Application for the rectification of unlawful commencement or continuation of a listed activity in terms of Section 24G of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

FINAL S24G ASSESSMENT REPORT

DENC S24G Ref: S24G04/03/2017

OMDRAAI 24G RECTIFICATION OF CULTIVATION OF VINEYARDS ACROSS SMALL STREAMS ON KAKAMAS NORTH SETTLEMENT NO 343, AUGRABIES

COMPILED BY: ELANIE KÜHN
PIETER BADENHORST PROFESSIONAL SERVICES
DATE: JUNE 2018

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

Sasko Building 90 Long Street, Private Bag X6012, Kimberley, 8300.
Tel (053) 8077430, Fax (053) 831 3530

Application form for the rectification of unlawful commencement or continuation of a listed activity in terms of Section 24G of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended

Kindly note that:

1. This application form must be completed for all applications in terms of Section 24G of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, by an independent Environmental Assessment Practitioner.

2. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the application form have been published or produced by the relevant competent authority.

3. The content of the application for rectification form comprises of:
   Section A: Application Information
   Section B: Activity Information
   Section C: Description of Receiving Environment
   Section D: Preliminary Impact Assessment
   Section E: Alternatives
   Section F: Appendices
   Section G: Declarations

4. An independent EAP must be appointed to complete the application form on behalf of the applicant; the declaration of independence must be completed by the independent EAP and submitted with the impact assessment report.

5. The required information must be typed within the spaces provided. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. The space provided extend as each space is filled with typing. A legible font type and size must be used when completing the form. The font size should not be smaller than 10pt (e.g. Arial 10). A digital copy of the application form is available on the Department's website (details below).

6. The use of *"not applicable"* in the application form must be done with circumspection.

7. No faxed or e-mailed applications will be accepted.

8. Unless protected by law, all information contained in and attached to this application form may become public information on receipt by the competent authority. Upon request, any interested and affected party must be provided with the information contained in and attached to this application form.

9. This application form must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the competent authority. Unnecessary delays will be incurred should the application and attached information not be submitted to the correct address and / or competent authority.

10. This application form constitutes the initiation of the Section 24G application process.

DEPARTMENTAL DETAILS

The Director: Biodiversity Management, Compliance and Enforcement
Department of Environment and Nature Conservation
Bag X 6012
Kimberley
8301
South Africa

SECTION A: APPLICATION INFORMATION

1. APPLICANT PROFILE INDEX

Cross out the appropriate box "☒".

1.1 The applicant is an individual	~~YES~~	~~NO~~
1.2 The applicant is a company	**YES**	~~NO~~
1.3 The applicant is a state-owned enterprise or municipality	~~YES~~	~~NO~~

Project applicant:	**Valam Boerderye PTY Ltd**												
RSA Identity number:	**7**	**6**	**0**	**6**	**0**	**4**	**5**	**0**	**2**	**5**	**0**	**8**	**4**
Contact person:	**Bernie Denton**												
Position in company	**COO**												
Registered Name of Company/ Closed Corporation	**Valam Boerderye PTY Ltd / CapeSpan PTY Ltd**												
Trading name (if any):	**Valam Boerderye PTY Ltd - Omdraai**												
Registration number	**1998/012817/07**												
Postal address:	**P.O. Box 21**												
	Kakamas				Postal code:	**8870**							
Telephone:	**(054) 431 0568**				Cell:								
E-mail:	**philip@csfarms.co.za**				Fax:	**(054) 431 0565**							

Environmental Assessment Practitioner (EAP):	**Pieter Badenhorst Professional Services**		
Contact person:	**Elanie Kuhn**		
Postal address:	**PO Box 1058**		
	Wellington	Postal code:	**8870**
Telephone:	**(021) 873 7228**	Cell:	**076 584 0822**
E-mail:	**pbps@iafrica.com**	Fax:	**(086) 672 1916**
EAP Qualifications	**Civil Engineering degree with 41 years' experience in environmental field**		
EAP Registrations/Associations	**Pieter Badenhorst - 41 years' experience (16 @ CSIR) in environmental management; report writing; project management; facilitation**		
	Elanie Kuhn – 10 years experience, environmental management, report writing, project management		

Landowner(s):	**Valam Boerderye PTY Ltd**		
Contact person(s):	**Philip van der Merwe**		
Postal address:	**P.O. BOX 21**		
	Kakamas	Postal code:	**8874**
Telephone:	**(054) 431 0568**	Cell:	
E-mail:	**philip@csfarms.co.za**	Fax:	**(054) 451 7006**

Please Note: In instances where there is more than one landowner, please attach a list of landowners with their contact details to the back of this page.

Municipality in whose area of jurisdiction the activity falls:	**Kai!Garib Municipality**		
Contact person:	**Municipal Manager**		
Postal address:	**Private Bag X6**		
	Kakamas	Postal code:	**8870**
Telephone	**(054) 461 6700**	Cell:	
E-mail:		Fax:	**(054) 461 6401**

Please Note: In instances where there is more than one Municipality involved, please attach a list of Municipalities with their contact details to the back of this page.

Project title:	**Omdraai 24G Rectification Of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, Augrabies**
Property location:	**Farm Omdraai**
Farm/Erf name & number (incl. portion):	**Kakamas North Settlement no 343**

SG21 Digit code:	**C03600070000034300000**					
Co-ordinates:	Latitude (S):			Longitude (E):		
	28°	**39'**	**14.75 "**	**20°**	**25'**	**57.44"**

Please Note:
Where a large number of properties are involved (e.g. linear activities), attach a list of property descriptions to the back of this page.
Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates must be in degrees, minutes and seconds. The minutes must be given to at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Street address:	**Hoofstraat; Kai !Garib Municipality**
Magisterial District or Town:	**Kakamas**

Please Note: In instances where there is more than one town or district involved, please attach a list of towns or districts as well as complete physical address information for the entire area to the back of this page.

Closest City/Town:	**Augrabies**	Distance	**3 Km**
Zoning of Property:	**Agricultural Zone 1**		

Please Note: In instances where there is more than one zoning, please attach a list of zonings that also indicate which portions each use pertains to, to this application.

Was a rezoning application required?	~~YES~~	**NO**
Was a consent use application required?	~~YES~~	**NO**

Please Note: Where planning approvals have been granted please attach the relevant approvals. In instances where there is more than one zoning, please attach a list of zonings that also indicate which portions each use pertains to, to this application.

Owners consent:	Letters of consent from all landowners or a detailed explanation by the applicant explaining why such letters of consent are not furnished must be attached to the back of this document as Appendix C. **NOT REQUIRED AS PROJECT IS ON APPLICANT'S PROPERTY**

2. APPLICATION HISTORY

(Cross out the appropriate box "☒" and provide a description where required).

Has any national, provincial or local authority considered any developm applications on the property previously?	~~Yes~~	**NO**
If so, please give a brief description of the type and/or nature of the application/s: instances where there were more than one application, please attach a list of these applications)		
N/A		
Which authority considered the application:		
N/A		
Has any one of the previous application/s on the property been approved rejected? If so provide a list of the successful and unsuccess application/s and the reasons for decision/s.	~~Yes~~	**NO**
N/A		
Provide detail on the period of validity of decision and expiry dates of the above applicatior permits etc. **N/A**		

I hereby apply in terms of Section 24 G of the National Environmental Management Act (Act no 107 of 1998 as amended) for the rectification of the unlawful commencement or continuation of a listed activity:

Applicant (Full names)_____**Bernie Denton** _____

Signature:_____

Place: _____ Date: _____

EAP (Full names): **Pieter Badenhorst**

Signature:_____

Place: _____ Date: _____

SECTION B: ACTIVITY INFORMATION

1. ACTIVITIES APPLIED FOR:

Separate rectification applications are required for one development site where more than one listed activity has commenced and where these unlawfully commenced activities constitute offences in terms of different EIA regulations Applicants and EAPS are strongly advised to discuss the merits of a combined application (if deemed appropriate) with the relevant Department prior to the completion of this application form and submission thereof. The relevant Department will use its discretion in deciding to allow one rectification application for more than 1 Section 24F(2(a) contravention on one development site. All potential listed activities associated with the development must be indicated below. (See Annexures B, C, D and E). Only those activities for which the applicant applies will be considered. The onus is on the applicant to ensure that all the applicable listed activities are included in the application.

2. ACTIVITY DESCRIPTION

An application may be made for more than one listed or specified activity that, together, make up one development proposal. All the listed activities that make up this application must be listed.

Number and date of the relevant notice:	Activity No (s) (in terms of the relevant or notice) :	Describe each listed activity
EIA Regulations December 2014		
GNR 983 of 2014 Listing Notice 1 (Basic Assessment) **Activity 12**	**The development of—infrastructure or structures with a physical footprint of 100 square metres or more;** **where such development occurs—** **(a) within a watercourse;**	**The construction during 2015 for the infrastructure development associated with the cultivation of the vineyards such as irrigation pipelines within water courses.**
GNR 983 of 2014 Listing Notice 1 (Basic Assessment) **Activity 19**	**The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—** **(a) within a watercourse;**	**For the infilling of materials more than 5 cubic meters within a water course.**
GNR 983 of 2014 Listing Notice 1 (Basic Assessment) **Activity 27**	**The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation**	**The clearance of 19.8ha of indigenous vegetation.**

GNR 985 of 2014 Listing Notice 3 (Basic Assessment) **Activity 12**	**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.** **ii Within critical biodiversity areas identified in bioregional plans;**	**Approximately 19.8 hectares of land was cultivated in July 2015 resulting in the clearance of an area of more than 300 square metres or more of indigenous vegetation, within a CBA (Refer to Figure 7).**
GNR 985 of 2014 Listing Notice 3 (Basic Assessment) **Activity 14**	**The development of—** **infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs—** **(a) within a watercourse;**	**The development of infrastructure related to agricultural development of more than 10 square meters within a water course.**

Please note that any authorisation that may result out of this application will only cover activities applied for. Omissions may render any authorisation that is based on incomplete information to be nil and void.

(Cross out the appropriate box "☒" and provide a description where required).

(a) Is/was the project a new development or an upgrade of an existing development?	**New**	~~**Upgrade**~~

(b) Clearly describe the activity and associated infrastructure commenced with, indicating what has been completed, what still has to be completed and applicable commencement dates.

Locality:

The proposed development is situated approximately 3 kilometers outside of the small town of Augrabies in the Northern Cape, in the Kai! Garib Municipal area.
Refer to the Locality Plan **attached at** Appendix A (**and inserted below as Figure 1).**

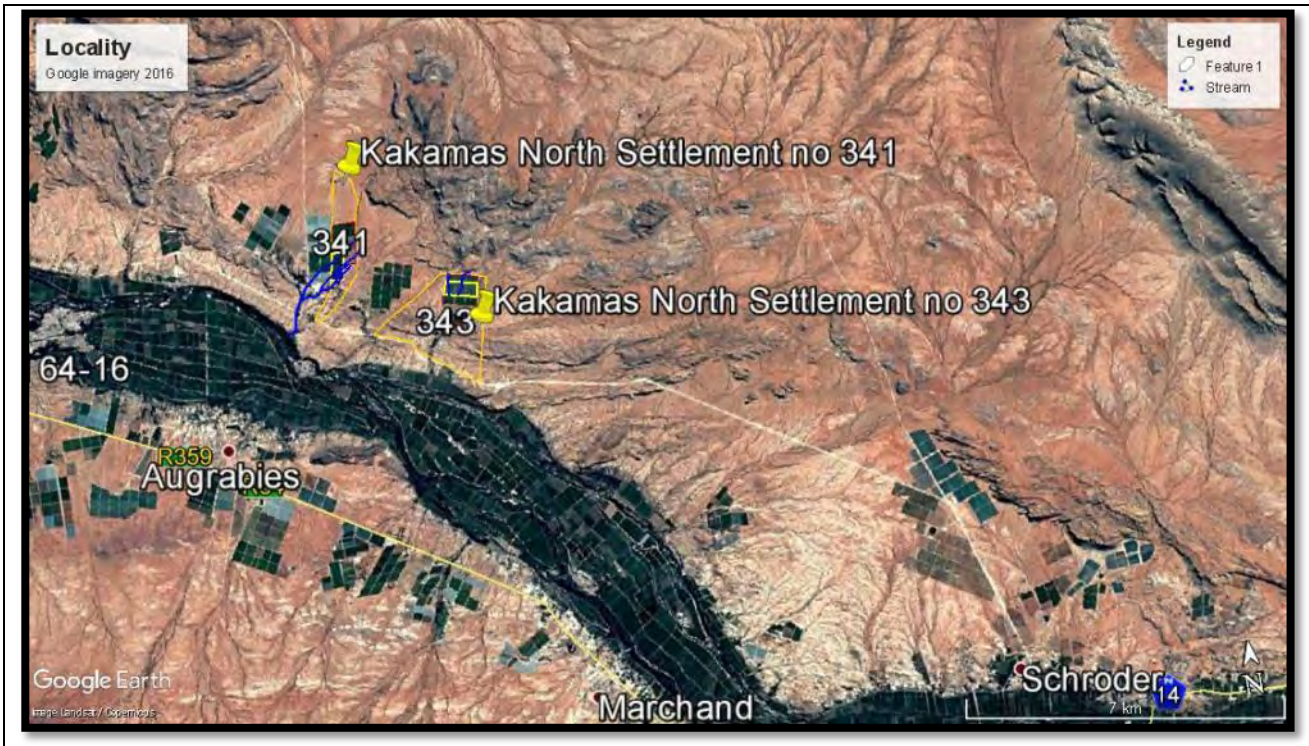


Figure 1: Locality plan

Refer to the Historical Google Earth images **attached at** Appendix D1**.**

Proposed development:

The proposed development consisted out of the following activities that triggered NEMA 2014 Regulations:

NEMA 2014:

1. **Clearance of approximately 19.8 hectares of indigenous vegetation between in 2015, also the clearing within a watercourse. (Refer to Figure 2 and 3).**
2. **Construction of pipelines and roads (infrastructure) as part of the clearance of the 19.8 hectares of indigenous vegetation.**

By end 2015, a total of 19.8 hectares had been cleared and planted (Figure 3).

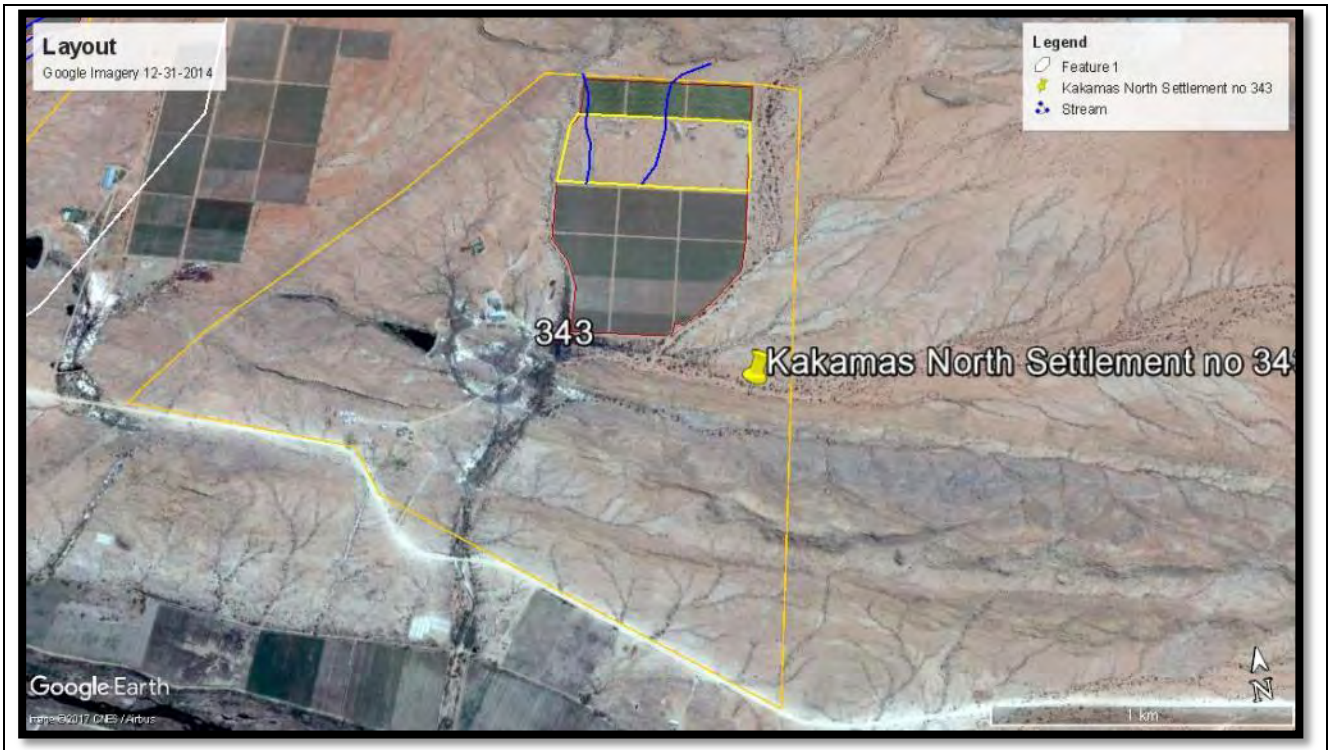


Figure 2: Prior to vegetation clearing on 12 December 2014.

As shown in Figure 3, these areas were under cultivation of vineyards for table grapes by 2016. Access tracks were constructed within the cultivated area to facilitate the farming activities.

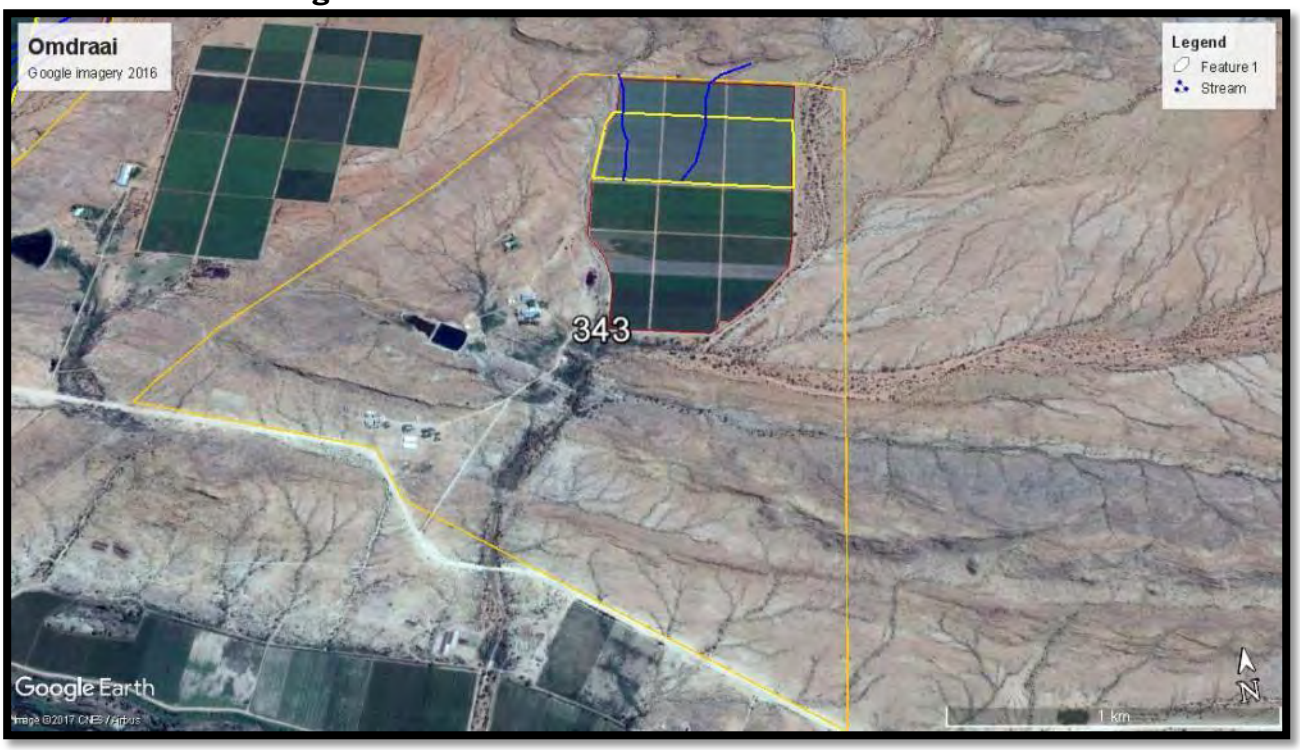


Figure 3: Vegetation clearing complete December 2016.

