages the other properties as part of company. It has many success stories, which contributes positively to the local economy and the provision of job opportunities in the region and the Northern Cape Province.

It is envisaged that Oseiland will need to create some new permanent and a number of new seasonal employee positions in the near future should the new development be approved. The entity also plans to convert some of the current seasonal positions to permanent positions should this application be successful.

As mentioned before, table grape production is very labour-intensive, even more so if packed as well. It creates around 4 new employment positions per hectare if also packed on the farm. Citrus production plus the raisin plant creates another 1 position per hectare.

The new development will therefore create an immediate need to appoint more workers and supervisors.

The new development will lead to the expansion of the farming operation, and will create a demand for new staff and new skills, eg.

- Skilled agricultural labourers
- Specific knowledge of vineyards and citrus fruit production will be needed
- Specific knowledge of fruit packing will be needed
- Support staff will be needed: Admin, forklift drivers, tractor operators and Code 14 drivers.

Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

Economic:

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities has the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere.

Not only are the new employment opportunities important, but also the fact that:

1. Existing jobs can be secured: Enough water and farming development will directly secure existing and new job opportunities.
2. More sustainable development will immediately create the opportunity to proceed with the expensive exercise to plant new varieties that can spread the preparation, pruning, harvesting and packing seasons over longer periods. This will support the entity in their efforts to convert as much as possible seasonal job opportunities into permanent job opportunities. Especially black females from the farm and neighbouring towns will benefit here. The

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positive impact on their lives will even be more as more of them will now also be promoted to supervisor level to help manage the increased production as well as the increase in value-adding volume.

3. The increase in production of export produce will bring more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

The Agri-BEE report has been prepared and is attached at Appendix 11.3.3 to the EIR. This report aims to:

- Report on the social and economic management of access to a new water use license as part of this specific farm and land area,
- Outline an Agri-BEE Strategy that is aimed at employment, promoting and development of people, with specific emphasis on previously disadvantaged black people, inclusive of black women and rural people.

This Agri-BEE Management Report details a summary of the Applicant's current status, as well as a transformation programme where Oseiland sets out exactly how progress is going to be made in all the content areas and applicable elements on the Agri-BEE Scorecard.

2.5 Access

There is existing access for all areas proposed for cultivation, and for the construction of the water extraction infrastructure.

2.6 Electricity

The development falls within the capacity of Eskom. Note that additional electrical capacity is necessary for the development of the pump station; however no additional capacity necessary for the agricultural areas as existing usage is sufficient. An application has been submitted to Eskom for the additional capacity.

2.7 Land uses

The planned development is situated within a purely agricultural area with no other land uses in close proximity. The proposed development will therefore have no impact on any surrounding land uses in the area.

2.8 Plough certificate

A plough certificate has already been obtained and included as part of Appendix D in the WULA included in the EIA phase of the development.

2.9 Water Use License

An application for a license in terms of the National Water Act, 1998 is being made by the developer, Oseiland Boerderye for the transfer water rights, taking of water from the Orange River, in addition to the application to impede the flow of water and to alter the beds, banks and course of the watercourses on site summarised as the followed:

Section 21(a) taking water from a water resource: Transfer of water rights

Section 21(c) impeding or diverting the flow of water in a watercourse: Impeding flow

Section 21(i): altering the bed, banks, course or characteristics of a watercourse: Altering the banks of a water course

Refer to Appendix 11.3.4 in the EIR for the WULA.

2.10 Ephemeral stream and drainage areas

The drainage lines for most of the year are dry and sandy and flow for short periods after relatively heavy rains. Refer to further details contained in the WULA referred to above in Section 2.9.

3 Management Programme – Construction

Please note that the EMP must be included in any tender documentation and all sub-contractors on the site must be made aware of this EMP and they must at all times adhere to the procedures specified.

Only those sections applicable to the specific construction activity are relevant and to be implemented.

3.1 Contractual obligations

- 1) The Contractor shall acknowledge receipt of copies of the EMP and confirm in writing that he has familiarised himself with the contents thereof;
- 2) The Contractor shall comply with all environmental obligations imposed by the RE/ECO/EO.
- 3) The Contractor shall co-operate fully with the RE/ECO/EO and use his best endeavours to ensure that the objectives of the EMP are fulfilled in the course of the Contractor's execution of the works or the relevant part thereof.
- 4) The Contractor shall erect an information board containing background information for the construction activity and listing the relevant contact details for complaint.
- 5) The Contractor must ensure that all workers are given environmental awareness training on the requirements of the EMP. This must form part of the Contractor's contract agreement. The RE/ECO/EO must be informed in writing of implementation.
- 6) Working hours will be from 7:00pm to 18:00pm Monday to Saturday. No work will be allowed on Sundays or public holidays.
- 7) Deliveries will only be allowed between 8:00am and 5pm.
- 8) Preference must be given to local labour.
- 9) Workers (except security guards) may not be housed on site.

3.2 Penalties

Penalties will be instituted for non-compliance. The penalty is over and above the cost of rectifying the problem and/or damage. Penalties will vary on a sliding scale from R 1 000 to R 20 000 for non-serious to serious issues as determined by the RE/ECO/EO/EO.

These penalties must be paid into a separate account to be administered by the developer. The RE/ECO/EO/EO will decide how the penalties, if any, are to be spent.

3.3 Methodology statement

A methodology statement must be compiled by the contractor(s) before any construction or activity may commence. The statement must include a site establishment plan indicating all relevant areas. The RE/ECO/EO must approve the methodology statement.

The activity indicated highlighted in yellow in the following list will as a minimum require a statement. The contractor must identify any other statements that will be required as part of the project implementation. The method statement must contain the following:

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Blasting

- Details of all methods and logistics associated with blasting.

Bunding

- Method of bunding for static plant.

Camp establishment

- Layout and preparation of the construction camp.
- Method of installing fences required for “no go” areas, working areas and construction camp areas.
- Preparation of the working area.

Cement /concrete batching

- Location, layout and preparation of cement/ concrete batching facilities including the methods employed for the mixing of concrete including the management of runoff water from such areas.

Contaminated water

- Contaminated water management plan, including the containment of runoff and polluted water.

Drilling and jack hammering

- Method of drill coring with water or coolant lubricants.
- Methods to prevent pollution during drilling operations.

Dust

- Dust control.

Earthworks

- Method for the control of erosion during bulk earthwork operations.
- Method of undertaking earthworks, including hand excavation and spoil management.

Emergency

- Emergency construction method statements.

Environmental awareness course

- Logistics for the environmental awareness course for all the Contractors employees.
- Logistics for the environmental awareness course for the Contractors management staff.

Erosion control

- Method of erosion control, including erosion of spoil material

Exposed aggregate finishes

- The method of control, treatment and disposal with respect to exposed aggregate finishes.

Fire, hazardous and poisonous substances

- Handling and storage of hazardous wastes.
- Emergency spillage procedures and compounds to be used.
- Emergency procedures for fire.
- Use of herbicides, pesticides and other poisonous substances.
- Methods for the disposal of hazardous building materials including asbestos, fibre claddings, refrigerants and coolants.

Fuels and fuel spills

- Methods of refuelling vehicles.
- Details of methods for fuel spills and clean-up operations.
- Refuelling of construction vehicles in high flow areas [or in the 1 in 50 year floodplain].
- Method of refuelling dredger during dredging operations.

Solid waste management

- Solid waste control and removal of waste from Site.
- Methods for the disposal of vegetation cuttings, tree trunks, building materials or rubble generated by construction.

Sources of materials

- Details of materials imported to the site (where applicable).

Sensitive environments

- Proposed construction methods within any sensitive environments. These can include but are not limited to wetlands, intertidal zones and estuaries.

Traffic

- Traffic safety measure for entry/ exit onto/ off public roads.
- Traffic control when crossing roads or pedestrian routes with construction activities.

Vegetation clearing

- Method of vegetation clearing during site establishment.

Wash areas

- Location, layout, preparation and operation of all wash areas, including vehicle wash, workshop washing and paint washing and clearing.

3.4 Environmental awareness training

- 1) All the Contractors employees and Sub-Contractors employees and any suppliers employees that spend more than 1 day a week or four days in a month on site, must attend

an Environmental Awareness Training course presented by the Contractor the first of which shall be held within one week of the Commencement Date. Subsequent courses shall be held as and when required.

- 2) The Engineer/ECO will provide the Contractor with the course content for the environmental awareness training course, and the Contractor shall communicate this information to his employees on the site, to any new employees coming onto site, to his subcontractors and to his suppliers.
- 3) The Contractor shall supply the Engineer/ECO with a monthly report indicating the number of employees that will be present on site during the following month and any changes in this number that may occur during the month.
- 4) The Contractor shall submit a Method Statement detailing the logistics of the environmental awareness training course.