No further agricultural activities are required within the project area comprising the 24G application.

(c) Provide details of all components of the activity and attach diagrams (e.g. architectural drawings or perspectives, engineering drawings, process flow charts etc.).		
Buildings	**YES**	~~NO~~
Provide brief description:		
Refer to Appendix B: Site Plan and Figure 4 below.		

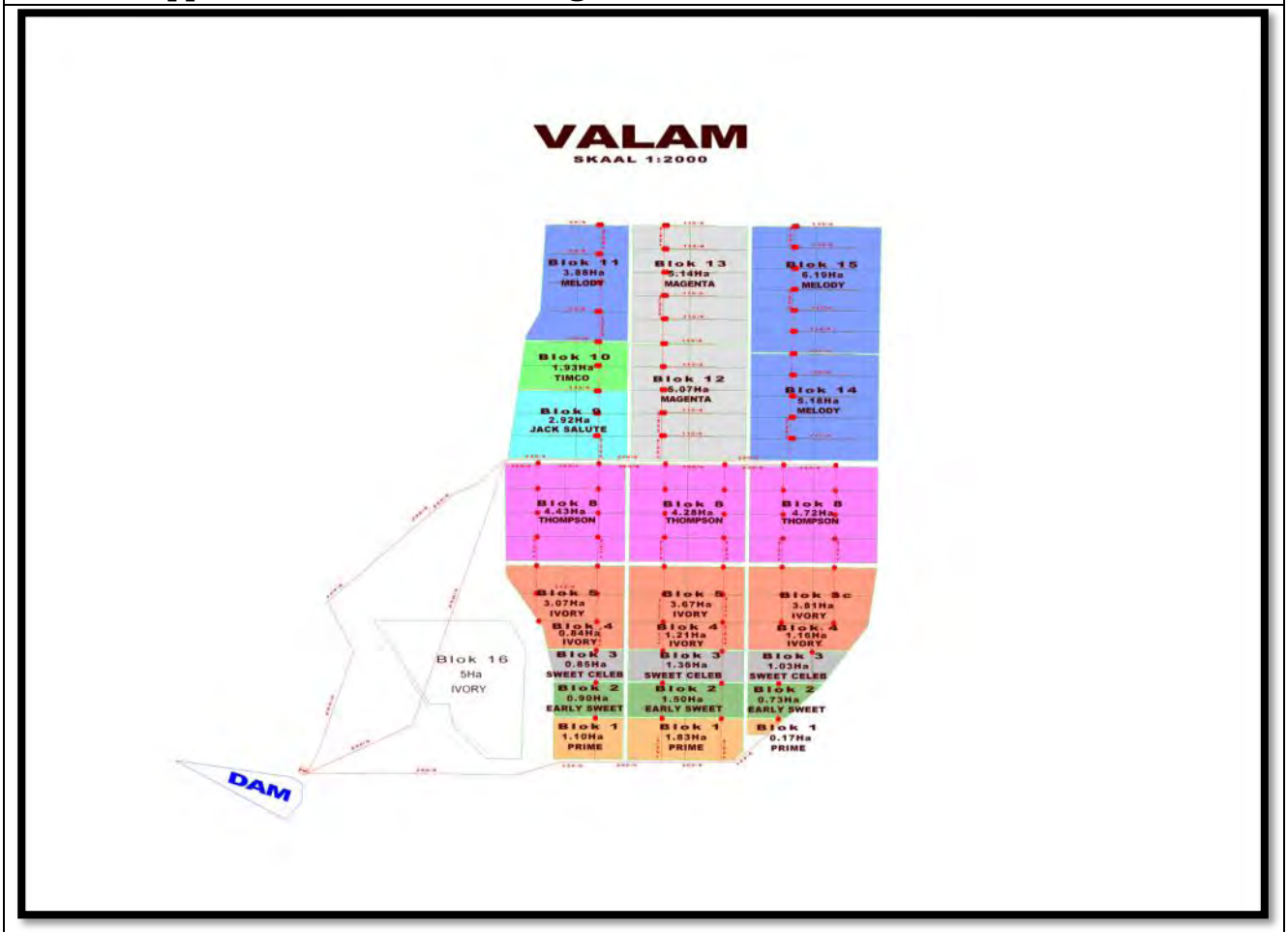


Figure 4: Total areas cleared and developed by end of 2016.

There are buildings on the property, however, these are all existing farming related buildings.

Infrastructure (e.g. roads, power and water supply/ storage)	**YES**	~~NO~~
Provide brief description:		

Refer to Appendix B: Site Plan (see above).

<u>Roads:</u>

Access is gained off a gravel road that links with the district road to Schroder off the N14. The internal farm tracks are not surfaced, and are compacted earth with no formal storm water management control structures in place. The low rainfall characteristic of the area negates the need to provide for storm water control.

<u>Water:</u>

The WULA application is summarised for the following water usages:

(a) taking water from a water resource;	**[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.**
(i) altering the bed, banks, course or characteristics of a watercourse	**For the construction of agricultural areas across ephemeral streams/natural drainage areas.**

Water is required for the drip irrigation of the established vineyards, and is supplied via pipelines from the booster pump station and pump lines as shown on Appendix B. Kakamas North Settlement no 343 has water use rights of 60 hectares that were registered with the Kakamas Water Users Association. Water use for the property is currently above maximum allocation of 66.97 hectares. As part of this an application will therefore be lodged to DWS for additional 12ha of water that will be transferred from Portion 37 of Farm Zeekoesteek no 9 within the CapeSpan company group. Note this is a transfer from the Boegoeberg WUA to the Kakamas WUA, find attached confirmation letters included in Appendix E1. Transfer and allocations as outlined below:

Property transferred from	Existing water rights - Ha	Ha transferred	Property transferred to	Existing water rights ha	New allocations
Portion 37 of Farm Zeekoesteek no 9.	50.2ha	12ha	Kakamas North Settlement no 343	60ha	12ha
TOTAL					72ha

Refer to Appendix E1 for existing water use rights and Appendix E2 for the WULA.

As part of the Water Use License Application the applicant will apply for Section 21(c) and (i) of the National Water Act for the streams that were diverted and crossed as part of the illegal establishment of vineyards. The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel flows directly towards the Orange River, however a series of structures and agricultural developments cut the system off from the Orange River
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, see Figure 5 (dark blue lines).

Figure 5: Ephemeral streams/drainage areas

Electricity:

Electricity is provided for the irrigation process and is linked to the booster pump.

Processing activities (e.g. manufacturing, storage, distribution)	~~YES~~	**NO**
Provide brief description:		
Storage facilities for raw materials and products (e.g. volume and substances to be stored)		
Provide brief description	~~YES~~	**NO**
Storage and treatment facilities for solid waste and effluent generated by the project	~~YES~~	**NO**
Provide brief description		
Other activities (e.g. water abstraction activities, crop planting activities)	**Yes**	~~No~~
Provide brief description		

Crop Planting:

Table grapes are being cultivated as indicated in the project area (refer to Appendix B).

Water abstraction activities:

Water is required for the drip irrigation of the established vineyards, and is supplied via pipelines from the booster pump station and pump lines as shown on Appendix B. Kakamas North Settlement no 343 has water use rights of 60 hectares that were registered with the Kakamas Water Users Association. Water use for the property is currently above maximum allocation of 66.97 hectares. As part of this an application will therefore be lodged to DWS for additional 12ha of water that will be transferred from Portion 37 of Farm Zeekoesteek no 9 within the CapeSpan company group. Note this is a transfer from the Boegoeberg WUA to the Kakamas

WUA, find attached confirmation letters included in Appendix E2. Transfer and allocations as outlined below:

Property transferred from	Existing water rights - Ha	Ha transferred	Property transferred to	Existing water rights ha	New allocations
Portion 37 of Farm Zeekoesteek no 9.	50.2ha	12ha	Kakamas North Settlement no 343	60ha	12ha
TOTAL					72ha

Refer to Appendix E1 for existing water use rights and Appendix H2 for the WULA.

All storm water flows between the blocks towards the channel that will flow towards the unnamed tributary on the right, see Figure 6 below. Flow entering the unnamed tributary will then flow downstream towards the Orange River.

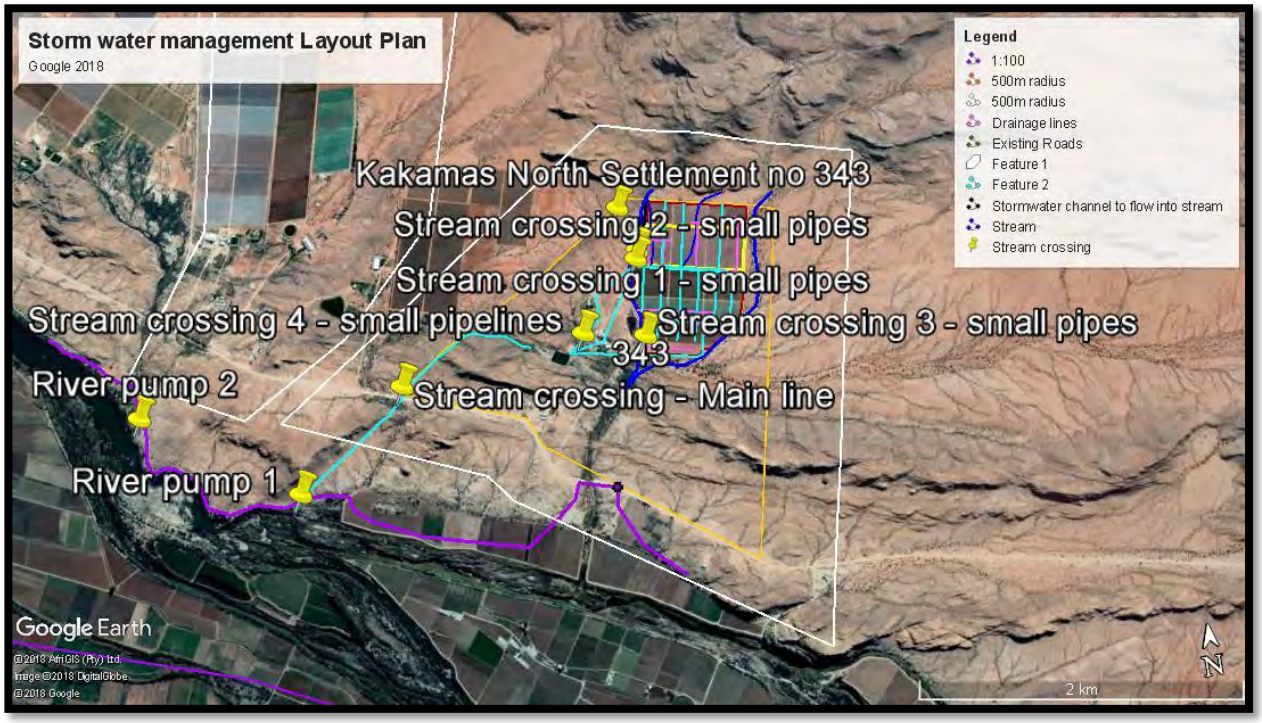


Figure 6: Storm management layout plan

Along the upper reaches on the right or to the west of the agricultural areas, outlined as the black line is a storm water channel that diverts the flow into the stream at stream crossing 2, shown in Figure 6 above.

It should be noted that a pump station was constructed in the 1980's. See Storm water management layout plan in the WULA in Appendix H2 and a typical design of a floating jetty pump station included in Appendix C of the SWMP in the WULA. As shown in Figure 6 the abstraction pump will be below the 1:100 year floodline. Care will be taken to minimize impacts on the bed of the Orange River.

The pipelines running from the Orange River to the small balancing dam and then crossing the canal, runs further to the site crossing small streams across various points shown in Figure 8. Note this pipeline was constructed in the 1980's and purchased by CapeSpan. These pipelines run underground. As shown in the photo below in Figure 7, this is the only crossing, stream crossing 3, shown in Figure 6, that is not below ground. No design available as stated above this was constructed in the 1980's already. All the other pipeline crossing including the main pipeline from the Orange River to the small balancing dam was constructed underground.

Figure 7: Stream crossing 3 – small pipelines

3. ACTIVITY NEED AND DESIRABILITY

Describe the need and desirability of the activity:

According to the report prepared by DAFF (2012): South African table grape exports totalled 2 708 767 metric tons. Europe is the most important market. Most table grapes were exported to the Netherlands (40%), followed by Great Britain (21%), Belgium (7,4%), Germany (5,5%), Hong Kong (3,1%) and other African countries (0,3%). During the summer season, India, Chile, South Africa and Israel are the major competing countries.

<u>Major production areas in South Africa</u>

The Hex River Valley is the country's main table grape production area; more than half of all grape exports come from this district, which has the longest harvesting period in the country. The Northern Cape is a very dry province, so most of the grapes in this province are cultivated in the Orange River region and they are harvested very early.

The project area is located within the Lower Orange River wine region (Refer to Figure 8 below.)

Kakamas North Settlement no 343 contributes to the production of table grapes that are harvested early for the export market, in time for the Christmas festive season overseas. This particular characteristic of growing table grapes in this region gives the growers a highly competitive advantage in the global market.

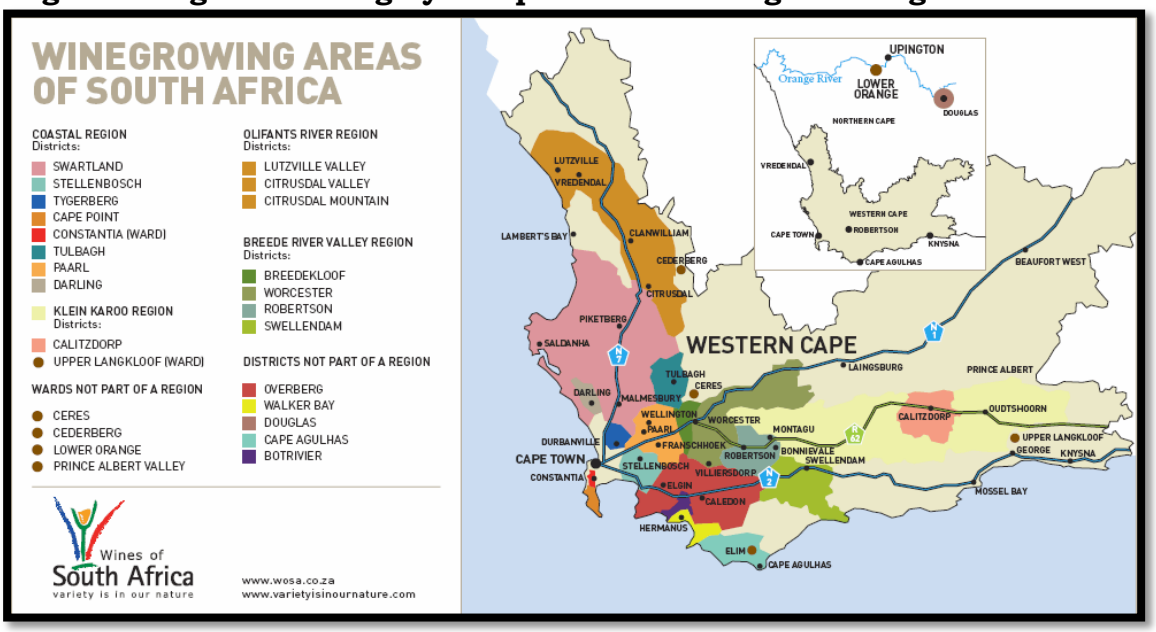


Figure 8: Winegrowing areas of South Africa (sourced from www.wosa.co.za)

Indicate the benefits that the activity has/had for society in general and also indicate what benefits the activity has/had for the local communities where it is located:
The cultivation of table grapes created short-term employment during the construction phase, and long-term employment during the operational phase. The grower (Omdraai) has to employ a large number of workers to harvest the grapes by hand and to sort them during harvest time, and there is a team to ensure the maintenance of the vineyards in general. **Local employment has a positive economic spin-off for the local economy and results in community upliftment through being able to provide for basic needs such as housing and education of the children of the employed staff.** **The export of grapes contributes to the National Gross Domestic Profit (GDP).**

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical spatial size of the activity as well as associated infrastructure (footprints):	***19.8ha or 19 800 m²***
Indicate the area that has been transformed / cleared to allow for the activity as well as associated infrastructure	**19.8ha or 19 800 m²**
Total area (sum of the footprint area and transformed area)	**19.8ha or 19 800 m²**

5. SITE ACCESS

Was there an existing access road?	**YES**	~~NO~~

The access road is an existing road as shown below in the Google Earth photograph below (refer to Figure 9), and is just under 4 metres wide.

Figure 9: Access Roads

If NO, what was the distance over which the new access road was built?	*m*
Describe the type of access road constructed: [indicate the position of the access road on the site plan]	
The existing access road is a farm dirt track that existed prior to 21 April 2006.	

6. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken of the site and from the site), both before (if available) and after the activity commenced, with a description of each photograph **must** be attached to this application.

The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide past and recent aerial photographs.

Historical Aerial photographs dated back to 2001 are provided in Appendix D1.

It should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Photographs must be attached under Appendix D to this form.

7. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Please list all legislation, policies and/or guidelines that were or are relevant to this activity.

LEGISLATION	ADMINISTERING AUTHORITY	TYPE Permit/ license/ authorization/comment	DATE (if already obtained):
National Environmental Management Act	**Department Environment and Nature Conservation (DENC)**	**Authorisation**	**In progress**
National Heritage Resources Act	**SAHRA**	**Comment.**	**In progress**
National Water Act	**Department of water and Sanitation**	**Water Use Licence or General Authorisation**	**In progress**
Conservation of Agricultural Resources Act	**Department of Agriculture**	**Plough Certificate for Water Use licence; Comment on EIA**	**In progress**
POLICY/ GUIDELINES		ADMINISTERING AUTHORITY	
Guidelines published in terms of NEMA Regulations		**Department of Environmental Affairs**	
Guidelines published in terms of the National Water Act		**Department of Water and Sanitation**	

PLEASE NOTE THIS IS A S24G PROCESS. THIS FORM THEREFORE SERVES AS THE REPORT THAT WILL BE DISTRIBUTD AND SUBMITTED FOR APPROVAL.

8. Application for Basic Assessment (BA)

Is the rectification process done through an application for conducting a basic assessment (as defined in the regulations)?	**YES**	~~**NO**~~
If, YES, is a basic assessment report attached?	~~**YES**~~	~~**NO**~~

If, NO, please indicate when the basic assessment report will be submitted:

This report will be extended to an Assessment Report.

9. Application for Scoping and Environmental Impact Assessment (EIA)

Is the rectification process done through an application for Scoping and EIA (as defined in the regulations)?	**YES**	~~**NO**~~
If, YES, is a Scoping Report and Plan of Study for EIA attached?	~~**YES**~~	~~**NO**~~

If, NO, please indicate when the Scoping Report and Plan of Study for EIA will be submitted:

This report will be extended to an Assessment Report.

The scoping report and/or the plan of study for EIA will be	~~**YES**~~	**NO**

submitted		
after consultation with the competent authority:		
A consultation with the competent authority is hereby requested:	~~**YES**~~	**NO**

SECTION C: DESCRIPTION OF RECEIVING ENVIRONMENT

SITE/AREA DESCRIPTION

For linear activities (pipelines etc) as well as activities that cover very large sites, it may be necessary to complete copies of this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. 1, 2, or 3):	**N/A**

1. GRADIENT OF THE SITE

Indicate the general gradient of the site(s) (cross out the appropriate box).

Flat	**Flatter than 1:10**	1:10 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site (cross out ("☒") the appropriate box (es).

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	**Plain**	Undulating plain/low hills	Dune	Sea-front	Other

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on or near any of the following [cross out ("☒") the appropriate boxes]?

Shallow water table (less than 1.5m deep)	YES	**NO**	UNSURE
Seasonally wet soils (often close to water bodies)	YES	**NO**	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	UNSURE
Dispersive soils (soils that dissolve in water)	YES	**NO**	UNSURE
Soils with high clay content	YES	**NO**	UNSURE
Any other unstable soil or geological feature	YES	**NO**	UNSURE
An area sensitive to erosion	YES	**NO**	UNSURE

If any of the answers to the above are "YES" or "UNSURE", specialist input may be requested by the Department. Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used.

4. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites (cross out ("☒") the appropriate boxes)?

Perennial River	~~YES~~	~~NO~~	~~UNSURE~~
Non-Perennial River **(mainly drainage areas and a small stream)**	**YES**	~~NO~~	~~UNSURE~~
Permanent Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Seasonal Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Artificial Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Estuarine / Lagoonal wetland	~~YES~~	~~NO~~	~~UNSURE~~

The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel does not flow directly towards the Orange River, it links into the unnamed tributary which flows into the Orange River, however a series of structures and agricultural developments cut the system off prior to entering the unnamed tributary.
The streams for most of the year are dry and sandy and flow for short periods after relatively heavy rains. They are mostly ephemeral streams, see Figure 6 (dark blue lines).

The drainage channel does not flow directly towards the Orange River, however a series of structures and agricultural developments cut the system off from the Orange River
The overall all analysis according to DWS:PES & EIS Desktop Assessment is that the site falls within a PES Category D and is largely modified. According to the EIS summary the site extensively utilised for farming and irrigation along the floodplains.

5. VEGETATION AND GROUNDCOVER

5.1 VEGETATION / GROUNDCOVER (PRE-COMMENCEMENT)

Cross out ("☒") the block or describe (where required) the vegetation types / groundcover present on the site before commencement of the activity.

~~Indigenous Vegetation – good condition~~		**Indigenous Vegetation with scattered aliens**	**X**	~~Indigenous Vegetation with heavy alien infestation~~	
Describe the vegetation type above: **N/A**		Describe the vegetation type above: **Bushmanland Arid Grassland**		Describe the vegetation type above: **N/A**	

Provide ecosystem status for above: **N/A**	Provide ecosystem status for above: **Least threatened [according to Mucina & Rutherford (2006)** **Critical Biodiversity Area 2** **(Refer to Appendix F1 showing the CBA status as sourced from bgis.sanbi.org) and inserted below as Figure 8.**	Provide Ecosystem status for above: **N/A**
~~Indigenous Vegetation in an ecological corridor or along a soil boundary / interface~~	~~Veld dominated by alien species~~	Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe: **The average depth of the soil is 1.8 metres. There are no hard or impermeable soil layers. The granite that occurs in the sub-surface is already in a serious degree of weathering.**
~~Bare soil~~	~~Building or other structure~~	~~Sport field~~
~~Other (describe below)~~	~~Cultivated land~~	~~Paved surface~~

Figure 10: CBA Map

According to Namakwa District Biodiversity Sector Plan (2008), the development encroaches on an ecological support area (ESA) which was established as a terrestrial migration corridor associated with the Orange River corridor. However, it must be noted that most of this corridor in this vicinity is compromised as a result of existing agricultural development. Most of the neighboring areas to the west, south and east of the site have already been transformed into agricultural land. To the north of the property (falling outside of the ESA) natural is still encountered.

5.2. VEGETATION / GROUNDCOVER (POST-COMMENCEMENT)

Cross out ("☒") the block or describe (where required) the vegetation types / groundcover present on the site after commencement of the activity.

~~Indigenous Vegetation – good condition~~	~~Indigenous Vegetation with scattered aliens~~	~~Indigenous Vegetation with heavy alien infestation~~
~~Describe the vegetation type above:~~	~~Describe the vegetation type above:~~	~~Describe the vegetation type above:~~
~~Provide ecosystem status for above:~~	~~Provide ecosystem status for above:~~	~~Provide Ecosystem status for above:~~
~~Indigenous Vegetation in an ecological corridor or along a soil boundary / interface~~	~~Veld dominated by alien species~~	~~Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe~~
~~Bare soil~~	**Building or other structure**	~~Sport field~~
Other (describe below) **Access roads within cultivated area**	**Cultivated land**	~~Paved surface~~

Please note: The Department may request specialist input/studies depending on the nature of the vegetation type / groundcover and impact(s) of the activity/ies. To assist with the identification of the vegetation type and ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used.

5.3 VEGETATION / GROUNDCOVER MANAGEMENT

Describe any mitigation/management measures that were adopted and the adequacy of these:

The vegetation was removed and the brush-cut has been removed. No further mitigation necessary.

The area is cultivated with vineyards. Areas around buildings have been cleared, not enough water to landscape around buildings and vineyards.
Mitigation measures associated with Storm Water Management is included in the WULA in Appendix H2.

6. LAND USE CHARACTER OF SURROUNDING AREA (PRE-COMMENCEMENT)

Cross out ("☒") the block that reflects the past land uses and/or prominent features that occur/red within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site.

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

Refer to Figure 11 inserted below of the land uses within 500m of the project site reflecting past land uses within a 500m radius of the site. As shown below in Figure 12 the site is surrounded by existing agricultural areas with homesteads and other agri-industrial uses, that is currently on site.

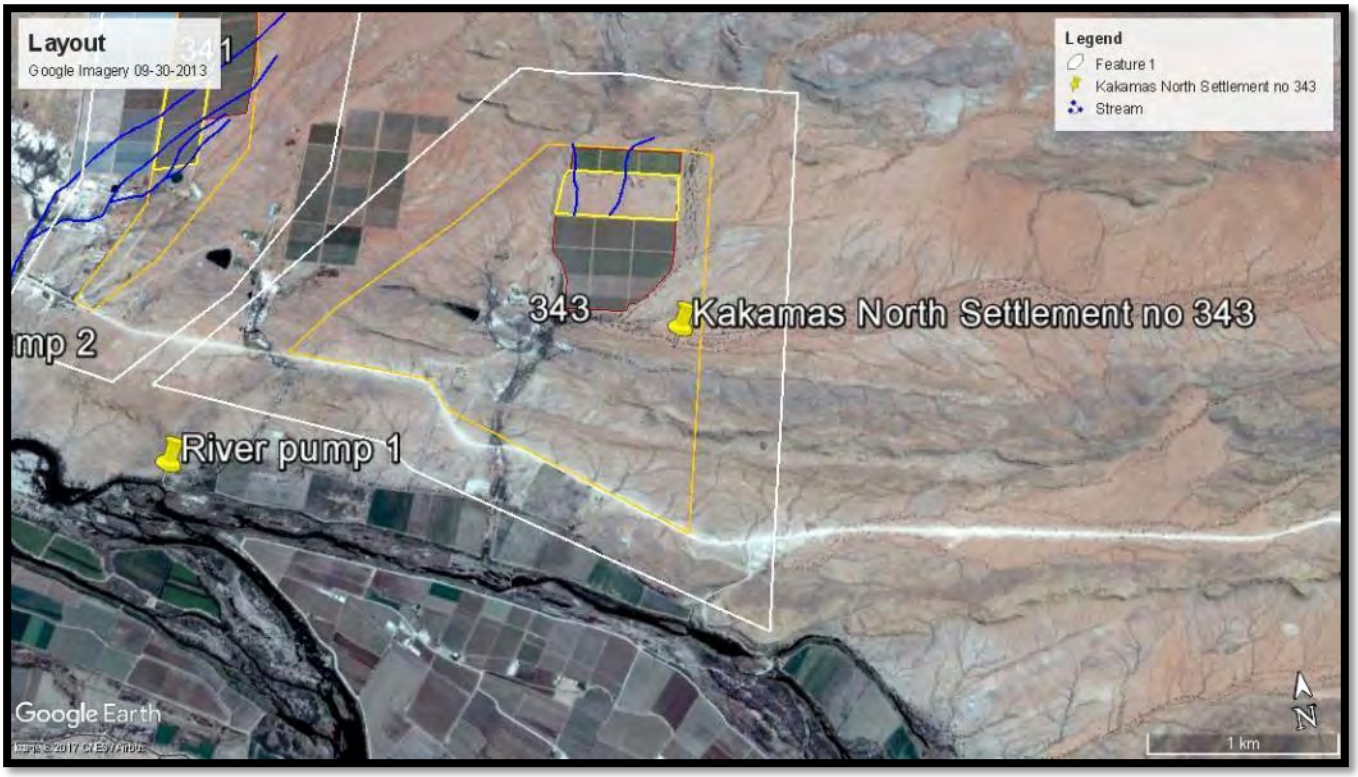


Figure 11: Land uses within 500m of the project site prior to the commencement of the cultivation (Google Earth image is dated 2013)

Figure 12: Land uses within 500m of the project site afterto the commencement of the cultivation (Google Earth image is dated 2016)

Untransformed area	~~Low density residential~~	~~Medium density residential~~	~~High density residential~~	~~Informal residential~~
~~Retail~~	~~Commercial & warehousing~~	~~Light industrial~~	~~Medium industrial~~	~~Heavy industrial~~
~~Power station~~	~~Office/consulting room~~	~~Military or police base/station/compound~~	~~Casino/entertainment complex~~	~~Tourism & Hospitality facility~~
~~Open cast mine~~	~~Underground mine~~	~~Spoil heap or slimes dam~~	~~Quarry, sand or borrow pit~~	~~Dam or reservoir~~
~~Hospital/medical center~~	~~School~~	~~Tertiary education facility~~	~~Church~~	~~Old age home~~
~~Sewage treatment plant~~	~~Train station or shunting yard~~	~~Railway line~~	~~Major road (4 lanes or more)~~	~~Airport~~
~~Harbour~~	~~Sport facilities~~	~~Golf course~~	~~Polo fields~~	~~Filling station~~
~~Landfill or waste treatment site~~	~~Plantation~~	**Agriculture**	**River, stream or wetland**	~~Nature conservation area~~
~~Mountain, koppie or ridge~~	~~Museum~~	~~Historical building~~	~~Graveyard~~	~~Archaeological site~~
Other land uses (describe):				

7. REGIONAL PLANNING CONTEXT

Is/was the activity permitted in terms of the property's existing land use rights? Please explain

Yes, Kakamas North Settlement no 343 is zoned as Agriculture.			
Is/was the activity in line with the following?			
Provincial Spatial Development Framework (PSDF)	**YES**	~~NO~~	**Please explain**
Farm Kakamas North Settlement no 343 is zoned for Agricultural use, and the agricultural activities are in line with the PSDF.			
Urban edge / Edge of Built environment for the area	**YES**	~~NO~~	**Please explain**
The agricultural activities have taken place outside the urban edge/urban area on land for agricultural use.			
Integrated Development Plan of the Local Municipality	**YES**	~~NO~~	**Please explain**

Farm Kakamas North Settlement no 343 is zoned for Agricultural use, and the agricultural activities are in line with the IDP.			
Spatial Development Framework of the Local Municipality	**YES**	~~NO~~	**Please explain**
Farm Kakamas North Settlement no 343 is zoned for Agricultural use, and the agricultural activities are in line with the SDF.			
Approved Structure Plan of the Municipality	**YES**	~~NO~~	**Please explain**
Kakamas North Settlement no 343 is zoned for Agricultural use, and the agricultural activities are in line with the Structure Plan.			
Any other Plans	~~YES~~	~~NO~~	**Please explain**
N/A			

8. SOCIO-ECONOMIC CONTEXT

8.1 SOCIO-ECONOMIC CONTEXT (PRE-COMMENCEMENT)

Describe the pre-commencement social and economic characteristics of the community in order to provide baseline information.

The economy is heavily depended on the Agricultural Sector, both intensive and extensive. However the major roads (N14, R27 and R359) assist in the growth of the municipal area experience. It is important to note that new opportunities have opened up for Kai !Garib municipal area since the need to facilitate the generation of sustainable energy was introduced in South Africa by Eskom and the South African government. (Kai !Garib Municipality Integrated Development Plan (IDP) Draft 2016/2017).

The local Augrabies community relies on tourism associated with the Augrabies National Park located in close proximity to the project site. Any tourism related socio-economic benefits would have been supplemented with the agricultural activities associated with the farming activities along the Orange River between Augrabies and Kakamas.

According to the IDP for 2016/2017 (dated March 2016) the project area is located within Ward 1: Augrabies, Noudonsies, Zeekoeisteek, Blouputs, Riemvasmaak and had a total population of 11 408 as recorded in the 2011 Census.

8.2 SOCIO-ECONOMIC CONTEXT (POST-COMMENCEMENT)

Describe the post commencement social and economic characteristics of the community in order to determine any change.

With the development of additional cultivated land by Valam Boerdery PTY Ltd, additional agricultural employment opportunities were provided, with associated local socio-economic spin-offs.

The positive impact of the job creation and increased employment following the increase in cultivated areas initiated in 2015 is not be reflected in the employment statistics reported in the March 2016 IDP from the 2011Census.

According to the IDP (March 2016); The agricultural sector is still the main economic sector that made the biggest contribution (51.8 %) to the economy of Kai !Garib in 2010. The Agriculture sector is also a major employer in the Municipality, providing 66.5% of all formal employment. It is also the sector with the largest potential for economic growth. The commercial farmer's farm especially with grapes for export, raisins and wine, while citrus are also becoming more prevalent in the area.

The project has therefore contributed to the largest economic sector in the Kai !Garib Municipality.

8.3 CULTURAL/HISTORICAL FEATURES

Were there any signs or evidence (unearthed during construction) of culturally or historically significant elements including archaeological or palaeontological sites, on or in close proximity to the site?	~~X YES~~	~~NO~~
	UNCERTAIN	

If YES, explain:	**Surrounding sites nearby was assessed by heritage specialists and small Later Stone Age tools were encountered and area highly disturbed and of having a grade 3C, low rating of significance. No further studies are required. However the site has entirely been transformed with agricultural activities and therefore possibility of any further finds is scarce. However a specialist will be consulted and the findings submitted on the SAHRIS online application for comments.**		
If uncertain, the Department may request that specialist input be provided to establish whether there was such possibilities occurred on or close to the site.			
Briefly explain the findings of the specialist if one was already appointed:	**Nothing of significance was recovered by in surrounding areas still undeveloped by specialists. The site has already been transformed.**		
Were any buildings or structures older than 60 years be affected in any way?		~~YES~~	**NO**
Was it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		~~YES~~	**NO**
If yes, please submit or, make sure that the applicant or a specialist submit the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application.			

SECTION D: PRELIMINARY IMPACT ASSESSMENT

Please note, the impacts identified below refer to general impacts commonly associated with development activities. The list below is not exhaustive and may need to be supplemented. Where required, please append the information on any additional impacts to this application.

1. WASTE, EFFLUENT AND EMISSION MANAGEMENT

(a) Solid waste management

Did/does the activity produce any general waste (e.g. domestic-, commercial-, certain industrial waste, including building rubble also known as solid waste) during the construction phase and/or the operational phase?	**YES**	NO

If yes, briefly describe what type of waste was produced (i.e. green waste, building rubble, etc.) in which phase.

Construction phase:

A small amount of construction related waste associated with vineyards would have been generated, such as cement bags, paint tins, etc.

Operational phase:

Operational waste is limited to broken materials associated with the farming activities, and with solid waste associated with food eaten by the farm workers.

What quantity was/is produced during the construction period?	**Approx. 2**	m^3
What was/is the estimated quantity that will be produced per month during the operational phase?	**Negligible**	m^3

Did/does the activity produce any hazardous waste (e.g. chemical, medical waste, infectious, nuclear etc.) during the construction and/or the operational phase?	~~YES~~	**NO**

If yes, briefly describe what type of waste was produced (i.e. infectious waste, medical waste, etc.) in which phase.

N/A

What quantity was/is produced during the construction period?	**N/A**	m^3
What was/is the estimated quantity that will be produced per month during the operational phase?	**N/A**	m^3

Where and how was/is waste treated / disposed of (describe each waste stream)?

Very little solid waste is produced by farm workers and general farming activities. General solid waste collection and disposal by the municipality will be confirmed during the public consultation process.

Has the municipality or relevant authority confirmed that sufficient capacity exist for treating / disposing of the solid waste to be generated by this activity(ies)? If yes, provide written confirmation from Municipality or relevant authority. **TO BE CONFIRMED DURING PUBLIC PARTICIPATION PROCESS**	YES	NO
Does/did the activity produce solid waste that was/will be treated and/or disposed of at another facility other than into a municipal	YES	NO

waste stream?		
If yes, did/has this facility confirmed that sufficient capacity exist for treating / disposing of the solid waste to be generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility:	YES	NO
Did/does the facility have an operating license? (If yes, please attach a copy of the license.)	YES	NO
Facility name:		
Contact person:		
Postal address:		
	Postal code:	
Telephone:	Cell:	
E-mail:	Fax:	

(b) Effluent

Did/does the activity produce sewage and or any other effluent?	~~YES~~	**NO**
None associated with the development of vineyards, existing ablution facilities.		
What was/is the estimated quantity produced per month?	**N/A**	m^3
Was/is the effluent treated and/or disposed of in a municipal system?	~~YES~~	**NO**
If Yes, did/has the Municipality or relevant authority confirmed that sufficient **unallocated** capacity exist for treating / disposing of the sewage or any other effluent generated by this activity(ies)? Provide written confirmation from the Municipality or relevant authority.		
N/A		
Was/is any effluent produced be treated and/or disposed of on site?	~~Yes~~	**NO**
If yes, briefly describe the nature of the effluent and how it was/will be disposed of:		
N/A		
Did/does the activity produce effluent that was/will be treated and/or disposed of at another facility?	~~YES~~	**NO**
If yes, did/has this facility confirmed that sufficient capacity exist(ed) for treating / disposing of the liquid effluent generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility: **N/A**	YES	NO
Does the facility have an operating license? (If yes, please attach a copy of the license.)	YES	NO
Facility name:		
Contact person:		
Postal		

address:	
	Postal code:
Telephone:	Cell:
E-mail:	Fax:

Describe the measures that was/will be taken to ensure the optimal reuse or recycling of waste water, if any:
N/A

(c) Emissions into the atmosphere

Did/does the activity produce emissions that will be disposed of into the atmosphere?	~~YES~~	**NO**
If yes, did/does it require approval in terms of relevant legislation? If yes, attach a copy to this application	~~YES~~	~~NO~~
Describe the emissions in terms of type and concentration and how it was/will be treated/mitigated:		
N/A		

(d) Describe any mitigation/management measures that were adopted and the adequacy of these:

There is very little in any, operational solid waste produced and there are no emissions associated with the vineyards that require mitigation measures. The harvested grapes are moved to another property where packaging is undertaken under controlled conditions for export.

2. WATER USE

(a) Please indicate the source(s) of water for the activity by crossing out ("☒") the appropriate box(es)

Municipal	**Water Board – Kakamas WUA & Boegoeberg WUA**	Groundwater	River, Stream, Dam or Lake	Other	The activity did/does not use water

If water was/is extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that was/is extracted per month:	
Water is required for the drip irrigation of the established vineyards, and is supplied via pipelines from the booster pump station and pump lines as shown on Appendix B. Kakamas North Settlement no 343 has water use rights of 60 hectares that were registered with the Kakamas Water Users Association. Water use for the property is currently above maximum allocation of 66.97 hectares. As part of this an application will therefore be lodged to DWS for additional 12ha of water that will be transferred from Portion 37 of Farm	**338850 m³/a**

Zeekoesteek no 9. within the CapeSpan company group. Note this is a transfer from the Boegoeberg WUA to the Kakamas WUA, find attached confirmation letters included in Appendix E1. Transfer and allocations as outlined below:

Property transferred from	Existing water rights - Ha	Ha transferred	Property transferred to	Existing water rights ha	New allocations
Portion 37 of Farm Zeekoesteek no 9.	50.2ha	12ha	Kakamas North Settlement no 343	60ha	12ha
TOTAL					72ha

Refer to Appendix E1 for existing water use rights and Appendix H2 for the WULA.

As part of the Water Use License Application the applicant will apply for Section 21(c) and (i) of the National Water Act for the streams that were diverted and crossed as part of the illegal establishment of vineyards. The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel flows directly towards the Orange River, however a series of structures and agricultural developments cut the system off from the Orange River
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, see Figure 6 (dark blue lines).

Please provide proof of assurance of water supply eg. letter of confirmation from Municipality/water user associations, yield of borehole etc.

Refer to Appendix E1 providing proof of the water use for Kakamas North Settlement no 343 from the Kakamas and Boegoeberg Water Users Association. Water is allocated from the Orange River

Did/does the activity require a water use permit / license from DWAF? If yes, attach a copy to this application	**YES**	NO

If yes, please submit the necessary application to Department of Water Affairs and Forestry and attach proof thereof to this application.
The WULA application is summarised for the following water usages:

(a) taking water from a water resource;	**[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.**
(i) altering the bed, banks, course or characteristics of a watercourse	**For the construction of agricultural areas across ephemeral streams/natural drainage areas.**

Find the WULA included in Appendix H2.