3.5 Demarcation and protection

- 1) The property must be fenced prior to start of construction to determine the construction/work area. Proper access control must be implemented to ensure that only authorised people obtain access to the site.
- 2) No-Go which include sensitive areas must be clearly demarcated prior to commencing of demolition and/or earthworks/building operations.
- 3) The contractor must ensure that fencing and/or demarcations are maintained for the duration of the project.
- 4) Although not limited to, No-Go areas.
- 5) No work outside of the property boundary will be allowed.
- 6) Special features shall be marked on a site layout plan prior to any works commencing on site. These areas may be designated “No go” areas.
- 7) Outcrops, rock faces, trees and natural vegetation or any other natural or special features inside and outside the Site, shall not be defaced, painted for benchmarks for survey or any other purposes or otherwise damaged in any way without the prior approval of the Engineer/ECO. These features shall be demarcated as “no go” areas and shall be fenced or similarly protected, as determined by the Engineer/ECO.

3.6 Site clearing

- 1) Prior to earthworks (including site clearance) starting on site, a search and rescue operation for bulbs and other indigenous plants of value, as detailed in the environmental approval shall be undertaken. This will be done in accordance with the outcome of the Application to DENC for removal of bulbs on site.
- 2) The stripping and separation of topsoil shall occur as stipulated by the Engineer/ECO/EO. As a guide the upper 250 mm of soil (topsoil, which includes roots and leaf litter) shall be placed separately. This soil shall be used for re-shaping and filling as required.

3.7 Aesthetics

The aesthetics measures indicated below should be implemented as required by the specific site and situated and as agreed with the RE/ECO/EO/EO.

- 1) The Contractor shall be required to visually screen the site.
- 2) Visual screening shall be aesthetically pleasing and shall be erected by the Contractor prior to commencing any activities.
- 3) Visual screening shall be maintained by the Contractor for the duration of the Contract.
- 4) Visual screening may be of the following types:
 - a) Shade cloth
 - b) Hessian
 - c) Berms

3.8 Contractor's camp

- 1) The Contractor's camp, offices, and storage facilities shall not be located within an environmentally sensitive area. The camp's position must be approved by RE/ECO/EO.
- 2) The camp must be fenced as agreed with the RE/ECO/EO.
- 3) Water from the kitchens, showers, sinks etc., shall be discharged in a manner approved by the RE/ECO/EO.
- 4) The contractor must ensure that all temporary structures, equipment, materials, and facilities used or created on-site during the construction phase are removed and appropriately disposed of.

3.9 Sensitive environments

3.9.1 Vegetation

The measures detailed in Section 2.1 above from the Botanical Survey (Appendix C) should be implemented.

3.9.2 Heritage, Archaeology and Palaeontology

The measures detailed in Section 2.3 above outlined in the comment from SAHRA and referring to the Heritage Impact Assessment Report (Appendix D) should be implemented.

3.9.3 Ephemeral streams/drainage areas

Mitigation

As part of the construction of the development it is proposed to construct a storm water berm/canal surrounding the agricultural areas to prevent any contamination downstream into any of these ephemeral streams/drainage areas, where applicable.

3.9.4 Fauna

The measures detailed in Section 2.2 above should be implemented.

3.9.5 Sewage disposal

Chemical toilets will be provided for the workers in the vineyard/ agricultural land. These toilets will be emptied on a daily basis in the sewage tank system at the households and at the packing sheds.

Mitigation

With regard to the development work at the site it must be ensured that the applicant/ contractor provide sufficient sanitation facilities for the use of his employees during the actual construction period. The applicant/ contractor will be solely responsible for the proper use and maintenance thereof in conditions, which are to the satisfaction of both the contractor and the applicant. All facilities must be positioned within walking distance from wherever employees or labourers are at work.

Other specifications to be adhered to are, amongst others, the following:

- All facilities provided at the site must comply with the requirements of the Local Municipality.
- No sewerage facility may be erected within a radius of 100m from a water source.
- The applicant/ contractor must be held responsible for the cleaning of the sanitary facilities to prevent health hazards for the duration of the contract.
- Sanitary facilities must be provided at a ratio of one (1) facility for every fifteen (15) persons.
- All sanitation facilities must be sited, in terms of the specifications of the National Water Act no. 36 of 1998, in such a way that they do not cause water- or other pollution.

3.9.6 Solid waste disposal

The application area is located within the municipal area of Kai! Garib Municipality. No household waste will be generated as part of this application.

All facilities in use during the construction phase must be utilized and maintained in a manner that prevents pollution of any groundwater sources. No waste of any kind may be disposed of in the surrounding environment.

Mitigation

A no-nonsense approach with regard to littering on the farm exists and the neatness of the workplace as well as the residential areas is all high priorities for the management.

Sufficient provision should be made for rubbish bins on the farm to prevent workers from littering. These rubbish bins should be clearly marked and be visible.

3.9.7 Air and noise pollution

Air Pollution

During the construction phase, and due to the nature of the project, a small amount of smoke (from machines) and dust could be generated. Dust pollution may have an impact on the operational workers.

Mitigation

In order to minimize the effect of dust pollution, the construction area should be kept wet as far as possible and the workers must wear the necessary safety clothing. The applicant is referred to section 19 of the National Water Act no. 36 of 1998 with regard to the prevention of, and remedies for, the effects of pollution. In terms of this section of the Act, the person who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources and property.

Noise Pollution

During the construction phase there may be minimal and sporadic incidents of air and noise pollution due to the construction activities such as dust and noise as a result of earthworks. Due to the fact that the area is situated within an agricultural environment, the impact is not expected to be severe.

Mitigation

The contractor should make adequate provision to prevent or minimize the possible effects of air and noise pollution. Should the noise from the construction work be found to cause problems, (which is not anticipated to be the case) work hours in these areas may be restricted between 06:00 and 20:00, or as otherwise agreed between the parties involved. Strict measures should therefore be enforced, especially in terms of the contract specifications, to prevent any negative impacts in this regard.

3.9.8 Conditions set out in the WULA

All conditions to be outlined in the approved WULA should be implemented.

3.10 Cement mixing/batching plant

- 1) The cement mixing or batching plant area(s) must be indicated on the Site Establishment Plan.
- 2) All wastewater resulting from batching of concrete shall be disposed of via the wastewater management system where available.
- 3) The cement/ concrete batching works shall be kept neat and clean at all times. No batching activities shall occur on unprotected substratum of any kind.
- 4) All runoff from batching areas shall be strictly controlled, and cement-contaminated water shall be collected, stored and disposed of at a site approved by the Engineer/ECO/EO. Dagma boards, mixing trays and impermeable sumps shall be used at all mixing and supply points. Contaminated water shall be disposed at a waste disposal site approved by the Engineer/ECO/EO.

- 5) Contaminated water storage facilities shall not be allowed to overflow and appropriate protection from rain and flooding shall be implemented.
- 6) Contaminated water treatment on Site shall require a method statement approved by Engineer/ECO/EO.
- 7) Unused cement bags are to be stored so as not to be effected by rain or runoff events.
- 8) Used bags shall be stored in weatherproof containers to prevent wind-blown cement dust and water contamination. Used bags shall be disposed of on a regular basis via the solid waste management system, and shall not be used for any other purpose.
- 9) Concrete transportation shall not result in spillage.
- 10) Cleaning of equipment and flushing of mixers shall not result in pollution of the surrounding environment: Care shall be taken to collect contaminated wash water from cleaning activities and dispose of it in a manner approved by the Engineer/ECO/EO. To prevent spillage onto roads, ready mix trucks shall rinse off the delivery shoot into a suitable sump prior to leaving Site.
- 11) Suitable screening and containment shall be in place to prevent wind-blown contamination associated with bulk cement silos, loading and batching.
- 12) With respect to exposed aggregate finishes, the Contractor shall collect all contaminated water & fines and store it in sumps for disposal at an approved waste site.
- 13) All visible remains of excess concrete shall be physically removed on completion of the plaster or concrete pour section and disposed of. Washing the remains into the ground is not acceptable. All excess aggregate shall also be removed. Any mixed cement (for building or plastering) at the work area must be placed on boards or container to prevent spillage or contamination of the soil.
- 14) During cement delivery boards or other protection material must be used to prevent spilling on the ground.
- 15) No mixed concrete/dagga may be placed or stored on bare surfaces. Dagga boards must be use at all times to prevent contamination of surfaces.