(b) Describe any mitigation/management measures that were adopted and the adequacy of these:

The pumps are selected to provide optimum delivery at minimum demand where water use is managed by applying drip irrigation. This is good agricultural practice. Included in the WULA are all the water related mitigation measures, as outlined as follows:

Water Uses	Potential Impact on	Proposed Mitigation Measures	Review of the adequacy of suggested mitigation measures
Section 21(a)	Impact on existing properties for transfer of water rights	Impact is deemed low negative • The listed properties are partially/fully planted. However, these properties have sufficient water allocated and for Uizip property the water was not sold as part of the property, therefore still owned by CapeSpan PTY Ltd. • No mitigation	No mitigation
	New irrigation areas associated with the additional water use rights	Low positive • 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	Mitigation measures adequate to ensure positive impact takes place.

		sensitive to the environment and report incidents such as leaking taps, broken irrigation systems, etc. • 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.	
Section 21 (c&i)	Water Quality	No impact on water quality, as construction will be conducted outside the rainfall season. • No flow from agricultural areas as storm water berms will be constructed as far as possible.	Mitigation measures adequate to ensure impacts are fully mitigated.
	Impeding and diverting flow within ephemeral streams.	Low negative • 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 management mitigation measures, outlined in the SWMP.	Mitigation measures adequate to ensure impacts are fully mitigated.
	Impact of the pipelines, pump station, across small streams to the development area.	• 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.	Mitigation measures adequate to ensure impacts are fully mitigated.

		• Care should be taken during maintenance of the pipelines and flow meters and the pump station at the Orange River. • During floods the floating jetty should be removed.	

The iWULA included in Appendix H2.

3. POWER SUPPLY

(a) Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source.

There is an existing Eskom power supply on Kakamas North Settlement no 341. The Eskom point is numbered BK196 and transformer number 8777326563.

Has the Municipality or relevant service provider confirmed that sufficient electricity capacity (i.e. generation, supply and transmission) exist for activity(ies)? If yes, provide written confirmation from Municipality or relevant service provider. **NOTE: Written confirmation will be sought during the public consultation phase.**	YES	NO

If power supply was/is not available, where was/is it sourced from?
Electricity is supplied by powerline to the cultivated areas from the existing grid.

(b) Describe any mitigation/management measures that were adopted and the adequacy of these:

The pumps utilized are selected based on their optimum delivery at minimum demand, and there are no other types of pumps available for this type of irrigation.

4. ENERGY EFFICIENCY

(a) Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The pumps utilized are selected based on their optimum delivery at minimum demand, and there are no other types of pumps available for this type of irrigation.

(b) Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Drip irrigation utilizes less energy (and water) than spray irrigation.

5. NOISE IMPACTS

(a) Did/does the activity result in any noise impacts?	~~YES~~	**NO**
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
N/A		

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential noise impact(s) of the activity/ies.

6. VISUAL IMPACTS

(a) Did/does the activity result in any visual impacts?	~~YES~~	**NO**
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
The property is situated away from the main roads and the surroundings are in line with agricultural activities and cultivation of vineyards. The project area does not create an unusual visual impact.		
(b) Did/does the activity result in potential lighting impacts at night?	~~YES~~	**NO**
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
N/A		
(c) Were/are there any alternatives available to address this impact?	~~YES~~	~~NO~~
If yes, please describe these alternatives?		
N/A		

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential visual impact(s) of the activity/ies.

7. SOCIO-ECONOMIC IMPLICATIONS OF THE ACTIVITY

(a) What was/is the expected capital value of the activity on completion?	**R4 530 500**	
(b) What was/is the expected yearly income or contribution to the economy that will be generated by or as a result of the activity?	**R962 556**	
(c) Did/does the activity contribute to service infrastructure?	~~YES~~	**NO**
(d) How many permanent new employment opportunities were created?	**176**	
(e) What was/is the expected current value of the employment opportunities to date?	**R735 322**	
(f) What percentage of this accrued to previously disadvantaged individuals?	**95%**	

How was (is) this (to be) ensured and monitored (please explain):
As far as possible select contractors using local labour.

8. PRELIMINARY IMPACT ASSESSMENT

Briefly describe the impacts (as appropriate), significance rating of impacts, mitigation and significance rating of impacts of the activity. This must include an assessment of the significance of all impacts. Please note: This is a preliminary impact statement. The Department may request specialist input/studies depending on the type and nature of the impact(s) of the activity/ies.

Possible Impacts	Significance rating of impacts after mitigation (Low, Medium, Medium-High, High, Very High):
Loss of indigenous vegetation	**Low negative**
Loss of non-perennial drainage lines	**Medium negative**
Water required for irrigation	**Medium negative**
Visual	**Low negative**
Noise	**Low negative**
Cultural	**None**
Employment creation	**Medium-High positive**
Production of table grapes for export market	**Medium-High positive**

REFER TO THE PRELIMINARY IMPACT RATING TABLES BELOW:

PRELIMINARY IMPACTS THAT RESULTED FROM THE CONSTRUCTION PHASE:

Impacts on geographical and physical aspects:	
Nature of impact:	**Removal of 19.8ha of disturbed indigenous vegetation (Bushmanland Arid Grassland rated as least threatened) on Kakamas North Settlement located within a CBA2 area.**
Extent and duration of impact:	**Local extent and Long term duration**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Low**
Degree to which the impact may cause irreplaceable loss of resources:	**Low**
Cumulative impact prior to mitigation:	**The conclusions made here have been made after the clearing of the vegetation which presents significant limitations. With those limitations in mind the general conclusions reached are that given the location of the site within a terrestrial Critical Biodiversity Area 2 and considering available information and evidence (disturbance regime, least threatened vegetation type etc.) the impact of the clearing for the vineyards is low negative. The rating would have been medium negative if the area was completely undisturbed prior to clearing, however the area was surrounded by agricultural development and as such heavily disturbed.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Degree to which the impact can be mitigated:	**None**
Proposed mitigation:	**No mitigation is available for the activity already which has already taken place.**
Cumulative impact post mitigation:	**Low**

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**

Impacts on geographical and physical aspects:	
Nature of impact:	**Loss of non-perennial drainage lines: Impeding the flow of water in a watercourse and altering the beds, banks, course and characteristics of the watercourses within the project area through cultivation of vineyards.**
Extent and duration of impact:	**Local extent and Long term duration**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Impact cannot be reversed.**
Degree to which the impact may cause irreplaceable loss of resources:	**Medium**
Cumulative impact prior to mitigation:	**Medium**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**Medium negative**
Degree to which the impact can be mitigated:	**None**
Proposed mitigation:	**No mitigation is available for the activity already which has already taken place. An Application will be lodged with DWS for Section 21 a, c and i.** **However, measures will be outlined in the SWMP for reducing any further future potential impacts.**
Cumulative impact post mitigation:	**Medium**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Medium negative**

Impacts on socio-economic aspects:	
Nature of impact:	**Job creation**
Extent and duration of impact:	**Local extent and short term duration is dependent of the lifespan of the agricultural activities (some will be long term and other will be seasonally linked).**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**The impact is positive**
Degree to which the impact may cause irreplaceable loss of resources:	**None**
Cumulative impact prior to mitigation:	**Job creation to local communities.**
Significance rating of impact prior to	**Medium negative prior to job creation**

mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	**The activity is mitigation**
Proposed mitigation:	**The activity is mitigation.**
Cumulative impact post mitigation:	**Job creation to local communities.**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Medium positive with job creation**

Impacts on cultural-historical aspects:	
Nature of impact:	**None**
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	**General noise associated with clearing of land.**
Extent and duration of impact:	**Local extent, long term duration.**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Low**
Degree to which the impact may cause irreplaceable loss of resources:	**None**
Cumulative impact prior to mitigation:	**Noise pollution of low impact, as area is agricultural with no adjacent neighbours in close proximity.** **The area falls within an agricultural active area and the impact will not be very big.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or	**Medium negative**

Very-High)	
Degree to which the impact can be mitigated:	**Low**
Proposed mitigation:	**Restrict working hours from 06:00 to 20:00. The area falls within an agricultural active area and the impact will not low due to lack of receptors (people).**
Cumulative impact post mitigation:	**Noise of short term duration during construction phase with negligible cumulative impact.**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**

Visual impacts / Sense of Place:	
Nature of impact:	**The removal of vegetation for the establishing of the vineyards.**
Extent and duration of impact:	**Local extent, Long term duration.**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Low**
Degree to which the impact may cause irreplaceable loss of resources:	**Medium**
Cumulative impact prior to mitigation:	**None, the cleared areas although visible to passing traffic from the main road would be temporary during construction phase.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Degree to which the impact can be mitigated:	**Low, the activity already took place.**
Proposed mitigation:	**None, the activity already took place**
Cumulative impact post mitigation:	**None, the cleared areas although visible to passing traffic from the main road would be temporary during construction phase.**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**

PRELIMINARY IMPACTS THAT RESULT FROM THE OPERATIONAL PHASE:

Impacts on the geographical and physical aspects:	
Nature of impact:	**Vegetation has been cleared for the vineyards, and drainage lines cultivated, therefore this impact is not rated further.**
Extent and duration of impact:	
Probability of occurrence:	

Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Impacts on the socio-economic aspects:	
Nature of impact:	**Job creation**
Extent and duration of impact:	**Local extent and duration is dependent of the lifespan of the agricultural activities (some will be long term and other will be seasonally linked).**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**The activity is positive**
Degree to which the impact may cause irreplaceable loss of resources:	**None**
Cumulative impact prior to mitigation:	**Additional job opportunities created for new agricultural activity.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**None**
Degree to which the impact can be mitigated:	**None**
Proposed mitigation:	**None, the activity is positive.**
Cumulative impact post mitigation:	**None**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**None**

Impacts on socio-economic aspects:	
Nature of impact:	**Financial income to CapeSpan and region.**
Extent and duration of impact:	**Region**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**None, the impact is positive.**

Degree to which the impact may cause irreplaceable loss of resources:	**None, the impact is positive.**
Cumulative impact prior to mitigation:	**Financial income to the company and the country by selling of produce nationally and internationally.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**None**
Degree to which the impact can be mitigated:	**None, the impact is positive.**
Proposed mitigation:	**None**
Cumulative impact post mitigation:	**Financial income to the company and the country by selling of produce nationally and internationally.**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**None**

Impacts on the cultural-historical aspects:	
Nature of impact:	**None**
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	**General noise associated with agricultural activities.**
Extent and duration of impact:	**Local extent, long term duration.**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Low**

Degree to which the impact may cause irreplaceable loss of resources:	**None**
Cumulative impact prior to mitigation:	**Localised noise pollution.** **The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**Medium negative**
Degree to which the impact can be mitigated:	**Low**
Proposed mitigation:	**The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting. No mitigation necessary.**
Cumulative impact post mitigation:	**The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting.**
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**

Visual impacts / Sense of Place:	
Nature of impact:	**The new vineyards have changed the sense of place, but the nature of impact is limited within the existing established agricultural landscape of the region.**
Extent and duration of impact:	**Local extent, Long term duration.**
Probability of occurrence:	**High**
Degree to which the impact can be reversed:	**Low**
Degree to which the impact may cause irreplaceable loss of resources:	**Medium**
Cumulative impact prior to mitigation:	**The new vineyards have changed the sense of place, but the nature of impact is limited within the existing established agricultural landscape of the region.**
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**
Degree to which the impact can be mitigated:	**Low, the activity already took place.**
Proposed mitigation:	**None, the activity already took place.**
Cumulative impact post mitigation:	**The new vineyards have changed the sense of place, but the nature of impact is limited**

	within the existing established agricultural landscape of the region.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	**Low negative**

IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE:

The agricultural activities will not be decommissioned in the near future and impacts associated with this phase have not been assessed.

Rehabilitation of the site would include the removal of all newly planted orchards to make way for the rehabilitation of the 55ha with indigenous vegetation present at surrounding areas. This would result in a major financial loss for the applicant as well as the loss of employment opportunities for employees currently working for the applicant. Water that would have been used for the vineyards would now have to be used to water the rehabilitated vegetation until the area is self-sustainable. The water rights are for irrigation only.

Not applicable

~~Potential impacts on the geographical and physical aspects:~~	
~~Nature of impact:~~	
~~Extent and duration of impact:~~	
~~Probability of occurrence:~~	
~~Degree to which the impact can be reversed:~~	
~~Degree to which the impact may cause irreplaceable loss of resources:~~	
~~Cumulative impact prior to mitigation:~~	
~~Significance rating of impact prior to mitigation (Low, Medium, Medium High, High, or Very High)~~	
~~Degree to which the impact can be mitigated:~~	
~~Proposed mitigation:~~	
~~Cumulative impact post mitigation:~~	
~~Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)~~	

~~Potential impact on biological aspects:~~	
~~Nature of impact:~~	
~~Extent and duration of impact:~~	
~~Probability of occurrence:~~	
~~Degree to which the impact can be reversed:~~	
~~Degree to which the impact may cause irreplaceable loss of resources:~~	
~~Cumulative impact prior to mitigation:~~	
~~Significance rating of impact prior to mitigation~~	

~~(Low, Medium, Medium-High, High, or Very-High)~~	
~~Degree to which the impact can be mitigated:~~	
~~Proposed mitigation:~~	
~~Cumulative impact post mitigation:~~	
~~Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)~~	

~~Potential impacts on the socio-economic aspects:~~	
~~Nature of impact:~~	
~~Extent and duration of impact:~~	
~~Probability of occurrence:~~	
~~Degree to which the impact can be reversed:~~	
~~Degree to which the impact may cause irreplaceable loss of resources:~~	
~~Cumulative impact prior to mitigation:~~	
~~Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)~~	
~~Degree to which the impact can be mitigated:~~	
~~Proposed mitigation:~~	
~~Cumulative impact post mitigation:~~	
~~Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)~~	

~~Potential impacts on the cultural-historical aspects:~~	
~~Nature of impact:~~	
~~Extent and duration of impact:~~	
~~Probability of occurrence:~~	
~~Degree to which the impact can be reversed:~~	
~~Degree to which the impact may cause irreplaceable loss of resources:~~	
~~Cumulative impact prior to mitigation:~~	
~~Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)~~	
~~Degree to which the impact can be mitigated:~~	
~~Proposed mitigation:~~	
~~Cumulative impact post mitigation:~~	
~~Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)~~	

~~Potential noise impacts:~~	
~~Nature of impact:~~	
~~Extent and duration of impact:~~	
~~Probability of occurrence:~~	
~~Degree to which the impact can be reversed:~~	
~~Degree to which the impact may cause irreplaceable loss of resources:~~	
~~Cumulative impact prior to mitigation:~~	
~~Significance rating of impact prior to mitigation~~	

(Low, Medium, Medium High, High, or Very High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Potential visual impacts:	
Nature of impact:	
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium High, High, or Very High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium High, High, or Very High)	

Any other impacts:

Potential impact:	
Nature of impact:	
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium High, High, or Very High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

ASSESSMENT CRITERIA:

The criteria for the description and assessment of environmental impacts were drawn from the National Environmental Management Act, 1998 (Act No.107 of 1998).

The level of detail was somewhat fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed it is necessary to establish a rating system, which is consistent throughout all criteria. For such purposes each aspect was assigned a value, ranging from 1-5, depending on its definition.

H-2.1 Potential Impact

This is an appraisal of the type of effect the proposed activity would have on the affected environmental component. Its description should include what is being affected and how it is being affected.

H-2.2 Extent

The physical and spatial scale of the impact is classified as:

Local

The impacted area extends only as far as the activity, e.g. a footprint.

Site

The impact could affect the whole, or a measurable portion of the site.

Regional

The impact could affect the area including the neighbouring erven, the transport routes and the adjoining towns.

H-2.3 Duration

The lifetime of the impact, which is measured in relation to the lifetime of the proposed base?

Short term

The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than any of the phases.

Medium term

The impact will last up to the end of the phases, where after it will be entirely negated.

Long term

The impact will continue or last for the entire operational lifetime of the Development, but will be mitigated by direct human action or by natural processes thereafter.

Permanent

This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

H-2.4 Intensity

The intensity of the impact is considered here by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. These are rated as:

Low

The impact alters the affected environment in such a way that the natural processes or functions are not affected.

Medium

The affected environment is altered, but functions and processes continue, albeit in a modified way.

High

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

H-2.5 Probability

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

Improbable

The possibility of the impact occurring is none, due either to the circumstances, design or experience.
Possible
The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
Likely
There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly Likely
It is most likely that the impacts will occur at some stage of the Development. Plans must be drawn up before carrying out the activity.
Definite
The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on.

H-2.7 Determination of Significance – With Mitigation

Significance is determined through a synthesis of impact characteristics. It is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. In this case the prediction refers to the foreseeable significance of the impact after the successful implementation of the suggested mitigation measures. Significance with mitigation is rated on the following scale:
No significance
The impact will be mitigated to the point where it is regarded to be insubstantial.
Low
The impact will be mitigated to the point where it is of limited importance.
Low to medium
The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.
Medium
Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
Medium to high
The impact is of great importance. Through implementing the correct mitigation measures the negative impacts will be reduced to acceptable levels.
High

The impact is of great importance. Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal. This could render the entire development option or entire project proposal unacceptable.

SECTION E: ALTERNATIVES

As part of this report, consideration must be given to alternatives that are/may have been possible had an environmental impact assessment been undertaken prior to the commencement of the activity. Please provide a detailed description of the alternatives (whether location, technology or environmental) that were/are possible in terms of this application.

Alternative 1: Removal of vegetation for cultivation of vineyards on Kakamas North Settlement no 343.

The applicant removed 19.8 ha of indigenous vegetation to establish vineyards for table grape cultivation for export, as shown in the Appendix B below as Figure 13 and 14:

Figure 13: Site Plan

As the activity has already taken place and rehabilitation will be too costly, this option is the only feasible and preferred alternative.

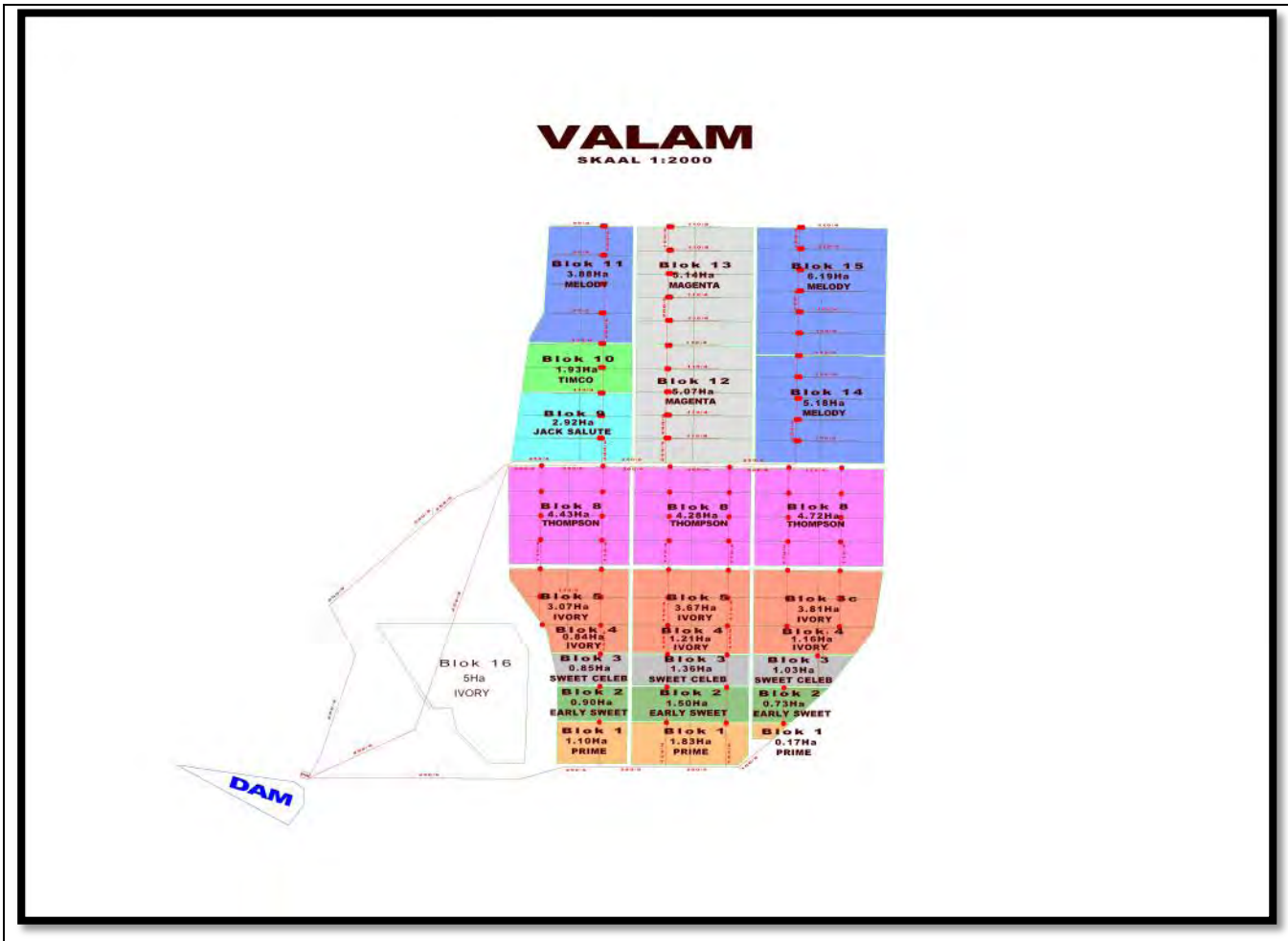


Figure 14: Site Layout plan

Alternative 2: Removal of vegetation for the cultivation of table grapes after obtaining environmental authorisation

Alternative 2 would have been the preferred alternative, by receiving environmental authorisation before any vegetation were removed.

This would have included comment and input from authorities and I&APs to design the best feasible alternative for the property.

No-Go Option

The No-Go Option would have meant that vegetation would not have been removed from the property. Not cultivation of the land would mean that there were no additional table grapes grown for export, with no associated employment creation, and an opportunity cost for the landowners with their land zoned for agricultural use. This would have resulted in no additional job opportunities for local communities and no income to the business and country's economy.

Rehabilitation of the site would include the removal of all newly planted orchards to make way for the rehabilitation of the 19.8ha with indigenous vegetation present at surrounding areas. This would result in a major financial loss for the applicant as well as the loss of employment opportunities for employees currently working for the

applicant. Water that would have been used for the vineyards would now have to be used to water the rehabilitated vegetation until the area is self-sustainable. Also taking into account that the area was surrounding by agricultural development and already heavily disturbed.

SECTION F: APPENDICES

The following appendices must be attached where appropriate:

Appendix	**Cross out ("☒") the box if Appendix is attached**
Appendix A: Location map	**X**
Appendix B: Site plan(s)	**X**
Appendix C: Owner(s) consent(s)	**N/A**
Appendix D: Photographs • **Appendix D1: Historic aerial photographs**	**X**
Appendix E: Permit(s) / license(s) from any other organ of state including service letters from the municipality • **Appendix E1: Irrigation rights from Kakamas Water Users Association** • **Appendix E2: Plough Certificate & Soil Science Report)**	**X**
Appendix F: Additional Impact Assessment Information • **Appendix F1: CBA 2 located on the property** • **Appendix F2: Public Participation**	**X**
Appendix G: Report on alternatives	**N/A**
Appendix H: Any Other (describe) • **Appendix H1: EMP** • **Appendix H2: Water Use License Application**	**X**

SECTION G: DECLARATIONS

G1: Declarations of the EAP

1. The Independent Environmental Assessment Practitioner

I, _____declare under oath that I –

a. act as the independent environmental assessment practitioner in this application ;
b. 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 Section 24G of the National Environmental Management Act, read together with the relevant Environmental Impact Assessment Regulations;
c. do not have and will not have a vested interest in the proposed activity proceeding;
d. have no, and will not engage in, conflicting interests in the undertaking of the activity;
e. undertake to disclose, to the competent authority, any material information that has 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 Section 24G of the National Environmental Management Act, read together with the Environmental Impact Assessment Regulations, 2006;
f. will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
g. will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
h. will keep a register of all interested and affected parties that participated in a public participation process; and
i. will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

_____
Signature of EAP

_____
Name of company

_____
Date

_____
Designation

Official stamp (below)
G2: Declarations of the Applicant

2. The Applicant

I, **Bernie Denton** declare under oath that I -

a. am the applicant in this application;
b. appointed the environmental assessment practitioner as indicated under **G1** above to act as the independent environmental assessment practitioner for this application;
c. will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
d. am responsible for complying with the directive or conditions of any environmental authorisation issued by the competent authority;
e. understand that I will be required to pay an administration fine in terms of section 24G(2) of the Act and that a decision in this regard will only be forthcoming after payment of such a fine;
f. hereby indemnify, the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible in terms of the Act; and

_____

Signature of Applicant

_____

Name of company

_____

Date

_____

Designation

_____

Commissioner of Oaths

_____

Signature

_____

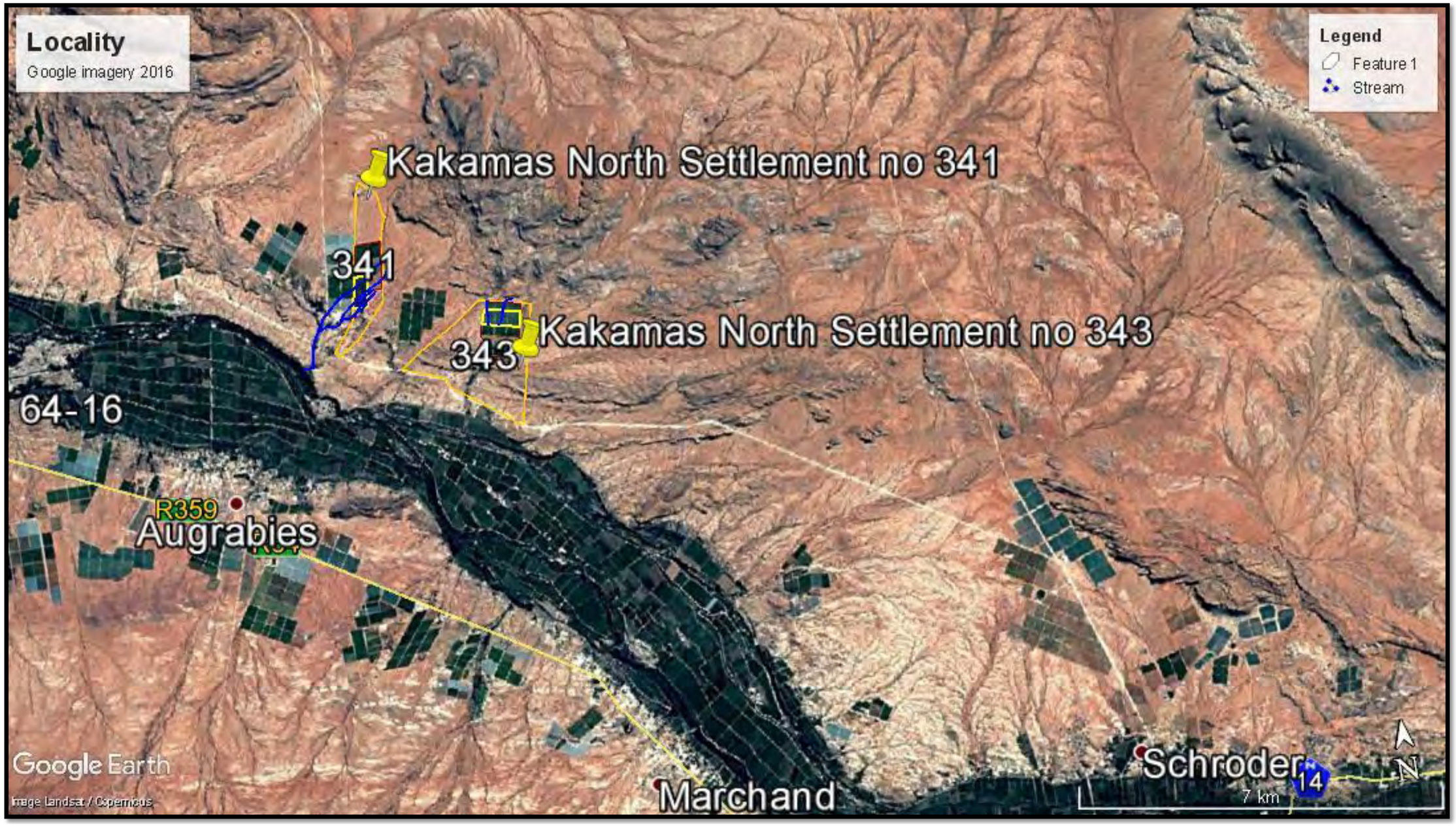
Date

_____

Designation

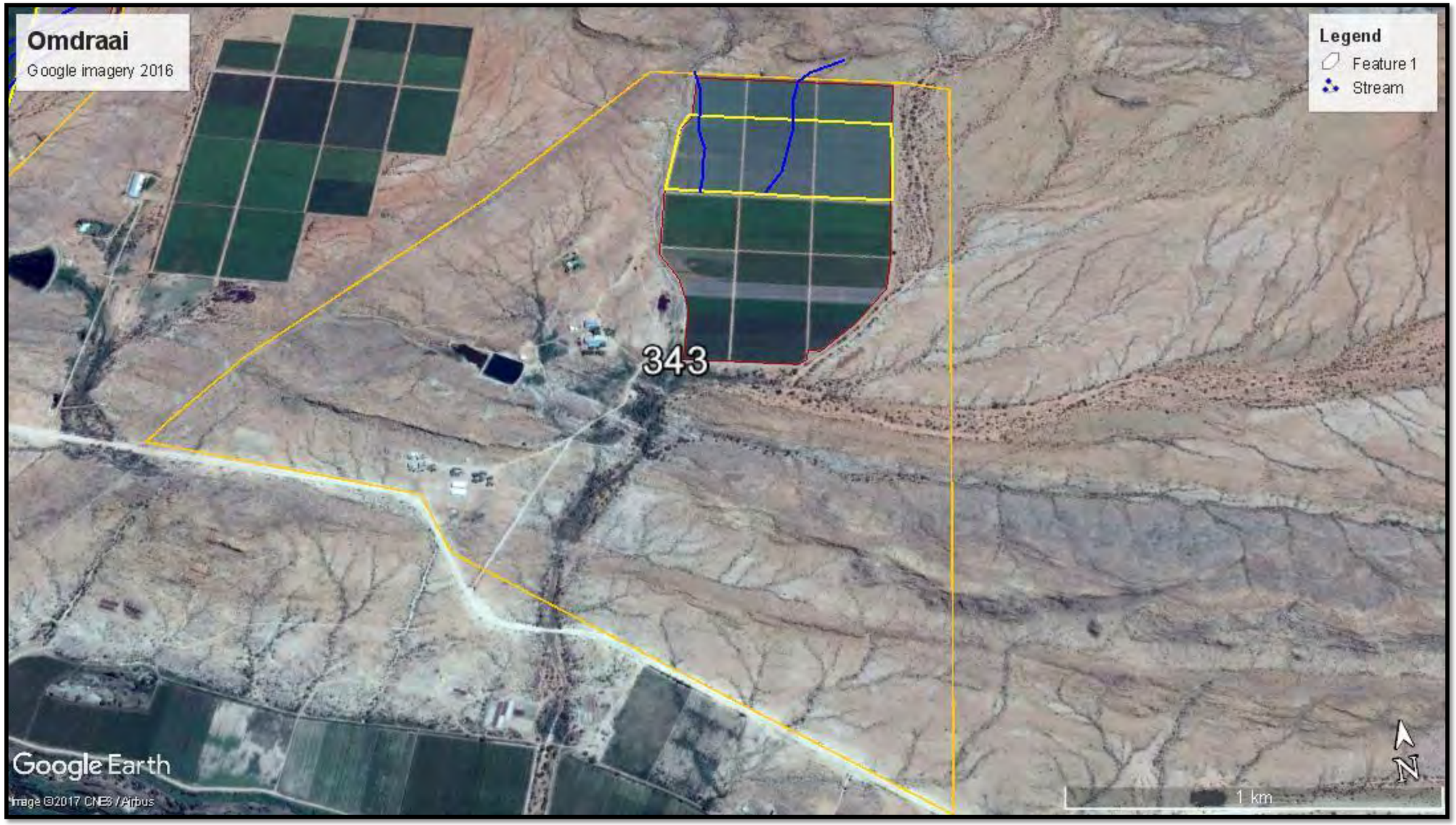
Official stamp(below)

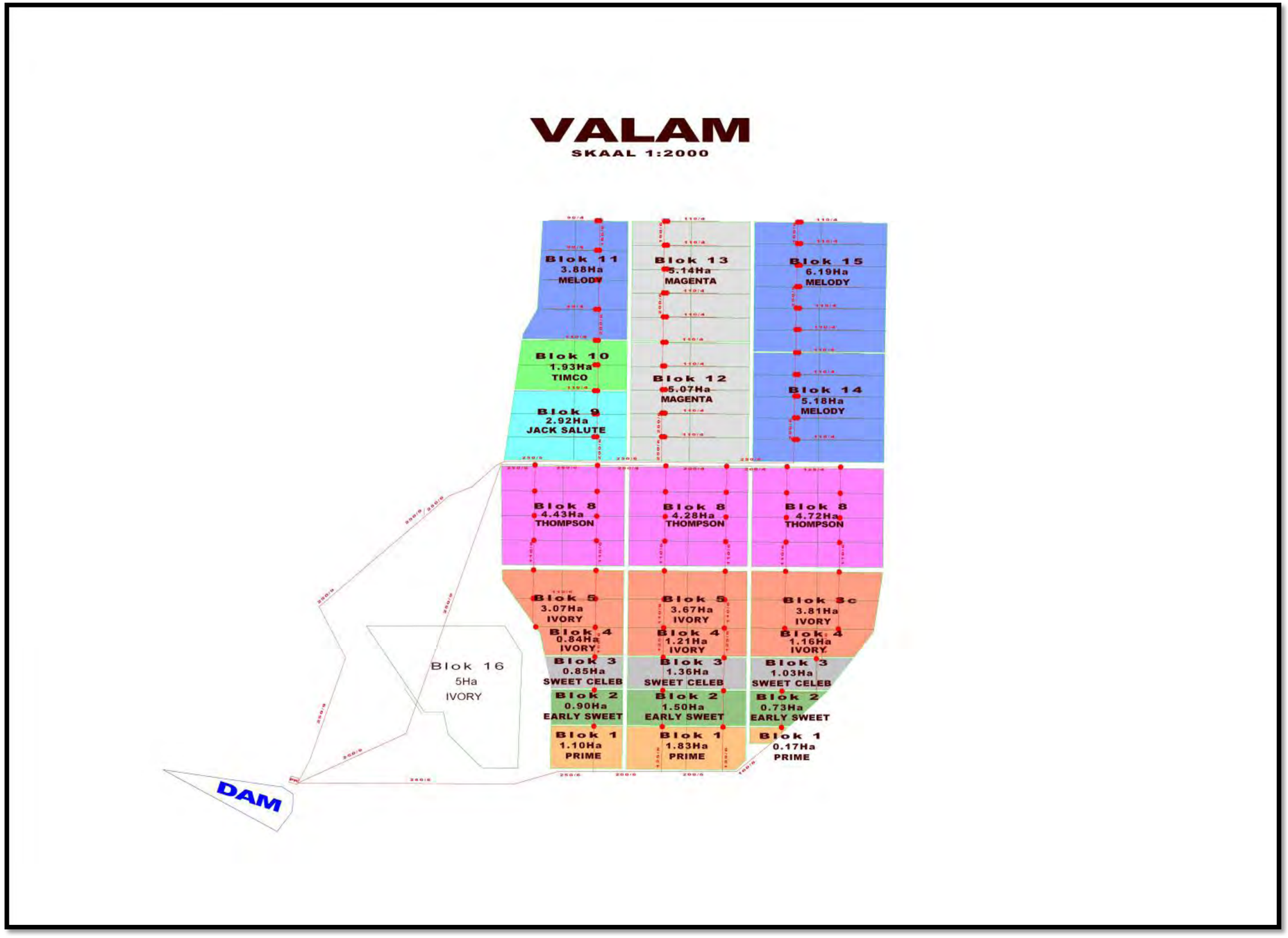
APPENDIX A: LOCALITY MAP



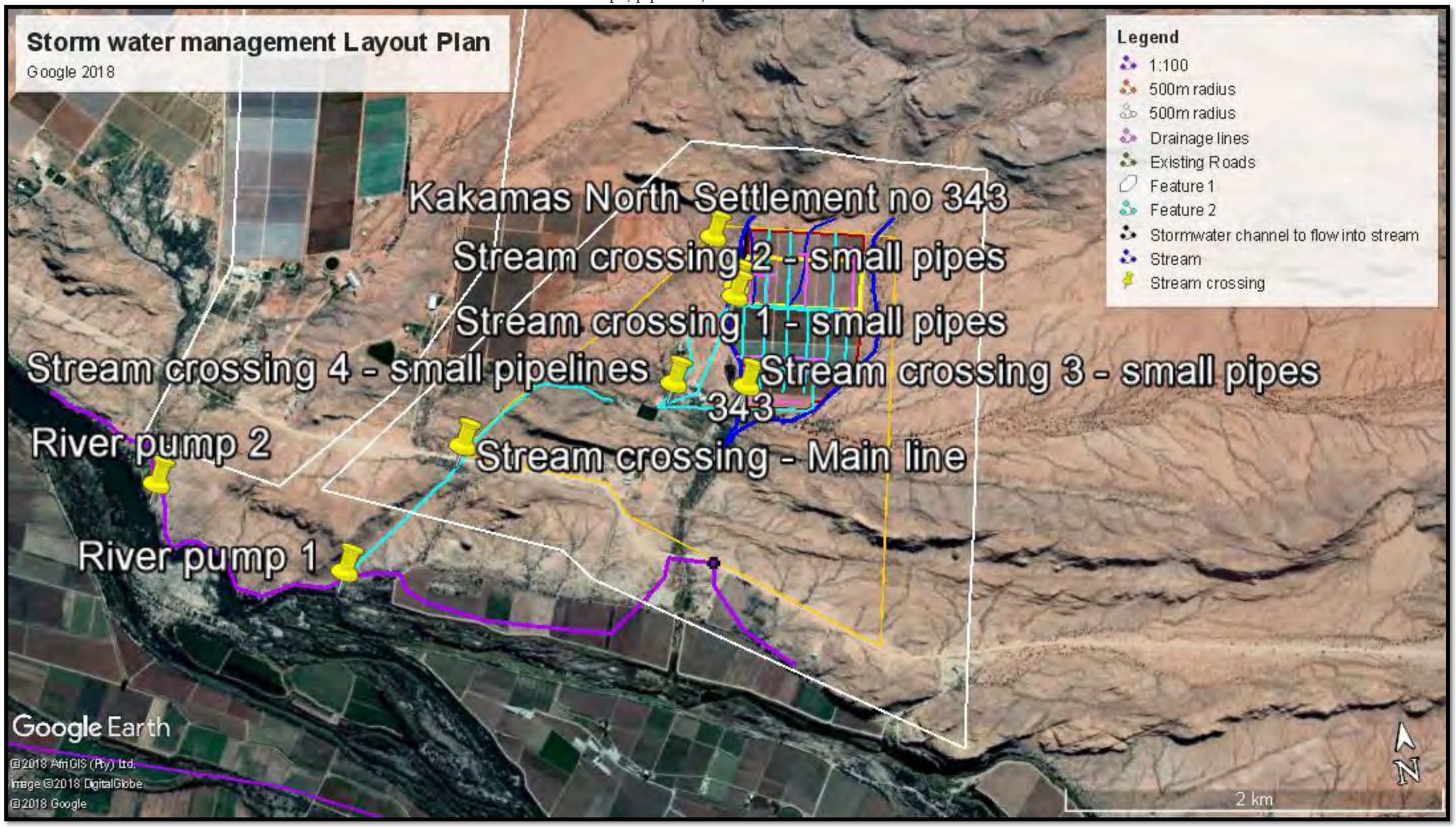
APPENDIX B: SITE PLANS

Google Earth Imagery of areas developed





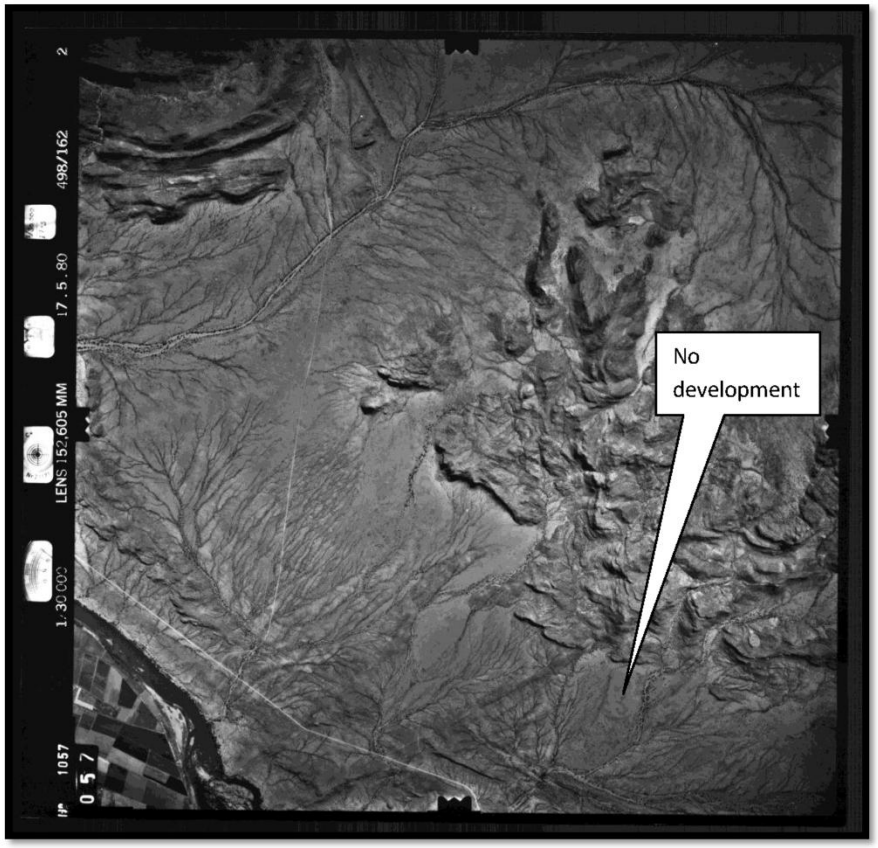
Site Plan - Block layout


Storm water management Layout Plan
Google 2018
Legend
1:100
500m radius
500m radius
Drainage lines
Existing Roads
Feature 1
Feature 2
Stormwater channel to flow into stream
Stream
Stream crossing
Kakamas North Settlement no 343
Stream crossing 2 - small pipes
Stream crossing 1 - small pipes
Stream crossing 4 - small pipelines
Stream crossing 3 - small pipes
343
River pump 2
Stream crossing - Main line
River pump 1
Google Earth
© 2018 AfriGIS (Pty) Ltd.
Image © 2018 DigitalGlobe
© 2018 Google
2 km
N