3.11 Surface and groundwater pollution

- 1) The Contractor shall take all reasonable steps to prevent pollution of surface and groundwater as a result of his activities. Such pollution could result from release (accidental or otherwise) of chemicals, oils, fuels, paint, and sewage, water from excavations, construction water, water carrying soil particles or waste products.
- 2) Cement or concrete mixing must take place in such a way as to prevent any cement water runoff. All pieces of cement or related material are to be stored and dumped at the approved Municipal site.
- 3) Bulk cement silos and storage areas must be properly lined/screened/contained to prevent windblown cement dust or pollution of water during rain events.
- 4) On completion, storm water catchpits must be closed with geotextile (biddim) or similar material to prevent sand or other contaminants from entering the system.

- 5) Ready-mix trucks are not permitted to clean chutes at the work site.
- 6) Adequate plastic or concrete lined cleaning pits are to be installed to facilitate washing of all cement and painting equipment. A functional, non-leaking, water point must be installed at each pit. The top 75% of the water in the pit may be disposed down the sewerage system, with approval from the Engineer. The remaining water and sludge must be disposed of at a Municipal approved site or removed by a chemical contractor.
- 7) The Contractor shall provide water and/or washing facilities at the construction camp for personnel.
- 8) In the event of any pollution entering any water body, the Contractor shall inform the RE/ECO/EO immediately.
- 9) The contractor will be responsible for any clean-up costs involved should pollution, erosion or sedimentation have taken place.

3.12 Pipe testing and cleaning

- 1) Cleaning/flushing of pipelines shall not impair (down grade) downstream baseline water quality.
- 2) Materials used in the sterilisation of pipelines, viz. chlorine solutions shall be treated as hazardous substances and disposed of at an approved landfill site.
- 3) Litter traps shall be installed and maintained at the outflow of all pipelines.

3.13 Noise control

- 1) Working hours will be restricted to daily normal working hours.
- 2) Limit the use of heavy vehicle machinery and construction activities associated with high level noise to 06h00 to 20h00 from Mondays to Saturdays, particularly to where residential areas or sensitive institutions are situated close to the site.
- 3) All noise and sounds generated by plant or machinery must adhere to SABS 0103 specifications for the maximum permissible noise levels for residential areas.
- 4) All plant and machinery are to be fitted with adequate silencers.
- 5) No sound amplification equipment such as sirens, loud hailer or hooters may be used on site, after normal working hours, except in emergencies.
- 6) If work is to be undertaken outside of normal work hours, permission must be obtained from the Local Authority. Prior to commencing any such activity the Contractor is also to advise the potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken are to be provided. Notification could include letter-drops.
- 7) The acceptable noise level according to SABS 10103 Code of Practice is 45dBA in rural district during the day and 35dBA at night. The applicant must comply/adhere to this requirement.

3.14 Erosion control

The Contractor shall take all reasonable precautions to prevent soil erosion resulting from a diversion, restriction or increase in the flow of storm water or water resulting from its operations and activities, to the satisfaction of the RE/ECO/EO. Possible measures that can be considered include the following:

- 1) Brushcut packing
- 2) Mulch or chip cover
- 3) Straw stabilising (at the rate of one bale/m² and rotated into the top 100mm of the
- 4) completed earthworks)
- 5) Watering
- 6) Planting / sodding
- 7) Hand seeding sowing
- 8) Hydro-seeding
- 9) Soil binders and anti-erosion compounds
- 10) Mechanical cover or packing structures
 - a) Gabions & mattresses
 - b) Geofabric
 - c) Hessian cover
 - d) Armourflex
 - e) Log / pole fencing
 - f) Retaining walls
- 11) The Contractor shall take reasonable measures to control the erosive effects of storm water runoff.
- 12) The Contractor shall use silt screens to prevent overland flowing water from causing erosion.
- 13) The use of straw bales as filters, which are placed across the flow of overland storm water flows, shall be used as an erosion protection measure.
- 14) The ploughing-in of straw offers limited protection against storm water runoff induced erosion and shall be used as an erosion protection measure.
- 15) The Contractor shall be liable for any damage to downstream property caused by the diversion of overland storm water flows.

3.15 Dust control

DUST - generated by works

- 1) Sand stockpiles are to be covered with hessian, shade cloth or DPC plastic.

- 2) Stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.
- 3) Excavating, handling or transporting erodible materials in high wind or when dust plumes visible shall be avoided.
- 4) If high winds prevail the Engineer shall decide whether water dampening measures or cessation of activities is required, and if necessary they shall have the authority to temporarily stop certain of the works until wind conditions become more favourable.

Dust – generated by roads and vehicle movement

- 1) Vehicle speeds shall not exceed 40km/h along gravel roads or 20km/h on unconsolidated or non-vegetated areas. Dust plumes created by vehicle movement are to be monitored.
- 2) If access roads are generating dust beyond acceptable levels dust suppression measures must be initiated. These include, but are not limited to the following:
- 3) Reduction of travelling speeds along the road.
- 4) Restriction of vehicle or plant usage.
- 5) Application of chemical soil binders.
- 6) Application of a suitable sacrificial road surfacing.
- 7) If water is to be used for dust suppression, then only the critical areas should be watered. The use of water carts or hand watering is preferable. Overhead sprayers shall not be permitted in windy conditions, as the evaporation loss is too high. Watering is to be supervised to prevent unnecessary water wastage, and runoff into potentially sensitive areas. Preferable watering times are early morning and late afternoon/ evening. Water restrictions are to be observed if in place.

3.16 Fire management

- 1) No open fires or naked flames for heating or cooking shall be allowed on Site. Stoves and other electrical equipment shall only be permitted in the Contractor's camp and never be left unattended.
- 2) The Contractor shall take all reasonable and active steps to avoid increasing the risk of fire through their activities on Site. No fires may be lit except at places approved by the Engineer/ECO/EO.
- 3) The Contractor shall ensure that the basic fire-fighting equipment is to the satisfaction of the Municipal Fire Chief (where applicable).
- 4) The Contractor shall supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other areas identified by the Engineer/ECO/EO with tested and approved fire-fighting equipment.
- 5) Fire and "hot work" shall be restricted to a site approved by the Engineer/ECO/EO
- 6) A braai facility may be considered at the discretion of the Engineer/ECO/EO. The area shall be away from flammable stores. All events shall be under management supervision and a fire extinguisher shall be immediately available. "Low smoke" fuels shall be used. Smoke free zoning regulations shall be considered.

- 7) Cooking shall be restricted to bottled gas facilities under strict control and supervision. The sensitivity of the surrounding land uses and occurrence of natural indigenous vegetation must be considered when assessing the risk of fires.
- 8) The Contractor shall take precautions when working with welding or grinding equipment near potential sources of combustion. Such precautions include having a suitable, tested and approved fire extinguisher immediately at hand and the use of welding curtains.
- 9) The Contractor shall identify the authorities responsible for fighting fires in the area and shall liaise with them regarding procedures should a fire start. The Contractor shall ensure that his staff are aware of the fire danger at all times and are aware of the procedure to be followed in the event of a fire. The Contractor shall also ensure that all the necessary telephone numbers etc. are posted at conspicuous and relevant locations in the event of an emergency. The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.
- 10) Should a contractor be found responsible for the outbreak of a fire, he shall be liable for any associated costs.

3.17 Water management

- 1) The Contractor shall provide water for drinking and construction purposes until such time as it is available from the local system. Water from the local system must be used carefully and sparingly with the view of not wasting water.
- 2) Taps are to be attached to secure supports and leaking taps and hosepipes are to be repaired immediately.
- 3) Watering as dust suppression must be undertaken as a last resort. It is preferable that sand stockpiles be covered rather than watered.

3.18 Waste management

- 1) A waste minimisation approach must be followed. This requires recycling wherever possible. All waste therefore to be suitably contained and removed regularly from site in accordance with the municipal waste management procedures. Other examples could include the use of rubble as fill, minimisation of waste concrete and the use of brush cuttings for mulching on rehabilitated areas.
- 2) The Contractor shall be responsible for the establishment of a refuse control and removal system that prevents the spread of refuse within and beyond the construction sites.
- 3) The Contractor shall ensure that all refuse is deposited in refuse bins, which he shall supply and arrange to be emptied on a weekly basis. Refuse bins shall be of such a design that the refuse cannot be blown out and that animals or birds are not attracted to the waste and spread it around. Refuse bins shall be water tight, wind-proof and scavenger-proof and shall be appropriately placed throughout the site. Refuse must also be protected from rain, which may cause pollutants to leach out. Refuse bins shall be appropriately placed throughout the Site and shall be conspicuous (e.g. painted bright yellow).
- 4) Refuse shall be disposed of at an approved waste site (site and method to be agreed with Local Authority). Refuse shall not be burnt or buried on or near the Site.

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Proposed construction of an agricultural areas, pipelines and associated infrastructure on Farm 1726,
Renosterkop, Farm 1290 and Farm 1537, Augrabies
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- 5) The Contractor shall provide labourers to clean up the Contractor's camp and Site on a weekly basis.
- 6) The Contractor shall also clean the Contractor's camp and Site of all structures, equipment, residual litter and building materials at the end of the contract.