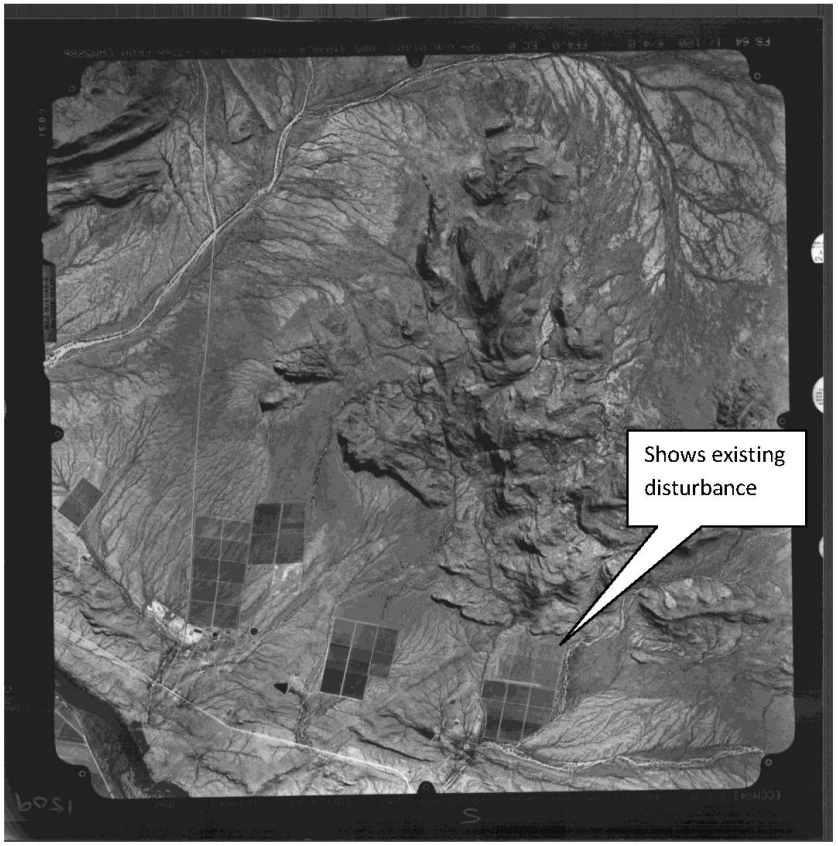
APPENDIX D: HISTORICAL PHOTOGRAPHIC IMAGERY

PHOTOGRAPIC SUMMARY REPORT OF HISTORICAL DATA:

Google imagery 1980

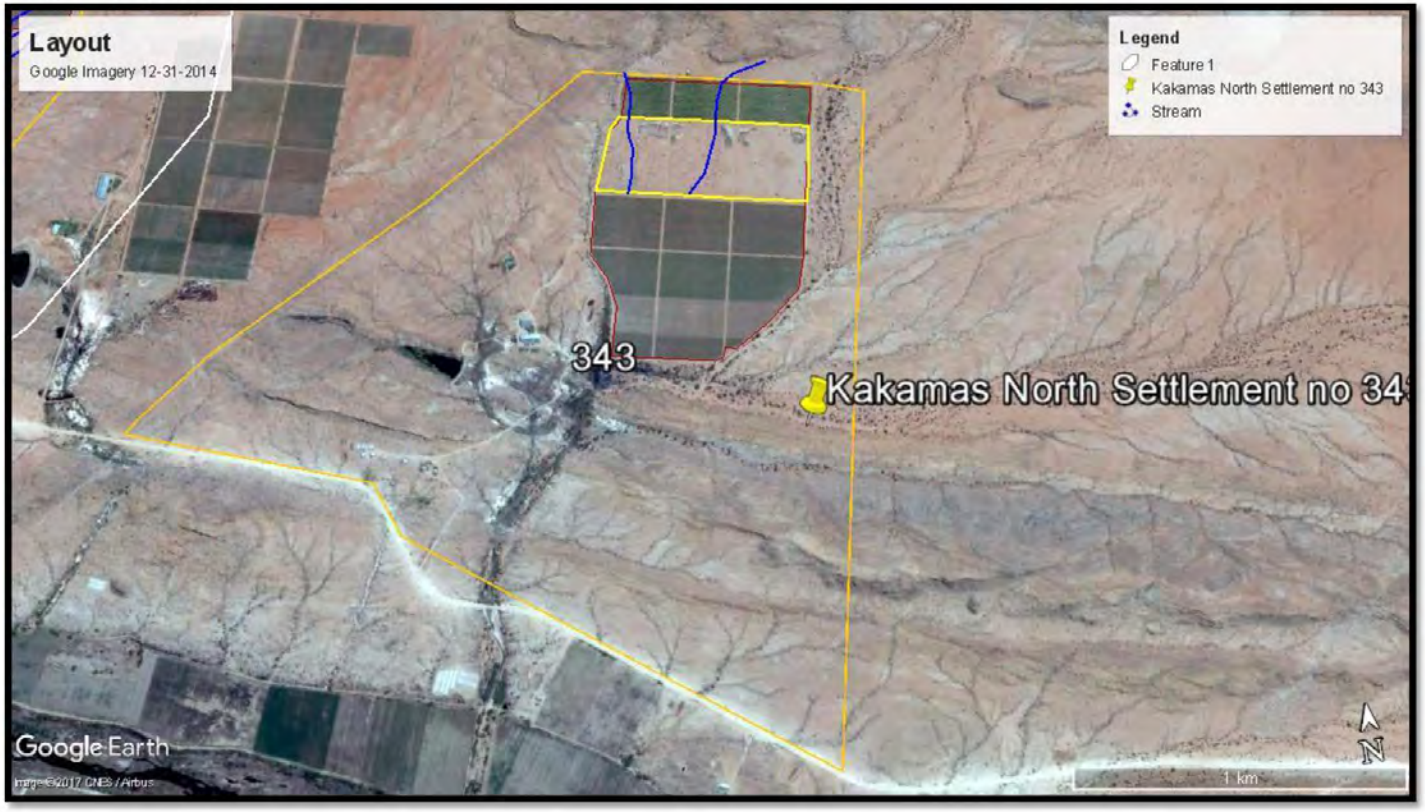


Google imagery 2001



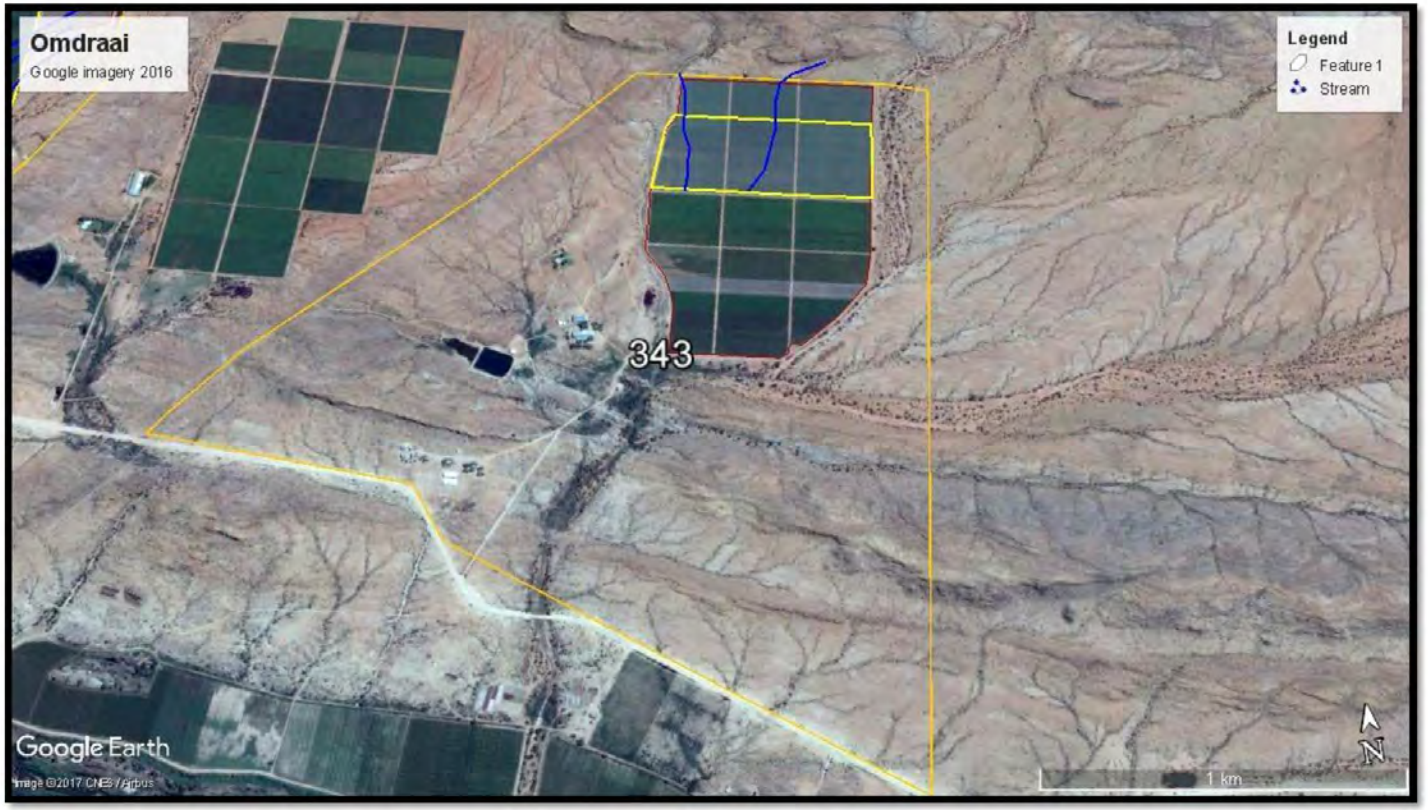
Evident above that the higher laying areas were already disturbed to a large scale impacting on the 19.8ha.

Google imagery 2014



Showing heavy disturbance across the stream from farming activities that took place in the higher blocks to the north.

Google imagery 2016



Showing the small streams that would have flowed down towards the unnamed tributary, that flows into the Orange River.

APPENDIX E1: IRRIGATION RIGHTS FROM KAKAMAS AND BOEGOEBERG WATER USERS ASSOCIATION

Kakamas

Watergebruikersvereniging
Water User's Association

Oosthuizenstraat
Privaatsak x4
Kakamas 8870

Oosthuizen Street
Private Bag x4
Kakamas 8870

Tel (054) 431 0725/6
Faks/Fax (054) 431 0348
E-Pos/e e Mail ceokwgv@isat.co.za

Mnr. G. van Niekerk

14 September 2017

473/D2/2/341, 473/D2/2/343

Oorkant Boerdery + Valam Boerdery(Edms) Bpk T/A Omdraai Boerdery
Posbus 21
Kakamas
8870

KAKAMAS WATERGEBRUIKERSVERENIGING. NAVRAAG MET BETREKKING TOT WATERGEBRUIKSREGTE OP PERSELE 341 EN 343 KAKAMAS – NOORD NEDERSETTING.

U e-pos gedateer 14 September 2017 het betrekking.

Onderstaande tabel toon gegewens soos deur u versoek. Die gegewens was ten tye van u navraag korrek maar sou u in die onlangse verlede aansoek gedoen het vir wysigings , kan dit wees dat die wysigings nog nie afgehandel is nie en sal dit ook nie as sodanig weergegee wees nie.

Perseelnommer	Maksimum moontlike hektare	Kanaal hektaar	Rivier hektaar
Kakamas – Noord 341	39.00	0.00	39.00
Kakamas – Noord 343	60.00	0.00	60.00
TOTAAL	**99.00**	**0.00**	**99.00**

(*) Geliewe kennis te neem dat die gebruiksreg van elke individuele eiendom as 'n volume (kubieke meter) teen elke eiendom , soos aangedui in bostaande tablel geregistreer is. Die geregistreerde volume van elke eiendom word dus bereken deur die aantal hectare te vermenigvuldig met die kwota van 15 000 m³ water per jaar.

Registrasie van bogemelde gebruiksregte uit die kanaal sowel as uit die rivier , soos in die tabel hierbo aangedui, is gedurende Oktober 2000 namens u geregistreer in terme van die Nasionale Waterwet (Wet 36 van 1998) soos gewysig. Geen verpligte lisensiëring is op hierdie stadium van toepassing nie , en slegs in die geval van permanente oordrag van gebruiksregte van een gedeelte grond na 'n ander gedeelte word die ontvanger eiendom gelisensieër.

Ek vertrou dat u die inligting in orde sal vind en sal graag meer besonderhede verskaf indien dit benodig word.

HOOF UITVOERENDE BEAMPTE

APPENDIX E2: PLOUGH CERTIFICATE & SOIL SCIENCE REPORT)

GRONDKUNDE VERSLAG : AANKOOP VAN WATERREGTE

AANSOEKER: CAPESPAN FARMS (Pty) Ltd TEL NO: 054-4310568

ADRES: Posbus 21, Kakamas, 8870

BESKRYWING: Plaas no 343 Kakamas- Noord (Omdraai)

TAAK STROOK FOTO NO

Sien Google Kaart

PROFIELGAT	GRONDVORM	EFFEKTIEWE DIEPTE	PERSENTASIE SLIK & KLEI	C HORISON	KOMMENTAAR OOR BESPROEIBAARHEID
Sien aangehegte verslag					

AFSTAND VAN RIVIER : 2.2 km

POMPHOOGTE: 42m

BESPROEIBARE OPP: 69.51 Ha

KOMMENTAAR : Grond is geskik vir besproeiing. Alhoeweldie dreinering baie goed is sal die eienaar verantwoordelik wees vir die ophef van enige versuip of brak toestande wat deur beplande uitbreiding mag ontstaan. Metode wat aanbeveel word vir Besproeiing is drup, mikro of meganies.

L & J Umhlabathi

Wildebeesstraat 19, Upington, 8800
Sel : 072 870 1565 email : lvdwalt1234@gmail.com

Soil science Report: Farm no 343 Kakamas-North (Omdraai)

Soil chemistry there is no problem that occurs in the soil. The potassium levels are very good in the upper soil, but tends to be low in the sub surface. Phosphate levels are exceptionally high in the upper soil. It must be kept in mind that the extension has already been cultivated. Calcium and Magnesium levels are high due to the soil formation, especially in the sub surface. Boron levels are low as can be expected in this area and it is recommended that fertilizer which contain boron should be used. The Ph levels in the soil are a bit high and care should be taken with the fertilizer program to ensure that the Ph status in the soil is kept under control. Although all the levels for most of the elements are unbalanced at this stage, it should easily be rectified with the fertiliser program.

No hard or impermeable layers occurs in the soil. The depth of the profiles varies between 2.0 and 3m. The resistance (ohms) in the soil are a bit low but drainage has already be installed, which will ensure good drainage. The natural slope of the land runs in the direction of the river and is very prominently supported by the natural water ways that run through the existing extension. Over the past few years the cultivation of table grapes have been done very successfully in this soil. It is my opinion that the specific soil is exceptionally suitable for the production of table grapes.

.....

L.D. van der Walt

B Tech Agriculture

Member of SSSSA

Specialize in soil classification, soil analyses and recommendations.

Lokalitietskets of fotostaat van lugfoto/ortofot waarop plaasgrense, opstal, toegangspaaie, waterlope, noordpyl en posisie van beplande handeling aangedui word.
Locality scketch or photostat of an aerial photo/ortophoto indicating farm boundries, farmstead, access roads, waterways north point and locality of proposed work.

SIEN AANGEHEGTE KAART

Verslag deur ondersoekbeampte: Dui asb aan of beskerming van land deur middel van grondbewaringswerke nodig is asook ander tersake inligting.
Report of investigating officer: Please indicate whether protection of land by means soil conservation works is necessary as well as other relevant information.

Gedeelte Besproeibaar

Moet oopgehou word oppervlakte dreinering

Kamp/Land no Camp/Land no	Grootte Size (ha)	Gronddiepte Soil depth (mm)	Grondvorm Soil form	Grondserie Soil series	Gemid. Helling van land. Ave slope of land %	Droëland bespr. Dry land/ irrigation
Sien aangehegte verslag						

....

Handtekening/Signature Kantoor/Office Datum/Date

Departement Landbou : Wes - Kaap
Privaatsak X1
Elsenburg
7607

Department Agriculture: Western - Cape
Private Bag X1
Elsenburg
7607

AGRICULTURE

ELSENBURG

GRONDONTLEDINGSVERSLAG
SOIL ANALYSIS REPORT
VIR/ FOR :

LD van der Walt

Posbus 1074

Upington

8800

U verwysing / Your reference	Valam
Verslagverwysing / Report reference :	PS-2018.05.024
Datum ontvang / Date received :	2018/05/22 06:14:06AM
Verslagdatum / Date reported :	2018/05/30

Ontledings en adviesdienste word met sorg uitgevoer volgens erkende prosedures en norme. Die diens word met wedersydse goedertrou gelewer volgens inligting en materiaal wat aangebied is en die resultate is dus slegs van toepassing op die monsters soos ontleed. Geen verantwoordelikheid kan dus aanvaar word vir enige verliese wat mag onstaan uit die gebruik van die gegewens nie.

Hierdie verslag mag slegs in totaliteit gereproduseer word indien geskrewe toestemming hiervoor verkry is vanaf die ontledingslaboratorium.

Analysis and recommendations are carried out with care and according to recognised methods and norms. The service is provided according to information and samples supplied and therefore the results relate to the samples tested only. No responsibility will be accepted for any loss which may occur as a result of the use of the recommendations or results.

This report shall not be reproduced except in full without the written approval of the testing laboratory.