3.19 Toilets

- 1) The Contractor shall be responsible for providing all sanitary arrangements for construction and supervisory staff on the site. A minimum of one chemical toilet shall be provided per 15 persons. Toilets provided by the Contractor must be easily accessible and within a practical distance from the workers. Toilets shall be located within areas of low environmental importance. The toilets shall be of a neat construction and shall be provided with doors and locks and shall be secured to prevent them blowing over. Toilets shall be placed outside areas susceptible to flooding.
- 2) The Contractor shall keep the toilets in a clean, neat and hygienic condition. The Contractor shall supply toilet paper at all toilets.
- 3) The Contractor shall be responsible for the cleaning, maintenance, servicing and emptying of the toilets on a regular basis (by chemical contractor). No waste to be dumped in the bush or stream. The Contractor shall ensure that the toilets are emptied before the builders' or other holidays and the waste be stored and disposed of at an appropriate place off site. The Contractor shall ensure that no spillage occurs when chemical toilets are cleaned and emptied. The Contractor shall supply a contingency plan for spills from toilets.
- 4) Performing ablutions in any other area is strictly prohibited.
- 5) The location for construction camps and toilets must be approved by the ECO.

3.20 Blasting and drilling

- 1) A current and valid authorisation shall be obtained from the relevant authorities and copied to the Engineer/ECO/EO prior to any blasting activity.
- 2) A Method Statement shall be required for any blasting or drilling related activities.
- 3) All Laws and Regulations applicable to blasting/drilling activities shall be adhered to at all times.
- 4) A qualified and registered blaster shall supervise all blasting and rock splitting operations at all times.
- 5) The Contractor shall ensure that appropriate pre blast monitoring records are in place (i.e. photographic and inspection records of structures in close proximity to the blast area).
- 6) The Contractor shall allow for good quality vibration monitoring equipment and record keeping on Site at all times during blasting operations.
- 7) The Contractor shall ensure that emergency services are notified, in writing, a minimum of 24 hours prior to any blasting activities commencing on Site.

- 8) The Contractor shall take necessary precautions to prevent damage to special features and the general environment, which includes the removal of flyrock. Environmental damage caused by blasting / drilling shall be repaired at the Contractors expense to the satisfaction of the Engineer/ECO/EO.
- 9) The Contractor shall ensure that no pollution results from drilling operations, either as a result of oil and fuel drips, or from drilling fluid.
- 10) Drill coring with water or coolant lubricants shall require a Method Statement approved by the Engineer/ECO/EO.
- 11) The Contractor shall ensure that adequate warning is provided immediately prior to all blasting/drilling. All signals shall also be clearly given.
- 12) The Contractor shall use blast mats for cover material during blasting.
- 13) During demolition the Contractor shall ensure, where possible, that trees in the area are not damaged.
- 14) Appropriate blast shaping techniques shall be employed to aid in the landscaping of blast areas, and a Method Statement to be approved by the Engineer/ECO/EO, shall be required in this regard.
- 15) At least one week prior to blasting or drilling/jack hammering, the relevant occupants/owners of surrounding land shall be notified by the Contractor and any concerns addressed. Buildings within the potential damaging zone of the blast shall be surveyed preferably with the owner present, and any cracks or latent defects pointed out and recorded either using photographs or video. Failing to do so shall render the Contractor fully liable for any claim of whatsoever nature, which may arise. The Contractor shall indemnify the Employer in this regard.

3.21 Fuel and chemical management

- 1) No open fires or naked flames for heating or cooking shall be allowed on Site. Stoves and other electrical equipment shall only be permitted in the Contractor's camp and never be left unattended.
- 2) The Contractor shall take all reasonable and active steps to avoid increasing the risk of fire through their activities on Site. No fires may be lit except at places approved by the Engineer/ECO/EO.
- 3) The Contractor shall ensure that the basic fire-fighting equipment is to the satisfaction of the Municipal Fire Chief (where applicable).
- 4) The Contractor shall supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other areas identified by the Engineer/ECO/EO with tested and approved fire fighting equipment.
- 5) Fire and "hot work" shall be restricted to a site approved by the Engineer/ECO/EO
- 6) A braai facility may be considered at the discretion of the Engineer/ECO/EO. The area shall be away from flammable stores. All events shall be under management supervision and a fire extinguisher shall be immediately available. "Low smoke" fuels shall be used. Smoke free zoning regulations shall be considered.
- 7) Fires within National Parks, Nature Reserves and natural areas are prohibited.

- 8) Cooking shall be restricted to bottled gas facilities under strict control and supervision. The sensitivity of the surrounding land uses and occurrence of natural indigenous vegetation must be considered when assessing the risk of fires.
- 9) The Contractor shall take precautions when working with welding or grinding equipment near potential sources of combustion. Such precautions include having a suitable, tested and approved fire extinguisher immediately at hand and the use of welding curtains.
- 10) The Contractor shall identify the authorities responsible for fighting fires in the area and shall liaise with them regarding procedures should a fire start. The Contractor shall ensure that his staff are aware of the fire danger at all times and are aware of the procedure to be followed in the event of a fire. The Contractor shall also ensure that all the necessary telephone numbers etc. are posted at conspicuous and relevant locations in the event of an emergency. The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.
- 11) Should a contractor be found responsible for the outbreak of a fire, he shall be liable for any associated costs.

3.22 Contaminated water

General

1. The Engineer/ECO/EO's approval will be required prior to the discharge of contaminated water to the Municipal sewer system.
2. The Contractor shall prevent discharge of any pollutants, such as cements, concrete, lime, chemicals and fuels into any water sources.
3. Water from kitchens, showers, laboratories, sinks etc. shall be discharged into a conservancy tank for removal from the site.
4. Runoff from fuel depots/workshops/truck washing areas and concrete swills shall be directed into a conservancy tank and disposed of at a site approved by the Engineer/ECO and Local Authority.
5. The contaminated water, contaminated run-off, or effluent released into a water body requires analysis in terms of the National Water Act. Contaminated water must not be released into the environment without authorisation from the relevant authority.

Washing areas

1. Wash areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas, which include groundwater, are not polluted.
2. A Method Statement shall be required for all wash areas where hydrocarbon and hazardous materials, and pollutants are expected to be used. This includes, but is not limited to, vehicle washing, workshop wash bays, paint wash and cleaning.
3. Wash areas for domestic use shall ensure that the disposal of contaminated "grey" water is sanctioned by the Engineer/ECO.

3.23 Vehicles and access roads

- 1) The movement of any vehicles and/ or personnel outside of the designated working areas shall not be permitted without the written authorisation of the Engineer/ECO.
- 2) Should the Contractor not exercise sufficient control to restrict all work to the area within the marker boundaries, then these on instruction of the Engineer/ECO/EO shall be replaced by fencing the additional cost of which shall be borne by the Contractor.
- 3) Dust control measures such as dampening with water shall be implemented where necessary, as indicated by the Engineer/ECO.
- 4) Access and haul roads shall be maintained by the Contractor.
- 5) Maintenance includes adequate drainage and side drains, dust control and restriction of edge use.
- 6) All temporary access routes shall be rehabilitated at the end of the contract to the satisfaction of the Engineer/ECO.
- 7) All public roads shall be kept clear of mud and sand. Mud and sand that has been deposited through construction activities shall be cleared regularly.
- 8) Any materials used for layer works shall be approved by the Engineer/ECO prior to the activity commencing.
- 9) Damage to the existing access roads as a result of construction activities shall be repaired to the satisfaction of the Engineer/ECO/EO, using material similar to that originally used. The cost of the repairs shall be borne by the Contractor
- 10) Traffic safety measures, to the satisfaction of the Engineer/ECO, shall be considered in determining entry / exit onto public roads.
- 11) All users of haul roads shall not exceed 45 km/h (cars)/ 15 km/h (trucks) {note that the standard spec places a site speed limit of 45 km/h for all vehicles}
- 12) Appropriate traffic warning signs shall be erected and maintained where applicable.
- 13) Trained and equipped flagmen shall be used where the access road intersects with any public roads.
- 14) Attention shall be paid to minimising disruption of the flow of traffic and reducing the danger to other road users and pedestrians.
- 15) Method statements are required for the following:-
 - a) Traffic safety measures with regard to entry and exit on public roads and the control of construction traffic.
 - b) Proposed route for new access roads, tracks, or haul roads; the proposed construction of new roads, and the method of upgrading existing roads; and the proposed methods of rehabilitation on completion.

3.24 Stockpiling of materials

The Contractor shall temporarily stockpile topsoil materials in such a way that the spread of materials is minimised, and thus the impact on the natural vegetation. The stockpiles must be placed within areas demarcated for this purpose. The RE/ECO/EO shall approve stockpile areas.

3.25 Heritage remains

Should any heritage remains be exposed during excavations, these must immediately be reported to the Provincial Heritage Resources Authority of the Northern Cape, SAHRA. Heritage remains uncovered or disturbed during earthworks must not be disturbed further until the necessary approval has been obtained from SAHRA.

3.26 Contingency planning

In the event of a spill or leak of product into the ground and/or water courses (e.g. that of hazardous substances used for the construction phase), such incidents must be reported (within 14 days) to all the relevant authorities including the Directorate: Pollution Management in accordance with Section 30(10) of the National Environmental Management Act No. 107 of 1998 (NEMA) and Section 20 (3) of the National Water Act No.36 of 1998 (NWA), that pertains to the control of emergency incidents and the remediation of the affected area. All necessary documentation must be completed and submitted within the prescribed timeframes.

Containment, clean-up, and remediation must commence immediately.

3.27 Environmental Control Officer or Resident Engineer

An Environmental Control Officer (ECO) will implement environmental control of the development. The ECO duties will be as follows:

- Ensure implementation and monitoring of the EMP.
- Make changes to the EMP as required.
- Visit the site regularly on at least a weekly basis.
- Prepare reports as required by mitigation measures or by the EA.
- Maintain a photographic record of the work and environmental issues.

3.28 Documentation control

The ECO will maintain a file containing the following:

- Copy of the EMP
- Methodology statement(s) by the contractor(s)

PBPS

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Proposed construction of an agricultural areas, pipelines and associated infrastructure on Farm 1726,
Renosterkop, Farm 1290 and Farm 1537, Augrabies
Environmental Management Programme – Construction & Operational

- Site establishment plan
- Letter from contractor(s) indicating that he has familiarised himself with the contents of the EMP.
- Letter from contractor(s) on environmental awareness training
- The applicant must ensure that complaints received by the farm are documented.
- The contractor should maintain a copy of the following documents on-site:
 - All methodology statements;
 - Emergency response and remedial action plan;
 - Environmental Management Plan (EMP) and other documents related to the operation on file.
- Tracking table (see Appendix B)

4 Management Programme – Operational

This section will only make reference to Operational Management measures.

4.1 Water Use License

If any recommendations or measures are outlined in the WULA they should be included in this section.

4.2 Water Management Section

The proposed development of the agricultural areas will in effect result in the following measures to reduce energy and water usage:

- The irrigation system to be used is DFM method along with irri-check calibrations and recommendations.
- Test pits and data collections from these pits are taken on a regular basis to determine the moisture content for soil etc.
- Soil coverage within the vineyards with chaff.
- Regular monitoring and checks from specialists in the field to introduce best possible irrigation practices.
- Preventative measures to reduce possible spillage or silt accumulation in lower streams from storm water accumulated during heavy rains. Placing of bales within streams in lower areas before entering streams.

4.3 Maintenance of infrastructure

The Applicant will ensure that all pump infrastructure is maintained at the water extraction point along the Orange River, to prevent leakages of hazardous substances contaminating the soil and water. Any parts that are replaced shall be removed from the site on the same day that the repair and maintenance takes place.

4.4 Contingency planning

In the event of a spill or leak of product into the ground and/or water courses (e.g. that of hazardous substances used for the construction phase), such incidents must be reported (within 14 days) to all the relevant authorities including the Directorate: Pollution Management in accordance with Section 30(10) of the National Environmental Management Act No. 107 of 1998 (NEMA) and Section 20 (3) of the National Water Act No.36 of 1998 (NWA), that pertains to the control of emergency incidents and the remediation of the affected area. All necessary documentation must be completed and submitted within the prescribed timeframes.

Containment, clean-up, and remediation must commence immediately.

Appendix A: Environmental authorisation

Included once received.

Appendix B: Tracking Table

| Requirement | Received | | Date | Comment |
|------------------------------|----------|----|------|---------|
| | Yes | No | | |
| Methodology statement | | | | |
| Site establishment plan | | | | |
| Letter re contents of EMP | | | | |
| Letter re awareness training | | | | |
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Appendix C: Botanical Survey Report

Included in the Environmental Impact Assessment Report

| |
|------------------------------------------------------|
| Appendix D: Heritage Impact Assessment Report |
|------------------------------------------------------|

Included in the Environmental Impact Assessment Report

13 Other

13.1 Curriculum Vitae

PB Professional Services CC
PO Box 1058
Wellington 7654

Phone: 021 8737228
Cell: 076 584 0822
Fax: 0866721916
E-mail: elaniem@africa.com

Elanie Kühn

| | | | |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Nationality | South African | | |
| Date of birth | 20 February 1983 | | |
| Qualifications | B.Sc. Degree (Zoology & Physiology) B Sc. Hons (Environmental Management) | North West University – Potchefstroom North West University – Potchefstroom | 2004 2005 |
| Special courses | None additional to the above. | | |
| Professional membership | None | | |
| Career | 2010 - current 2006 - 2009 2005 | Pieter Badenhorst Professional Services - Wellington Doug Jeffrey Environmental Consultants - Paarl DERA Environmental Consultancy - Klerksdorp | |
| Current position | Environmental Consultant at Pieter Badenhorst Professional Services cc. As a private consultant now provide consultancy services in Environmental Management, Public Participation and Project Management. | | |
| Professional experience | 9 years experience in environmental studies and management. Produced various Basic Assessment, Scoping and Environmental Impact Reports, Environmental Management Plans and as an Environmental Control Officer for many developments. | | |
| Publications/ Contracts (A full list is available on request) | <ul style="list-style-type: none">● Basic Assessment Reports● Scoping and Environmental Impact reports.● Environmental Management Plans –construction and operation.● S24G Applications● Waste License Applications● Water Use License Applications● Quarry applications/EMPRs● Mining Rights and Prospecting Rights applications● Environmental Control Officer (ECO)● Auditing Reports | | |

13.2 **EAP declaration**

This was included as part of the application form.

13.3 Additional information

Correspondence with ESKOM for application for additional capacity for pump station.

Ek volg sommer net op of daar dalk al 'n kwotasie is vir die Oseiland projek? ref no: 200125568



Vriendelike groete,
Elphia Baard

Koms Raadgewend (Edms) Bpk
Posbus 630
Keimoes
8860
(T)0544612009
(F)0544612010
0721051939
BTW No 4800164214

From: Suzette Van Schalkwyk [<mailto:vSchalkS@eskom.co.za>]
Sent: 14 March 2017 01:58 PM
To: Elphia Baard
Subject: RE: Aansoekvorm

Hi

Ek het aansoek ontvang en op stelsel gelaai, ref no: 200125568

Baie dankie

Suzette

From: Elphia Baard [<mailto:elphia@koms.co.za>]
Sent: 13 March 2017 03:50 PM
To: Ewert Steyn
Cc: Suzette Van Schalkwyk; charel@koms.co.za
Subject: RE: Aansoekvorm

Goeiedag,

Vind aangeheg besonderhede van Oseiland vir kwotasie doeleindes.

Dankie,



Vriendelike groete,
Elphia Baard

Koms Raadgewend (Edms) Bpk
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8860
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0721051939
BTW No 4800164214

From: Ewert Steyn [<mailto:SteynEP@eskom.co.za>]
Sent: 06 March 2017 12:14 PM
To: elphia@koms.co.za
Cc: Suzette Van Schalkwyk
Subject: Aansoekvorm

Hi Elphia

Aangeheg is die aansoekvorm wat voltooi moet word deur Oselland. Stuur asb die voltooiide aansoek na Suzette Van Schalkwyk (gecopy) by ons kantoor op Kakamas sodat die aansoek op ons stelsel gelaai kan word waarna die formele kwotasie voorberei sal word.

Groete.

Ewert Steyn

Customer Executive
Group Customer Service
Uppington
PO Box 500 Uppington 8800
Tel: +27 (0)54 337 4951 PAX 8074 4951
Cell: +27 (0)82 494 1713
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13.4 Plan of study for EIA

PLAN OF STUDY FOR EIA

PROPOSED CONSTRUCTION OF AGRICULTURAL AREAS, PIPELINES AND ASSOCIATED INFRASTRUCTURE ON FARM 1726, RENOSTERKOP, FARM 1290 AND FARM 1537, AUGRABIES, NORTHERN CAPE

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Note:

The regulations state that a plan of study for environmental impact assessment which sets out the proposed approach to the environmental impact assessment of the application, which must include –

“a plan of study for undertaking the environmental impact assessment process to be undertaken, including-

- (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;*
- (ii) a description of the aspects to be assessed as part of the environmental impact assessment process;*
- (iii) aspects to be assessed by specialists;*
- (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;*
- (v) a description of the proposed method of assessing duration and significance;*
- (vi) an indication of the stages at which the competent authority will be consulted;*
- (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and*
- (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;*
- (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.”*

1 ALTERNATIVES

Four alternatives were developed during scoping. The conclusion as reported in the Scoping Report is that the following will be investigated:

Preferred option: Alternative 1

No-Go Option: Alternative 4

As outlined in the comments and response report in the draft Scoping Report:

“2.3The draft Scoping Report has identified various alternatives. Available information from especially the vegetation assessment, fresh water features and heritage indicators indicated that only Alternative 1 is a viable option and could therefore be investigated in the EIA phase. As required by the Regulations the No Go Option is compulsory for investigation in the EIA phase.”