Navrae in verband met ontledings / Enquiries regarding analysis :

Raynette Vergotine	Tel.: 021 - 808 5291
Switchboard	Tel.: 021 - 808 5111

GRONDONTLEDINGSBESONDERHEDE / SOIL ANALYSIS DETAILS :

Verslagverwysing / Report reference : PS-2018.05.024

Verslagdatum / Report date : 30/05/2018

Western Cape Government | BETTER TOGETHER

AGRICULTURE

Laboratoriumverwysingsnommer / Laboratory reference number:	PS/18/02406	
Monsterverwysing / Sample reference:	Valam 1 30	
Monstertipe / Sample type:	SOIL / GROND	
Monsterdiepte / Sample depth:		
pH(KCl)	7.6	-
Weerstand / Resistance	230	Ohms
Tekstuur / Texture	Loamy sand / Leem sand	-
Kalsium / Calcium	12.15	cmol(+)/kg
Magnesium	2.04	cmol(+)/kg
Kalium / Potassium	144	mg/kg
Natrium / Sodium	59	mg/kg
P (sitroensuur) / P (citric acid)	276	mg/kg
Totale katione / Total cations	14.82	cmol(+)/kg
Koper / Copper	3.98	mg/kg
Sink / Zinc	15.17	mg/kg
Mangaan / Manganese	46.64	mg/kg
Boor / Boron	0.22	mg/kg
Koolstof / Carbon	0.51	%
Swawel / Sulphur	140.00	mg/kg
Sand	87	%
Klei / Clay	7	%
Slik / Silt	6	%

GRONDONTLEDINGSBESONDERHEDE / SOIL ANALYSIS DETAILS :

Verslagverwysing / Report reference : PS-2018.05.024

Verslagdatum / Report date : 30/05/2018

Western Cape Government
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Laboratoriumverwysingsnommer / Laboratory reference number:	PS/18/02407	
Monsterverwysing / Sample reference:	Valam 1 60	
Monstertipe / Sample type:	SOIL / GROND	
Monsterdiepte / Sample depth:		
pH(KCl)	8.2	-
Weerstand / Resistance	340	Ohms
Tekstuur / Texture	Sandy loam / Sand leem	-
Kalsium / Calcium	51.11	cmol(+)/kg
Magnesium	3.25	cmol(+)/kg
Kalium / Potassium	112	mg/kg
Natrium / Sodium	40	mg/kg
P (sitroensuur) / P (citric acid)	75	mg/kg
Totale katione / Total cations	54.83	cmol(+)/kg
Koper / Copper	0.62	mg/kg
Sink / Zinc	0.56	mg/kg
Mangaan / Manganese	16.00	mg/kg
Boor / Boron	0.15	mg/kg
Koolstof / Carbon	0.11	%
Swawel / Sulphur	74.00	mg/kg
Sand	83	%
Klei / Clay	11	%
Slik / Silt	6	%

GRONDONTLEDINGSBESONDERHEDE / SOIL ANALYSIS DETAILS :

Verslagverwysing / Report reference : PS-2018.05.024

Verslagdatum / Report date : 30/05/2018

Western Cape Government
BETTER TOGETHER
AGRICULTURE

Laboratoriumverwysingsnommer / Laboratory reference number:	PS/18/02408	
Monsterverwysing / Sample reference:	Valam 3 30	
Monstertipe / Sample type:	SOIL / GROND	
Monsterdiepte / Sample depth:		
pH(KCl)	7.6	-
Weerstand / Resistance	260	Ohms
Tekstuur / Texture	Loamy sand / Leem sand	-
Kalsium / Calcium	12.03	cmol(+)/kg
Magnesium	3.18	cmol(+)/kg
Kalium / Potassium	152	mg/kg
Natrium / Sodium	31	mg/kg
P (sitroensuur) / P (citric acid)	236	mg/kg
Totale katione / Total cations	15.74	cmol(+)/kg
Koper / Copper	4.30	mg/kg
Sink / Zinc	8.26	mg/kg
Mangaan / Manganese	56.70	mg/kg
Boor / Boron	0.47	mg/kg
Koolstof / Carbon	0.34	%
Swawel / Sulphur	130.00	mg/kg
Sand	87	%
Klei / Clay	9	%
Slik / Silt	4	%

GRONDONTLEDINGSBESONDERHEDE / SOIL ANALYSIS DETAILS :

Verslagverwysing / Report reference : PS-2018.05.024

Verslagdatum / Report date : 30/05/2018

Western Cape Government
BETTER TOGETHER
AGRICULTURE

Laboratoriumverwysingsnommer / Laboratory reference number:	PS/18/02409	
Monsterverwysing / Sample reference:	Valam 3 60	
Monstertipe / Sample type:	SOIL / GROND	
Monsterdiepte / Sample depth:		
pH(KCl)	8.1	-
Weerstand / Resistance	480	Ohms
Tekstuur / Texture	Loamy sand / Leem sand	-
Kalsium / Calcium	18.61	cmol(+)/kg
Magnesium	3.28	cmol(+)/kg
Kalium / Potassium	69	mg/kg
Natrium / Sodium	73	mg/kg
P (sitroensuur) / P (citric acid)	67	mg/kg
Totale katione / Total cations	22.39	cmol(+)/kg
Koper / Copper	0.76	mg/kg
Sink / Zinc	0.61	mg/kg
Mangaan / Manganese	59.07	mg/kg
Boor / Boron	0.21	mg/kg
Koolstof / Carbon	0.09	%
Swawel / Sulphur	60.00	mg/kg
Sand	85	%
Klei / Clay	9	%
Slik / Silt	6	%

nms. Afdelings Hoof / pp Section Head _____

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Google Earth
© 2018 Google
© 2018 AfriGIS (Pty) Ltd.
Image © 2018 DigitalGlobe
1 km
N

APPENDIX F1: CBA 2 LOCATED ON THE PROPERTY

The green area indicates the Critical Biodiversity Area (sanbi/bgis.co.za)

Appendix F2.1: 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		Klim	WD	Kai Garib Municipality: Ward Councillor	054 431 6328	054 461 6401	mm@kaigarib.gov.za	Private Bag X6	Kakamas	8870	L
4		Toerien	N	Department of Agriculture and Land Reform and Rural Development				P. O. Box 52	Upington	8800	L
5		Towell	J	Department of Water Affairs	082 887 8866/ 054 338 5819		TowellJ@dws.gov.za	Private Bag X5912	Upington	8800	L
6		Tsimakwane	T	DENC: NC – 24G	0538077300	0538077328	ttsimakwane@ncpg.gov.za	Sasko Building, 90 Long street	Kimberley	8300	L
7		Geldenhuys	C	Nature Conservation Unit	027 718 9906	027 718 9907	The unit indicated comments will be requested by the case officer.				L
8		CEO		Boegoeberg Water Users Association	054 841 0002	054 841 0000	info@boegoebergwater.co.za	P. O. Box 15	Groblershoop	8850	L
9		CEO		Kakamas Water Users Association	054 431 0725/6	054 431 0348	kakamaswgv@isat.co.za	Private Bag X4	Kakamas	8870	
10		Mabuza	Thembisile	DAFF				P. O. Box 2303	Kimberley	8300	L
1	Remainder of Farm 299	Engels	Dr LG	Trollope Familie Trust			lgengels@mweb.co.za				
2	Erf 363	Koortzen	Rossouw	Lebad Trust	072 820 6350		koortzen@lantic.net				
3	Erf 347	Koortzen	Eric	Zwaardraai Landgoed CC	082 689 5224		zwaardraai@gmail.com				
4	Erf 346	Koortzen	Rossouw	Lebad Trust	072 820 6350		koortzen@lantic.net				
5	Erf 355	Nel	Hannes	Rooipad Boerdery (Pty) Ltd	082 494 9658		admin@rooipad.co.za				

	Erf no	Surname	Initials	Representing	Tel	Fax	email	Post Box	Town	Code	Reg
6	Erf 298	Koortzen	Eric	Zwaardraai Landgoed CC	082 689 5224		zwaardraai@gmail.com				

Appendix F2.2: Advertisements

Proof of advertisements for the AR.

Lekker luister stories vir seuns en dogters

Toe sy ouma word, kom stories in haar kop

GEMSBOK-UPINGTON: Vir sewe jaar loop Magda Olivier al met kinderstories in haar kop rond en in Desember 2017 is haar eie kinderboek, "Lekker luister stories vir seuns en dogters", by haar huis afgelewer.

Magda sê haar twee kleinkinders, Luhan (7 jr) en Werner (6 jr) was die aansporing vir haar stories. Sy het stories uitgedink vir die twee kleuters en dit later self geskryf en vir hulle voorgelees.

So sewe jaar terug, toe al haar kinders uit die huis is, het sy met mening begin skryf. Sy het ook al 'n liefdesverhaal geskryf wat sy nog aan skaaf.

Magda Olivier sit hier trots met haar eerste boek, "Lekker luister stories vir seuns en dogters", in haar hand.

Maar om terug te kom na die kinderstories ...

Sy het die stories op haar rekenaar gehou en af en toe daaraan geskaaf. Die kleinkinders het die stories baie geniet en dit het haar aangemoedig om meer stories te skryf en die boek uit te gee. Sy sê as sy skryf, "klim sy behoorlik in die kop" van die karakter wat sy skep. Sy leef haar in die storie in en dink wat die diertjie of karakter sou doen.

Haar dogter, Lynette Kruger, het eendag 'n storie van haar gelees wat nog nie klaar was nie en was baie nuuskierig hoe die storie sou eindig. Magda vertel dat Lynette die storie so geniet het en gesê het hoe goed dit was, dat dit haar ook aangemoedig het om verder te skryf.

Verlede jaar op Vrouedag (11 Augustus) het sy net besluit, tot hier toe en nie verder nie. Sy het toe begin om uitgewers vir die boek te soek. Dit opsigself was nie 'n maklike taak nie. Sy het haar telkens voor 'n muur vasgeloop, maar uiteindelik het sy by Nico Smit van NicActive Uitgewers uitgekom.

Saam het hulle twee besluit watter stories in die boek opgeneem moet word. Haar broer se dogter, Anél Fouché, het vir haar die illustrasies gedoen. Sy het ook 'n pluimpie by Nico gekry aangaande haar taalversorging. Baie min moes aan die stories se taalgebruik verander word.

Die stories in die boek is geskryf vir kinders van drie tot agt jaar. Dit is 'n lekker voorleesboek wat oupa en ouma vir hul kleinkinders kan voorlees. Kinders van agt jaar kan ook self die boek lees.

Stories wat in die boek opgeneem is, is o.a. Bennie se Beertjie raak weg, die ongelukkige hasie, die oulike Tuinkabouter, Taliena, die feetjie en die stout Muishond-tweeling.

Magda Olivier is 'n Namibiër van geboorte en sy het aan Hoërskool Wennie du Plessis in Gobabis matrikuleer. Magda is getroud met Hannes Olivier van JFR Trucking en hulle het drie kinders, André, Lynette Kruger en Johan.

Magda het nog baie stories in haar kop, dis werklik nie die laaste boek uit haar pen, wat nou verskyn het nie. Daarvoor het haar oorlede moeder gesorg. Sy sê as klein dogtertjie het haar ma baie moeite gedoen dat sy behoorlik kan lees en skryf. Sy het altyd vir haar woorde uitgeknip en gesorg dat dit vir Magda interessant is om te leer. Magda was op skool baie lief vir Tik en Afrikaans en het daarvan gehou om opstelle te skryf. Na skool het sy nie juis weer daaraan gedink nie, tot die kleinkinders opgedaag het – toe het die stories in haar gedagtes begin maal.

· Lekker luister stories vir seuns en dogters kos R90 en kan by Magda (082 2144 254) self gekoop word.

GEHOORPRAKTYK
Andra Bester Oudioloog

spesiale pryse op gehoorapparate tot einde Januarie
Skakel nou vir 'n afspraak
Gehoorpropkes (kinders en volwassenes)
Gehoorapparate Gehoorapparaat Batterye
Hulp met ,, huidige apparaat Gehoorbeskerming
Skakel vir n afspraak:
KATHU Tel: (053) 723-2279 Kamer 4, Lenmed Privaat Hospitaal
UPINGTON Tel: (054) 332-2564 Meipro Arcade, Scottstr 59

VELSKOEN
BYE- BOERDERY
Bye Korwe - R1000 stuk
500g Heuning - R50
1.4kg Heuning - R130
Byewas lyf en hande room - R70
Kontak Meiring
082 693 6668

Lumber City
UPINGTON - 054 337 0250
R769
Standaard kleure
20L Micatex
PLASCON

A.J. Bloem
083 956 2195
ELECTRICON
Elektriese instandhouding en installasies
Geakkrediteerde installeerder \vir Centurion hekmotors

UPINGTON RECYCLING
Saam maak ons die wêreld groener!
PET I HD I Karton I Koper
Brass I Batterye I Skroot Metale
Dit is nou tyd om jou ou LD film te ruil vir kontant!!
selfoon: 065 216 3020
e-pos: upingtonrecycling@gmail.com
Skakel ons gerus vir die beste pryse en diens in Upington!

Upington Alternators & Rewinds
CK 1996/033705/23 VAT 493 0159 720
Tel: 054 332 3561
E-pos: salesuar@gmail.com
Toekomsstraat 27 (Tussen Upington Trekkers en Zeico Commercial Vehicles.)
Ons herbedraad, herstel, verskaf en diens.
• Waterpompe • Enkelfasemotors • Driefasemotors
• Kragopwekkers • Transformators • Meganiese seëls
• Industriële elektries
WAAR ONS FAMILIE SORG VIR JOU FAMILIE

PUBLIC PARTICIPATION PROCESS/PUBLIEKE DEELNAME PROSES

Proposed rectification of the unlawful development of agricultural areas across small streams and the applications for transfer of water use rights from various properties to Portion 80 of Farm Orange Fall no 16 (Noudonsies), Kakamas North Settlement no 343 (Omdraai) and Kakamas North Settlement no 341 (Oorkant), Augrabies.

DENC Ref: 08/04/2017 (Noudonsies); S24G04/03/2017 (Omdraai) and S24G03/03/2017 (Oorkant)

This advertisement is for three separate S24G Applications and Water Use License Applications.

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 Requirments for Water Use Licence Applications and Appeals", dated 2017.

English:
The project is for the rectification of the development of agricultural areas across small streams and for the transfer of water rights to the following properties: Portion 80 of Farm Orange Fall no 16 (Noudonsies), Kakamas North Settlement no 343 (Omdraai) and Kakamas North Settlement no 341 (Oorkant). The subject properties are currently zoned Agriculture. More information of the developments will be available from the EAP as per the details provided below. This advertisement serves as notification of the availability of the Draft 24G Assessment Report (dAR) and Draft Environmental Management Programme (dEMPr), including the Water Use License Application (WULA). An application (WULA) is hereby made by CapeSpan PTY Ltd for the transfer of water between various properties within the Boegoeberg and Kakamas Water Users Associations. The reports can be accessed from the website, as indicated below.

Afrikaans:
Die projek is vir die regstelling van die ontwikkeling van landbou aktiwiteite oor klein stroompies asook vir die oorplasing van water-regte vanaf verskillende eiendomme na. Gedeelte 80 van die Plaas Orange Fall no 16 (Noudonsies), Kakamas Noord Nedersetting no 343 (Omdraai) en Kakamas Noord Nedersetting no 341 (Oorkant). 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 24G Assessseringsverslag, asook die konsep Omgewingsbestuursprogram, insluitend die Watergebruiklisensieaansoek (WGLA). Die aansoek (WGLA) word gemaak deur CapeSpan Edms Bpk vir oorplasing van water tussen verskeie eiendomme in die Boegoeberg en Kakakamas Watergebruikersrade. Die verslae kan bekom word vanaf die webtuiste, soos onder aangedui.

The public participation period to provide comments on the draft AR's and the WULA's are from 22 January 2018 until 22 February 2018. As per the activated listed activities below the proposed development initiated Basic Assessment and NEMA/EIA processes, however, this will all be dealt with under NEMA Section 24G Requirements. The following are applicable under the NEMA EIA Regulations and the National Water Act: Application 1: Portion 80 of Farm Orange Fall no 16:

NEMA 2010 GNR 544 of 2010 - Listing Notice 1: Activity 11, 18 GNR 544 of 2010 - Listing Notice 3: Activity 4, 12 and 13	NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12 and 19 GNR 984 of 2014 - Listing Notice 2: Activity 15 GNR 985 of 2014 - Listing Notice 3: Activity 4
In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.	
Application 2: Kakamas North Settlement no 343	
NEMA 2010 GNR 544 of 2010 - Listing Notice 1: Activity 12,19 and 27 GNR 544 of 2010 - Listing Notice 3: Activity 12 and 14	In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.
Application 3: Kakamas North Settlement no 341	
NEMA 2010 GNR 544 of 2010 - Listing Notice 1: Activity 11,18 GNR 544 of 2010 - Listing Notice 3: Activity 4, 12 and 13	In terms of the Water Use License Application, Sections 21 (a), (c) and (i) of the National Water Act are applicable.

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/or comment to the EAP or DWS before 17:00 on 22 February 2018.
Om te verseker dat u geidentifiseer is as 'n belanghebbende en geaffekteerde party, stuur asseblief u naam, kontakbesonderhede, gekose metode van korrespondensie, belangstelling en kommentaar in die saak aan die OBP en Waterwese, voor 17:00 op 22 February 2018.

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: elanie@africa.com. Website: www.pbpscon.co.za	**Department of Water and Sanitation (DWS/Waterwese)** Lower Orange Proto CMA Mnr Abe Abrahams Private Bag X6101 Kimberley 8300 Tel: 053 830 8800

PADONGELUKFONDS
IS U ONLANGS ERNSTIG BESEER IN 'N MOTORONGELUK OF HET U 'N GELIEFDE VERLOOR?
OF HET U ONLANGS U PADONGELUK-FONDS EIS DIREK MET DIE FONDS GESKIK?
KONTAK GERT NEL PROKUREURS BY 087 233 9188 VIR 'N GRATIS EVALU-ASIE VIR 'N MOONTLIKE EIS TEEN DIE PADONGELUKFONDS.
GERT NEL PROKUREURS
087 233 9188

Appendix F2.3: Notice Boards

Text for the site notice

PUBLIC PARTICIPATION PROCESS/PUBLIEKE DEELNAME PROSES

Proposed rectification of the unlawful development of agricultural areas across small streams and the applications for transfer of water use rights from various properties to Portion 80 of Farm Orange Fall no 16 (Noudonsies), Kakamas North Settlement no 343 (Omdraai) and Kakamas North Settlement no 341 (Oorkant), Augrabies.

DENC Ref: 08/04/2017 (Noudonsies); S24G04/03/2017 (Omdraai) and S24G03/03/2017 (Oorkant)

This advertisement is for three separate S24G Applications and Water Use License Applications.

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 project is for the rectification of the development of agricultural areas across small streams and for the transfer of water rights to the following properties: Portion 80 of Farm Orange Fall no 16 (Noudonsies), Kakamas North Settlement no 343 (Omdraai) and Kakamas North Settlement no 341 (Oorkant). The subject properties are currently zoned Agriculture. More information of the developments will be available from the EAP as per the details provided below. This advertisement serves as notification of the availability of the Draft 24G Assessment Report (dAR) and Draft Environmental Management Programme (dEMPr), including the Water Use License Application (WULA). An application (WULA) is hereby made by CapeSpan PTY Ltd for the transfer of water between various properties within the Boegoeberg and Kakamas Water Users Associations. The reports can be accessed from the website, as indicated below.

Afrikaans:

Die projek is vir die regstelling van die ontwikkeling van landbou aktiwiteite oor klein stroompies asook vir die oorplasing van water-regte vanaf verskillende eiendomme na. Gedeelte 80 van die Plaas Orange Fall no 16 (Noudonsies), Kakamas Noord Nedersetting no 343 (Omdraai) en Kakamas Noord Nedersetting no 341 (Oorkant). 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 24G Assesseringsverslag, asook die konsep Omgewingsbestuursprogram, insluitend die Watergebruiklisensieaansoek (WGLA). Die aansoek (WGLA) word gemaak deur CapeSpan Edms Bpk vir oorplasing van water tussen verskeie eiendomme in die Boegoeberg en Kakakamas Watergebruikersrade. Die verslae kan bekom word vanaf die webtuiste, soos onder aangedui.

The public participation period to provide comments on the draft AR's and the WULA's are from 22 January 2018 until 22 February 2018.
As per the activated listed activities below the proposed development initiated Basic Assessment and NEMA/EIA processes, however, this will all be dealt with under NEMA Section 24G Requirements. The following are applicable under the NEMA EIA Regulations and the National Water Act:

Application 1: Portion 80 of Farm Orange Fall no 16:

NEMA 2010 GNR 544 of 2010 - Listing Notice 1: Activity 11, 18 GNR 544 of 2010 - Listing Notice 3: Activity 4, 12 and 13	NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12 and 19 GNR 984 of 2014 - Listing Notice 2: Activity 15 GNR 985 of 2014 - Listing Notice 3: Activity 4
In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.	