We understood Scoping to be the process in which you identify viable alternatives; this was done as indicated above. It is therefore unclear which other alternatives could be assessed.

2 SPECIALIST STUDIES & REPORTS

The following EIA specialist reports are required (see Appendix A in section 9 for Terms of Reference):

- Heritage/Archaeology Assessment
- Vegetation Report
- Socio-Economic summary report
- Water Use License Application

Apart from the EIA impact studies listed above the following information studies will also be undertaken (see Appendix B in section 10 for TOR):

- EMP

3 RESPONSE TO COMMENTS FROM SCOPING

The final comment tables from scoping (include comments on Executive Summary and draft and final Scoping Report) will be included in Appendix C in section 11. All consultants will provide responses on applicable comments in their reports.

Any comments or requirements from DENC when accepting the Scoping Report will be included in Appendix D in section 12.

4 REPORT REQUIREMENTS

The guidelines for EIA (Appendix 6 of NEMA 2014) reports state *inter alia* with reference to impact studies that the following must be included:

“Specialist reports

(1) A specialist report prepared in terms of these Regulations must contain-

(a) details of-

(i) the specialist who prepared the report; and

(ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;

(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;

(c) an indication of the scope of, and the purpose for which, the report was prepared;

- (d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;*
- (e) a description of the methodology adopted in preparing the report or carrying out the specialised process; the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;*
- (g) an identification of any areas to be avoided, including buffers;*
- (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;*
- (i) a description of any assumptions made and any uncertainties or gaps in knowledge; a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;*
- (k) any mitigation measures for inclusion in the EMPr;*
- (l) any conditions for inclusion in the environmental authorisation;*
- (m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;*
- (n) a reasoned opinion-*
 - (i) as to whether the proposed activity or portions thereof should be authorised; and*
 - (ii) if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;*
- (o) a description of any consultation process that was undertaken during the course of preparing the specialist report;*
- (p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and any other information requested by the competent authority."*

5 A DESCRIPTION OF THE PROPOSED METHOD OF IDENTIFYING AND ASSESSING IMPACTS

The requirements of each impact report are shown in the TOR in Appendix A in section 9. Apart from those requirements each impact report (botanical assessment report, socio-economic summary report and heritage impact assessment report) must include a section that covers the above (A) i to vii,(B) and (C). Examples of comparative assessment of impacts are shown below. Consultants must use similar methods in their reports.

IMPACTS

Apart from a summary in words the impacts and ratings must also be summarised in table form.

MITIGATION MEASURES

Apart from a summary in words the impacts and ratings must also be summarised in table form.

COMPARISON OF IMPACTS – Use actual numbers wherever possible

6 DESCRIPTION OF THE ACTIVITY TO BE UNDERTAKEN

A development diagram will be developed for each alternative together with a description of the activity. The specialist consultants will use these diagrams and descriptions to compile their impact assessment reports.

7 TASKS TO BE PERFORMED DURING EIA

7.1 Advertise and meetings

On completion of the draft EIR all I&APs on the database will be informed about the availability thereof. The various authorities will be approached directly to finalise their comments. The authorities will include DENC, DWS, Dept of Agriculture, and Kai! Garieb Municipality, and Nature Conservation.

DENC will be consulted regularly and informed about progress during the EIA phase.

8 STAGES AT WHICH DEA&DP WILL BE CONSULTED

- (a) On submission of this Plan of Study for EIA.
- (b) On presentation of the draft and final EIR.
- (c) Draft EIR for comment to Authorities

Additional formal or informal consultation will be requested at other times in order to satisfy all environmental requirements and regulations.

9 APPENDIX A - TOR FOR SPECIALIST REPORTS

9.1 Heritage/Archaeology

INTRODUCTION

Details of the alternatives to be investigated will be made available through a layout diagram and description of each.

BASELINE STUDIES

No baseline study will be done.

LEGISLATION

Legislation would include:

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources as follows:

- Section 34: structures older than 60 years;
- Section 35: palaeontological, prehistoric and historical material (including ruins) more than 100 years old;
- Section 36: graves and human remains older than 60 years and located outside of a formal cemetery administered by a local authority; and
- Section 37: public monuments and memorials.

Following Section 2, the definitions applicable to the above protections are as follows:

- Structures: “any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith”;
- Palaeontological material: “any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace”;
- Archaeological material: a) “material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures”; b) “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation”; c) “wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation”; and d) “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found”;
- Grave: “means a place of interment and includes the contents, headstone or other marker of such a place and any other structure on or associated with such place”; and
- Public monuments and memorials: “all monuments and memorials a) “erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government”; or b) “which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.”

While landscapes with cultural significance do not have a dedicated Section in the NHRA, they are protected under the definition of the National Estate (Section 3). Section 3(2)(c) and (d) list “historical settlements and townscapes” and “landscapes and natural features of cultural significance” as part of the National Estate. Furthermore, Section 3(3) describes the reasons a place or object may have cultural heritage value.

Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted. This report fulfils that requirement.

For this proposed development the following is applicable:

1. Legal requirements

In terms of Section 38 (1) (c) (iii) of the National Heritage Resources Act 1999 (Act 25 of 1999), a Heritage Impact Assessment (HIA) of the proposed project is required if the footprint area of the proposed development is more than 5000m² in extent.

Section 38 (1) (a) of the Act also indicates that any person constructing a powerline, pipeline or road, or similar linear development or barrier exceeding 300m in length is required to notify the responsible heritage resources authority, who will in turn advise whether an impact assessment report is needed before development can take place.

2. Aim of the AIA

The overall purpose of the AIA is to assess the sensitivity of archaeological resources in the affected areas, to determine the potential impacts on such resources, and to avoid and/or minimize such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur

Under the National Environmental Management Act (No. 107 of 1998; NEMA), as amended, the project is subject to an EIA. Ngwao-Boswa Ya Kapa Bokoni (Heritage Northern Cape; for built environment and cultural landscapes) and the South African Heritage Resources Agency (SAHRA for archaeology and palaeontology) are required to provide comment on the proposed project in order to facilitate final decision making by the Northern Cape Department of Environment and Nature Conservation.

IMPACT ASSESSMENT

METHODS:

Literature survey

A survey of available literature should be carried out to assess the general heritage context into which the development would be set. This literature included published material, unpublished commercial reports and online material, including reports sourced from the South African Heritage Resources Information System (SAHRIS).

Field survey

A field survey should be done. During the survey the positions of finds should be recorded on a hand-held GPS receiver set to the WGS84 datum. Photographs should be taken at times in order to

capture representative samples of both the affected heritage and the landscape setting of the proposed agricultural development.

Grading

Section 7 of the NHRA provides for the grading of heritage resources into those of National (Grade 1), Provincial (Grade 2) and Local (Grade 3) significance. Grading is intended to allow for the identification of the appropriate level of management for any given heritage resource. Grade 1 and 2 resources are intended to be managed by the national and provincial heritage resources authorities, while Grade 3 resources would be managed by the relevant local planning authority. These bodies are responsible for grading, but anyone may make recommendations for grading – something that is, at times, required in HIAs.

It is intended that the various provincial authorities formulate a system for the further detailed grading of heritage resources of local significance but this is generally yet to happen. Heritage Western Cape (2012), however, uses a system in which resources of local significance are divided into Grade 3A, 3B and 3C. These approximately equate to high, medium and medium-low local significance, while sites of low or very low significance (and generally not requiring mitigation or other interventions) are referred to as ungradeable.

TABLE OF CONTENTS

The report must be submitted in both digital and printed format and should *at least* include the following sections:

1. EXECUTIVE SUMMARY (must include at least a full summary of section 6 for transfer to the EIR)
2. INTRODUCTION AND DESCRIPTION OF STUDY
3. TERMS OF REFERENCE
4. METHODOLOGY
5. RESULTS/FINDINGS
6. ASSESSMENT OF IMPACTS
 - 6.1 Comparative analysis (use criteria for assessment as described above)
 - (i) cumulative impacts;
 - (ii) the nature of the impact;
 - (iii) the extent and duration of the impact;
 - (iv) the probability of the impact occurring;
 - (v) the degree to which the impact can be reversed;
 - (vi) the degree to which the impact may cause irreplaceable loss of resources; and
 - (vii) the degree to which the impact can be mitigated;
 - 6.2 a description of any assumptions, uncertainties and gaps in knowledge;
 - 6.3 an environmental impact statement which contains –
 - o a summary of the key findings of the environmental impact assessment; and

- a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;
- 7. DISCUSSION (including management recommendations for construction and operation phases; response to I&AP comments)
- 8. MANAGEMENT PLANS
- 9. CONCLUSIONS (must include summary tables as described in section 5 of PoSfEIA)
- 10. RECOMMENDATIONS
- 11. APPENDICES (including impact assessment tables)

| IMPACT | | |
|----------------------------------------|--------------------|-----------------|
| Please refer to details in Box 16 | | |
| Nature of impact | | |
| STAGE | CONSTRUCTION PHASE | OPERATION PHASE |
| Extent | | |
| Duration | | |
| Intensity or magnitude | | |
| Probability | | |
| Significance | | |
| Confidence | | |
| Accumulative Impact | | |
| Legal aspects | | |
| Mitigation measures | | |
| Level of significance after mitigation | | |
| EMP requirements | | |
| Discussion | | |

9.2 Botanical

INTRODUCTION

Details of the alternatives to be investigated will be made available through a layout diagram and description of each.

BASELINE STUDIES

The Baseline studies have been completed and should include at least the following:

- Describe the broad ecological characteristics of the site and its surrounds in terms of any mapped spatial components of ecological processes and/or patchiness, patch size, relative isolation of patches, connectivity, corridors, disturbance regimes, ecotones, buffering, viability, etc.
- In terms of biodiversity pattern, identify or describe:

Community and ecosystem level

- The main vegetation, its aerial extent and interaction with neighbouring types, soils or topography;
- The types of plant communities that occur in the vicinity of the site
- Threatened or vulnerable ecosystems (*see sources listed in box 4*).

Species level

1. Red Data Book species (give location if possible using GPS)
2. The viability of and estimated population size of the RDB species that are present (include the degree of confidence in prediction based on availability of information and specialist knowledge, i.e. High=70-100% confident, Medium 40-70% confident, low 0-40% confident)
3. The likelihood of other RDB species, or species of conservation concern, occurring in the vicinity (include degree of confidence).

Other pattern issues

- Any significant landscape features or rare or important vegetation associations such as seasonal wetlands, alluvium, seeps, quartz patches or salt marshes in the vicinity.
- The extent of alien plant cover of the site, and whether the infestation is the result of prior soil disturbance such as ploughing or quarrying (alien cover resulting from disturbance is generally more difficult to restore than infestation of undisturbed sites).
- The condition of the site in terms of current or previous land uses.
- In terms of biodiversity process, identify or describe:
 - The key ecological “drivers” of ecosystems on the site and in the vicinity, such as fire.
 - Any mapped spatial component of an ecological process that may occur at the site or in its vicinity (i.e. *corridors* such as watercourses, upland-lowland gradients, migration routes, coastal linkages or inland-trending dunes, and *vegetation boundaries* such as edaphic interfaces, upland-lowland interfaces or biome boundaries)
 - Any possible changes in key processes, e.g. increased fire frequency or drainage/artificial recharge of aquatic systems.

- Would the conservation of the site lead to greater viability of the adjacent ecosystem by securing any of the functional factors listed in the first bullet?
- Would the site or neighbouring properties potentially contribute to meeting regional conservation targets for both biodiversity pattern and ecological processes?

LEGISLATION

Legislation would include:

| Box 4 : <i>Legislation of relevance to the biodiversity specialist⁽¹⁾</i> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The particular context of the EIA, nature of the proposed project and of the receiving environment will determine which – if any – of the following are relevant.</p> <p>At an international level:</p> <ul style="list-style-type: none"> ▪ <i>Convention on Biological Diversity;</i> ▪ <i>The Ramsar Convention (on wetlands of international importance especially as waterfowl habitat);</i> ▪ <i>The Bonn Convention (on conservation of migratory species of wild animals);</i> ▪ <i>The World Heritage Convention;</i> ▪ <i>The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).</i> <p>At a regional level, the Action Plan of the Environmental Initiative of NEPAD (the New Partnership for Africa's Development), 2003, advocates sustainable development and associated conservation and wise use of biodiversity.</p> |
| <p>At a national level:</p> <ul style="list-style-type: none"> ▪ <i>The National Environmental Management (NEMA) (Act No. 107 of 1998);</i> ▪ <i>The National Environmental Management Protected Areas (Act No. 57 of 2003);</i> ▪ <i>The National Environmental Management Biodiversity (Act No. 10 of 2004);</i> ▪ <i>Environment Conservation Act (Act No. 73 of 1989) and associated EIA Regulations [to be replaced by regulations i.t.o. NEMA];</i> ▪ <i>Sea Birds and Seals Protection Act (Act No. 46 of 1973);</i> ▪ <i>Marine Living Resources Act (Act No. 18 of 1998);</i> ▪ <i>Mountain Catchment Areas Act (Act No. 63 of 1970);</i> ▪ <i>National Heritage Resources Act (Act No. 25 of 1999), and provincial regulations;</i> ▪ <i>National Water Act (Act No. 36 of 1998);</i> ▪ <i>Conservation of Agricultural Resources Act (Act No. 43 of 1983);</i> ▪ <i>National Forests Act (Act No. 84 of 1998);</i> ▪ <i>Lake Areas Development Act (Act No. 39 of 1975);</i> ▪ <i>Sea Shore Act (Act No. 21 of 1935);</i> ▪ <i>Atmospheric Pollution Prevention Act (Act No. 45 of 1965).</i> <p>At provincial level:</p> <ul style="list-style-type: none"> ▪ <i>Western Cape Nature Conservation Laws Amendment Act (Act No. 3 of 2000);</i> ▪ <i>The Provincial Spatial Development Framework (PSDF) in terms of the Municipal Systems Act (Act No. 32 of 2000);</i> <p><i>Spatial Development Frameworks (SDFs) at municipal level, in terms of the Municipal Systems Act 32 of 2000. The preparation of an SDF draws on bioregional planning principles.</i></p> |

IMPACT ASSESSMENT

To determine the current status and trends in biodiversity key sources of biodiversity must be assessed. Key sources are listed below.

12

Box 13 : Key sources of biodiversity information

- The National Spatial Biodiversity Assessment³⁶ (NSBA) should be a 'first stop' reference for any biodiversity assessment, as should the NBSAP which prioritises areas for action. The NSBA gives the national ecosystem status (i.e. critically endangered, endangered, vulnerable or not currently threatened) for terrestrial, river, marine and estuarine ecosystems; wetlands are to be included in future.
 - The new South African vegetation map (South African National Biodiversity Institute³⁷). The NSBA gives the national ecosystem status of vegetation types in this map.
 - The Conservation Planning Unit of CapeNature (<http://cpu.uwc.ac.za/home>), which gives information on:
 - Systematic biodiversity planning outputs, at broad and/or fine-scale spatial scales (Cape Floristic Region: CAPE, Succulent Karoo: SKEP, Subtropical Thicket: STEP, Cape Lowlands Renosterveld Project), plus guides for users³⁸. These plans provide information on both important pattern and process corridors. Depending on their scale, they can be used as a trigger of potential biodiversity significance or, at fine-scale, to inform an EIA.
 - Regional biodiversity corridor initiatives (e.g. Greater Cederberg Biodiversity Corridor initiative, Gouritz Initiative). These corridors 'capture' both pattern and process.
 - CapeNature's State of Biodiversity : 2000 report [www.capenature.org.za/know_how/html/sobintro.html] describes critical habitats for reptiles and amphibians, birds and mammals in the Western Cape.
 - Fynbos Forum's Ecosystem-specific Guidelines (Box 14).
 - Information on threatened ecosystems and species held by CapeNature's Land Use Advisory Unit and regional ecologists.
-
- The biodiversity expertise within the Scientific Services section of CapeNature for information on specific taxa, as relevant (e.g. invertebrates, frogs, fishes, mammals, birds).
 - Additional information (e.g. Protea Atlas, Frog Atlas and Bird Atlas) held by research institutions who carry out work on biodiversity, such as universities, technikons and the National Biodiversity Institute, the South African Natural History Museum in Cape Town (various specialists), the Plant Protection Research Institute in Pretoria (arthropod and fungi specialists).
 - South African Red Data Books, provided that these are current (e.g. Red Data Book for Mammals, produced by the Endangered Wildlife Trust 2004), IUCN's Red List, and other protected or threatened species lists (e.g. in terms of the Biodiversity Act).
 - The River Health Programme gives information on the ecological state of certain river systems [www.csir.co.za/rivercons/related.html].
 - Provincial or local State of Environment Report.

The report must specifically address the following:

- a) Species level (Vegetation):
 - i. A comprehensive species list of each vegetation unit, with an indication of the dominant or most abundant species.
 - ii. Each vegetation unit should be assessed individually.
 - iii. The quality of each vegetation unit should also be assessed with reference to the number and type of exotic woody plants and weeds occurring in each unit. The level of disturbances, such as trampling, grazing and erosion should also be recorded.
- (b) Mitigation actions (Vegetation):

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- i. Mitigate impact by reducing footprint in terms of pattern and process.
 - ii. Mitigation must be functional in terms of ecosystem processes.
- (c) The Biodiversity Impact Assessment (Vegetation) report must confirm the level of significance (low, medium or high) of the impact on:
 - i. Threatened ecosystems
 - ii. Special habitats/threatened or rare species
 - iii. Habitat in the ecological corridors of vegetation boundaries
- (d) The significance rating in the Biodiversity Impact Assessment (Vegetation) report must be linked to some threshold and meaningful context.
- (e) The Biodiversity Impact Assessment (Vegetation) report must also report on gaps in information and uncertainty.

A report is required that describes and assesses the impacts of the alternatives that were identified (use table at the end of this document). The impact assessment will need to consider the potential negative as well as positive impacts that would result from the proposed development and should include mitigation measures to reduce the negative impacts as well as measures that would enhance the positive impacts. Please include in the report all aspects that will impact on the vegetation (e.g. fire management) together with future management recommendations that would be included in the Environmental Management Plan.

Together with the above also provide a response to the I&AP comments as captured in the Scoping Report.

CRITERIA FOR ASSESSMENT

The criteria for assessment of impacts are as follows (NEMA Regulations 32(k))

- (i) cumulative impacts;
- (ii) the nature of the impact;
- (iii) the extent and duration of the impact;
- (iv) the probability of the impact occurring;
- (v) the degree to which the impact can be reversed;
- (vi) the degree to which the impact may cause irreplaceable loss of resources; and
- (vii) the degree to which the impact can be mitigated;

The following can be used as a guide when assessing impacts.

The criteria in the box below must be used for the assessment of impacts. Although not listed, legal aspects must be added.

Box 16: Criteria used for the assessment of impacts

Nature of the impact – A description of positive or negative effect of the project on the affected environment, or *vice versa*. This description should include who or what would be affected, and how.

Extent - the impact could:

- be site – specific;
- be limited to the site and its immediate surroundings;
- have an impact on the *region* (e.g. if communities rely on biodiversity);
- have an impact on a *national* scale (e.g. national biodiversity conservation targets);
- have an impact across *international* borders (e.g. where catchments cross international border, international conventions are concerned, or migratory species).

Duration – It is important to indicate whether or not the lifetime of the impact will be:

- *short term* (e.g. during the construction phase);
- *medium term* (e.g. during part or all of the operational phase);
- *long term* (e.g. beyond the operational phase, but not permanently);
- *permanent* (where the impact is for all intents and purposes irreversible. An irreversible negative impact may also result in irreplaceable loss of natural capital or biodiversity, if it were to result in extinction or loss of a species or ecosystem); or
- *discontinuous or intermittent* (where the impact may only occur during specific climatic conditions or during a particular season of the year).

Intensity or magnitude – The size of the impact (if positive) or its severity (if negative):

- *low*, where biodiversity is negligibly affected or where the impact is so low that remedial action is not required;
- *medium*, where biodiversity pattern, process and/or ecosystem services are altered, but not severely affected, and the impact can be remedied successfully; and
- *high*, where pattern, process and/or ecosystem services would be substantially (i.e. to a very large degree) affected. If a negative impact, could lead to irreplaceable loss of biodiversity and/or unacceptable consequences for human wellbeing.

Probability – Should describe the likelihood of the impact actually occurring indicated as:

- *improbable*, where the possibility of the impact is very low either because of design or historic experience;
- *probable*, where there is a distinct possibility that the impact will occur;
- *highly probable*, where it is most likely that the impact will occur; or
- *definite*, where the impact will occur regardless of any prevention measures.

Significance – The significance of impacts can be determined through a synthesis of the assessment criteria. Significance can be described as:

- *low*, where it would have negligible effect on biodiversity, and on the decision;
- *medium*, where it would have a moderate effect on biodiversity, and should influence the decision;
- *high*, where it would have, or there would be a high risk of, a large effect on biodiversity. These impacts should have a major influence on the decision;
- *very high*, where it would have, or there would be a high risk of, an irreversible negative impact on biodiversity and irreplaceable loss of natural capital or a major positive effect. Impacts of very high significance should be a central factor in decision-making.

Confidence – The level of confidence in predicting the impact can be described as:

- *low*, where there is little confidence in the prediction, due to inherent uncertainty about the likely response of the receiving ecosystem, or inadequate information;
- *medium*, where there is a moderate level of confidence in the prediction; or
- *high*, where the impact can be predicted with a high level of confidence.

Source: Adapted from criteria used by the Department of Environmental Affairs and Tourism, 1998.

TABLE OF CONTENTS

The report must be submitted in both digital and printed format and should *at least* include the following sections:

12. EXECUTIVE SUMMARY (must include at least a full summary of section 6 for transfer to the EIR)
13. INTRODUCTION AND DESCRIPTION OF STUDY
14. TERMS OF REFERENCE
15. METHODOLOGY
16. RESULTS/FINDINGS
17. ASSESSMENT OF IMPACTS
 - 6.1 Comparative analysis (use criteria for assessment as described above)
 - (i) cumulative impacts;
 - (ii) the nature of the impact;
 - (iii) the extent and duration of the impact;
 - (iv) the probability of the impact occurring;
 - (v) the degree to which the impact can be reversed;
 - (vi) the degree to which the impact may cause irreplaceable loss of resources; and
 - (vii) the degree to which the impact can be mitigated;
 - 6.2 a description of any assumptions, uncertainties and gaps in knowledge;
 - 6.3 an environmental impact statement which contains –
 - o a summary of the key findings of the environmental impact assessment; and
 - o a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;
18. DISCUSSION (including management recommendations for construction and operation phases; response to I&AP comments)
19. CONSERVATION MANAGEMENT PLANS AND PLANT LISTS
20. CONCLUSIONS (must include summary tables as described in section 5 of PoSfEIA)
21. RECOMMENDATIONS
22. APPENDICES (including impact assessment tables)

| IMPACT | | |
|----------------------------------------|--------------------|-----------------|
| Please refer to details in Box 16 | | |
| Nature of impact | | |
| STAGE | CONSTRUCTION PHASE | OPERATION PHASE |
| Extent | | |
| Duration | | |
| Intensity or magnitude | | |
| Probability | | |
| Significance | | |
| Confidence | | |
| Accumulative Impact | | |
| Legal aspects | | |
| Mitigation measures | | |
| Level of significance after mitigation | | |
| EMP requirements | | |
| Discussion | | |

9.3 Water Use License Application

The purpose of the National Water Act is to provide a framework for the equitable allocation and sustainable management of water resources. Both surface and groundwater sources are redefined by the Act as national resources which cannot be owned by any individual, and rights to which are not automatically coupled to land rights, but for which prospective users must apply for authorisation and register as users. The National Water Act also provides for measures to prevent, control and remedy the pollution of surface and groundwater sources.

An application for a license in terms of the National Water Act, 1998 is made by the developer, Oseiland Boerderye for the transfer water rights, taking of water from the Orange River, the water usages is summarised as the follows:

| | |
|----------------------------------------------------------------------------------|--------------------------------------|
| <i>(a) taking water from a water resource;</i> | Transfer of water rights |
| <i>(c) impeding or diverting the flow of water in a watercourse</i> | Impeding flow |
| <i>(i): altering the bed, banks, course or characteristics of a watercourse;</i> | Altering the banks of a water course |

All the necessary information will be included in the WULA as part of the EIA phase of the application.

10 TOR FOR REPORTS

Reports, other than impact studies, that will complete the suite of reports required for the EIR are:

Note: Each report must include a section with response(s) to relevant comments (see Appendix 11).

The following EIA specialist reports are required (see Appendix A in section 9 for Terms of Reference):

Specialist reports

- Heritage/archaeology assessment
- Vegetation Report
- Socio-Economic summary report
- Water Use License Application

Other reports

- EMP

11 APPENDIX C – COMMENTS FROM SCOPING

As per the Final Scoping Report, see section 12.3.

12 APPENDIX D – COMMENTS FROM NORTHERN CAPE DEPARTMENT OF ENVIRONMENT AND NATURE CONSERVATION

Will be inserted when available