Application 2: Kakamas North Settlement no 343

NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12, 19 and 27 GNR 985 of 2014 – Listing Notice 3: activity 12 and 14	In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.

Application 3: Kakamas North Settlement no 341

NEMA 2010 GNR 544 of 2010 - Listing Notice 1: Activity 11, 18 GNR 544 of 2010 - Listing Notice 3: Activity 4, 12 and 13	In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.
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/or comment to the EAP or DWS before 17:00 on 22 February 2018. **Om te verseker dat u geidentifiseer is as 'n belanghebbende en geaffekteerde party, stuur asseblief u naam, kontakbesonderhede, gekose metode van korrespondensie, belangstelling en kommentaar in die saak aan die OBP en Waterwese, voor 17:00 op 22 February 2018.**	
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: elanierm@iafrica.com Website: www.pbpscon.co.za	**Department of Water and Sanitation (DWS/Waterwese)** Lower Orange River Proto CMA Mnr. Abe Abrahams Private Bag X6101 Kimberley 8300 Tel: 053 830 8800

Proof of Notice Boards for AR

Appendix F2.4: Proof of notices

Proof of notices for AR.

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

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 365 ZA
CUSTOMER COPY 301028R

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

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 343 ZA
CUSTOMER COPY 301028R

WD Klim
Kai Garib Municipality: Ward Councillor
Private Bag X6
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 357 ZA
CUSTOMER COPY 301028R

N Toerien
Department of Agriculture and Land Reform and Rural Development
P. O. Box 52
Upington
8800

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 326 ZA
CUSTOMER COPY 301028R

J Towell
Department of Water Affairs
Private Bag X5912
Upington
8800

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 330 ZA
CUSTOMER COPY 301028R

T Tsimakwane
DENC: NC – 24G
Sasko Building, 90 Long street
Kimberley
8300

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 312 ZA
CUSTOMER COPY 301028R

C Geldenhuys
Nature Conservation Unit
N/A

CEO
Boegoeberg Water Users Association
P. O. Box 15
Groblershoop
8850

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 309 ZA
CUSTOMER COPY 301028R

CEO
Kakamas Water Users Association
Private Bag X4
Kakamas
8870

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 286 ZA
CUSTOMER COPY 301028R

Thembisile Mabuza
DAFF
P. O. Box 2303
Kimberley
8300

REGISTERED LETTER
(with a domestic insurance option)
ShareCall 0860 111 502 www.sapo.co.za
RC 068 425 290 ZA
CUSTOMER COPY 301028R

(9)

Customer Copy

19-01-2018

PBPS
P.O.Box 1058
WELLINGTON
7654

Wellington 7654
Post Office
19 JAN 2018
Folio No: 1

9/NEGC

Ondraai

Appendix F2.5: Notices

Notices sent to Authorities for AR.

PIETER BADENHORST PROFESSIONAL SERVICES CC

PO Box 1058
Wellington, 7654

DATE: 19 January 2018

REF: DENC Ref: S24G04/03/2017

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, Augrabies.

This letter serves as notification that the draft Assessment Report (dAR) and the Water Use License Application (WULA) is available for comment. Note these reports are available as part of the formal S24G process under National Environmental Management Act (NEMA) and the National Water Act (NWA). The public participation process will run from Monday 22 January 2018 until Thursday 22 February 2018.

Herewith, please find a copy of the draft Assessment Report, included is the WULA, for your consideration and comment.

As per the listed activities below the proposed development initiated a Section 24G process for a full EIA.

Note this letter also serves as notification of the Water Use License Application that will be submitted to DWS.

The following NEMA EIA listed activities and the National Water Act Activities that will be applied for:

NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12, 19 and 27 GNR 985 of 2014 – Listing Notice 3: activity 12 and 14	In terms of the Water Use License Application, 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

Kühn

Elanie Kühn
Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
P. O. Box 1058, Wellington, 7654
Cell: 076 584 0822
Email: elaniem@iafrica.com
Fax: 086 672 1916

Attached: Authorities list
dAR: 1 x hard copy

	Surname	Initials	Representing	Tel	Fax	email	Postbox	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 Councilor Ward 2	054 431 6328	054 461 6401	mm@kaigarib.gov.za	Private Bag X6	Kakamas	8870	L
3	Klim	WD	Kai Garib Municipality: Ward Councilor	054 431 6328	054 461 6401	mm@kaigarib.gov.za	Private Bag X6	Kakamas	8870	L
4	Toerien	N	Department of Agriculture and Land Reform and Rural Development				P. O. Box 52	Upington	8800	L
5	Towell	J	Department of Water Affairs	082 887 8866/ 054 338 5819		TowellJ@dws.gov.za	Private Bag X5912	Upington	8800	L
6	Tsimakwane	T	DENC: NC – 24G	0538077300	0538077328	ttsimakwane@ncpg.gov.za	Sasko Building, 90 Long street	Kimberley	8300	L
7	Geldenhuys	C	Nature Conservation Unit	027 718 9906	027 718 9907	The unit indicated comments will be requested by the case officer.				L
8	CEO		Boegoeberg Water Users Association	054 841 0002	054 841 0000	info@boegoebergwater.co .za	P. O. Box 15	Groblershoop	8850	L
9	CEO		Kakamas Water Users Association	054 431 0725/6	054 431 0348	kakamaswgv@isat.co.za	Private Bag X4	Kakamas	8870	
10	Mabuza	Thembi sile	DAFF				P. O. Box 2303	Kimberley	8300	L

Notices sent to I&APs for AR.

PIETER BADENHORST PROFESSIONAL SERVICES CC

PO Box 1058
Wellington, 7654

DATE: 19 January 2018

REF: DENC Ref: S24G04/03/2017

Dear Interested and Affected Party (Owners and Tenants)

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, Augrabies.

This letter serves as notification that the draft Assessment Report (dAR) and the Water Use License Application (WULA) is available for comment. Note these reports are available as part of the formal S24G process under National Environmental Management Act (NEMA) and the National Water Act (DWA). The public participation process will run from Monday 22 January 2018 until Thursday 22 February 2018.

Herewith, please find a short Summary Report for your consideration and comment. A copy of the dAR is also available on the website www.pbpscon.co.za (Projects/Downloads/S24G Assessment Reports) and (Projects/Downloads/Water Use License Applications). Herewith, please find a copy of the draft Assessment Report, included is the WULA, for your consideration and comment.

As per the listed activities below the proposed development initiated a Section 24G process for a full EIA. Note this letter also serves as notification of the Water Use License Application that will be submitted to DWS.

The following NEMA EIA listed activities and the National Water Act Activities that will be applied for:

NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12, 19 and 27 GNR 985 of 2014 – Listing Notice 3: activity 12 and 14	In terms of the Water Use License Application, 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

Kühn

Elanie Kühn
Pieter Badenhorst Professional Services
Environmental Assessment Practitioner
P. O. Box 1058, Wellington, 7654
Cell: 076 584 0822
Email: elaniem@iafrica.com
Fax: 086 672 1916

Attached: Summary

SUMMARY

Locality:

The proposed development is situated approximately 6 kilometers outside of the small town of Augrabies in the Northern Cape, in the Kai! Garib Municipal area. Refer to the Locality Plan inserted below as Figure 1.

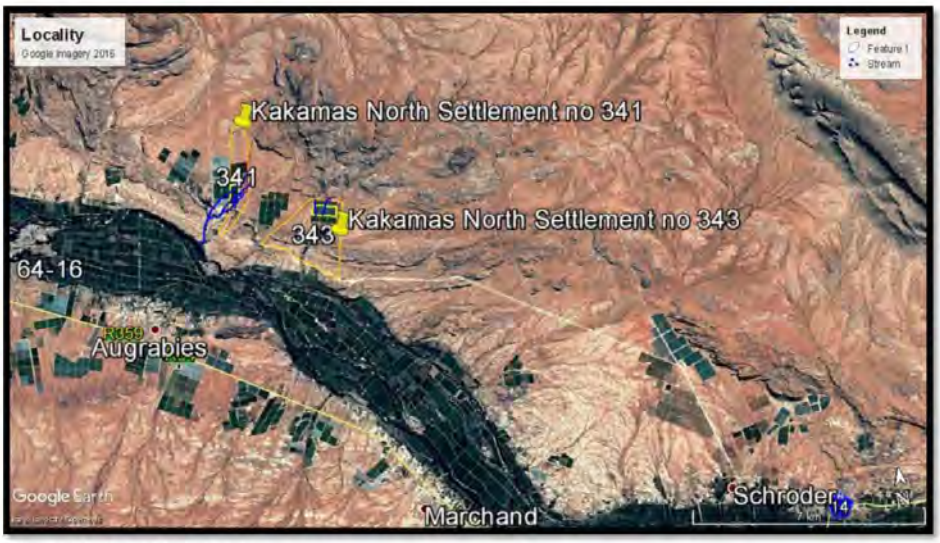

Figure 1: Locality plan

Proposed development:

The proposed development consisted out of the following activities that triggered NEMA 2014 Regulations:

NEMA 2014:

1. Clearance of approximately 19.8 hectares of indigenous vegetation between in 2015, also the clearing within a watercourse. (Refer to Figure 2 and 3).
2. Construction of pipelines and roads (infrastructure) as part of the clearance of the 19.8 hectares of indigenous vegetation.

By end 2015, a total of 19.8 hectares had been cleared and planted (Figure 3).

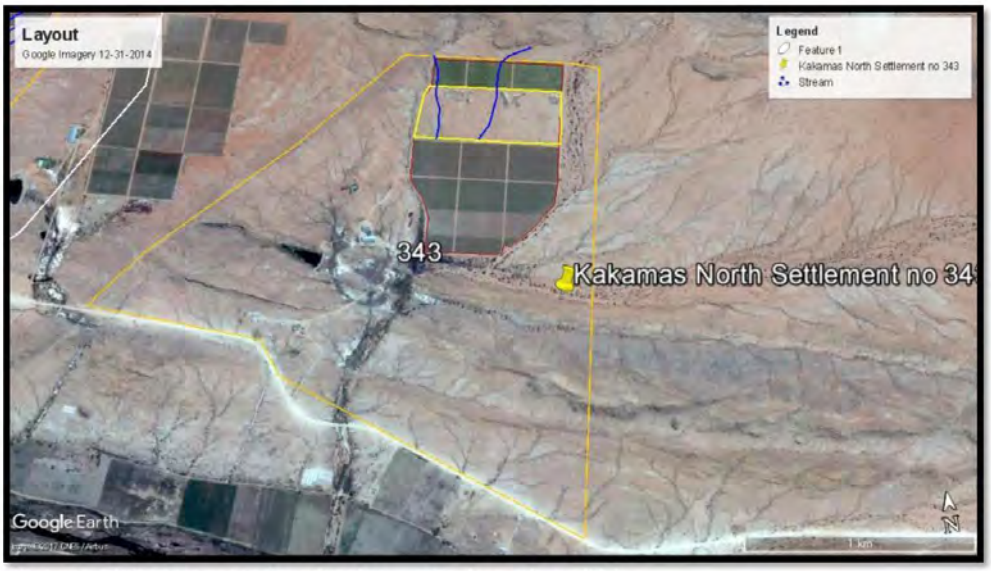

Figure 2: Prior to vegetation clearing on 12 December 2014.

As shown in Figure 3, these areas were under cultivation of vineyards for table grapes by 2016. Access tracks were constructed within the cultivated area to facilitate the farming activities.

Figure 3: Vegetation clearing complete December 2016.

No further agricultural activities are required within the project area comprising the 24G application.

Roads:
Access is gained off a gravel road that links with the district road to Schroder off the N14. The internal farm tracks are not surfaced, and are compacted earth with no formal storm water management control structures in place. The low rainfall characteristic of the area negates the need to provide for storm water control.

Water Use License Application:
The WULA application is summarised for the following water usages:

(a) taking water from a water resource;	[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.
(i) altering the bed, banks, course or characteristics of a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas.

Water is required for the drip irrigation of the established vineyards, and is supplied via pipelines from the booster pump station and pump. Kakamas North Settlement no 343 has water use rights of 60 hectares that were registered with the Kakamas Water Users Association. Water use for the property is currently above maximum allocation of 66.97 hectares. As part of this an application will therefore be lodged to DWS for additional 12ha of water that will be transferred from Portion 37 of Farm Zeekoesteek no 9 within the CapeSpan company group. Note this is a transfer from the Boegoeberg WUA to the Kakamas WUA. Transfer and allocations as outlined below:

Property transferred from	Existing water rights - Ha	Ha transferred	Property transferred to	Existing water rights ha	New allocations
Portion 37 of Farm Zeekoesteek no 9.	50.2ha	12ha	Kakamas North Settlement no 343	60ha	12ha
TOTAL					72ha

As part of the Water Use License Application the applicant will apply for Section 21(c) and (i) of the National Water Act for the streams that were diverted and crossed as part of the illegal establishment of vineyards. The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across

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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel flows directly towards the Orange River, however a series of structures and agricultural developments cut the system off from the Orange River
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, see Figure 4 (dark blue lines).

Figure 4: Ephemeral streams/drainage areas

Electricity:
Electricity is provided for the irrigation process and is linked to the booster pump.

Process and Public Participation:
This summary and notices serves as notification of the availability of the Draft 24G Assessment Report (dAR) and Draft Environmental Management Programme (dEMPr), including the Water Use License Application (WULA). An application (WULA) is hereby made by CapeSpan PTY Ltd for the transfer of water between various properties within the Boegoeberg and Kakamas Water Users Associations.
As per the activated listed activities below the proposed development initiated Basic Assessment and NEMA/EIA processes, however, this will all be dealt with under NEMA Section 24G Requirements.

Applicable NEMA Regulations:

NEMA 2014 GNR 983 of 2014 - Listing Notice 1: Activity 12, 19 and 27	In terms of the Water Use License Application, Sections 21 (a); (c) and (i) of the National Water Act are applicable.

GNR 985 of 2014 – Listing Notice 3: activity 12 and 14	

The public participation period for the public and authorities to provide comments on the draft AR and the WULA is from 22 January 2018 until 22 February 2018.

The reports can be accessed from the website, as follows:

Website: www.pbpscon.co.za

1. Draft AR(Projects/Downloads/S24G Assessment Reports).
2. WULA (Projects/Downloads/Water Use License Applications)

Appendix F2.6: Comments received from DENC

No comments received.

Appendix F2.7: Comments and responses sheet

COMMENTS ON DRAFT ASSESSMENT REPORT				
Date	Comments from	Comments received	Response from	Response received
19-04-2018	Department of Water and Sanitation – Section 21 c and I unit	Recommendations 3.1 Instream Water Use (IWU) does not recommend issuance of the water use licence. This application will be considered again after submission of the following: 3.1.1. Master layout plan must be updated to indicate all activities and associated infrastructure in relation to all watercourses, 1: 100 year floodline for at least the Orange River and buffer zones. Furthermore, the position of the abstraction and associated infrastructure (pipelines, powerline, etc.) must be clearly shown. 3.1.2. Storm water management layout drawing must be submitted. 3.1.3. Method statement and designs of the abstraction structure and associated infrastructure. 3.1.4. All structures and infrastructure that will be situated within 1:100 year floodline must be protected against 1: 1 00 flood events and also not obstrucUimpede flow that can cause erosion/damage. 3.1.5. Environmental impact assessment for all activities affecting watercourses must be submitted with the risk matrix. Please note that it must pay attention to amongst others characteristics of the watercourse and proposed mitigation measures. 3.1.6. Indicate if the pipelines that are used to transport water from the abstraction point to the vineyards are crossing any watercourses. If they are, submit the following: 3.1.6.1. Method statement and designs. 3.1.6.2. Impact assessment and mitigation measures. 3.1.7. Flow meters must be equipped on the pipelines. 3.1.8. The applicant must ensure that: 3.1.8.1. Ephemeral flow is not impeded and/or obstructed on the western and eastern boundaries of the property. 3.1.8.2. Occasional run off to be dispersed in the vine yard. 3.1.8.3. Ephemeral flow is impacted at the dam through a road , no formal drainage line and rubble disposed in the depression. This must be addressed through reshaping of the road and topography around the dam. The rubble can be used in this process as it consists of soil and rocks.		"3.1 Instream Water Use (IWU) does not recommend issuance of the water use licence. This application will be considered again after submission of the following: 3.1.1. [Find attached a layout indicating the 1:100 year floodline. Note this is a prediction/estimation from historic information provided by the applicant. Also included is the DWS flood peak points. Note the infrastructure is all existing constructed in the 1980's and purchased by the applicant.] 3.1.2 [Find attached the updated Storm Water Management Plan] 3.1.3. [Find attached the updated Storm Water Management Plan a design for the abstraction structure, please note that these pumps, the jetty and the pipelines are existing and constructed prior to 1980's, therefore do not form part of this WULA application.] 3.1.4. [Find attached the updated Storm Water Management Plan and see point 3.1.1.] 3.1.5. [Find attached the S24G Assessment Report for your consideration and the updated Risk Matrix.] 3.1.6. Indicate if the pipelines that are used to transport water from the abstraction point to the vineyards are crossing any watercourses. If they are, submit the following: 3.1.6.1. and 3.1.6.2..[Find attached the updated Storm Water Management Plan] 3.1 .7.[Find attached the updated Storm Water Management Plan] 3.1.8.1. [Find attached the updated Storm Water Management Plan] 3.1.8.2. [Find attached the updated Storm Water Management Plan – drainage pipelines indicated in the storm water management layout plan] 3.1.8.3. [Please note this issue is for Kakamas South Settlement no 341 (Oorkant) and was addressed in that documentation, this was discussed on site.]

05-04-2018	SAHRA – Natasha Higgit	Interim Comment The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit requests that a report conducted in terms of section 38(3) of the NHRA be submitted for comment as per section 38(8) of the NHRA as part of the S24G process. The heritage assessment must assess all heritage resources as defined in section 3 of the NHRA that would have been present before the cultivation of the vineyard. Further comments will be issued upon receipt of the above.	PBPS	The Report referred to in the summary in the Section 24G Report was submitted 17-04-2018. A response is awaited.
08-06-2018	SAHRA – Natasha Higgit	The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit does not accept the AIA or PIA submitted to the case, as the current application has not been assessed. SAHRA cannot endorse this application and advises the Northern Cape Department of Environmental and Nature Conservation (DENC) to reject the 24G application to rectify cultivation of 15 ha of vineyards across small streams on Kakamas North Settlement 341, Augrabies, Northern Cape Province (DENC Ref: S24G 03/03/2017). This comment must be forwarded directly to the competent authorities and proof of the submission and receipt thereof must be provided to SAHRA.	PBPS	Thank you for your response. However, we are very surprised with the response and find it respectfully unacceptable because that is not what we have discussed previously and the decision that was being awaited. It seems there is a serious misunderstanding. Herewith, please find previous communications and background in order to resolve this. These farms were developed previously and thus the areas are already completely transformed and developed. To correct the unlawful actions, processes are now underway to apply for the relevant authorisations. In you interim comments, dated 05 April 2018 you requested the following: *"The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit requests that a report conducted in terms of section 38(3) of the NHRA be submitted for comment as per section 38(8) of the NHRA as part of the S24G process. The heritage assessment must assess all heritage resources as defined in section 3 of the NHRA that would have been present before the cultivation of the vineyard."* After the above comment, an email correspondence was sent via Mnr Jonathan Kaplan and Mnr Pieter Badenhorst to setup a meeting to discuss the relevance of the said Heritage Report. Your email dated 16 April 2018, you stated the following: *"I have discussed this with Phillip, and we believe there is no need for a meeting as the 24G Report submitted for these three cases references an assessment conducted by an archaeologist (see page 32). This is the HIA I was referring to in my comment. Please submit that report so that SAHRA can provide a comment in terms of section 38(8) of the NHRA."* On page 32 of the S24G Report, reference was made to a previous study conducted in the area, indicating what is normally found, but did not specifically reference the Capespan sites. In the response on page 32 the following was also clearly stated: *"No further studies are required. However, the site has entirely been transformed with agricultural activities and therefore possibility of any further finds is scarce."*

				The study referred to was by Jonathan Kaplan for another site, and not that of Capespan. It was just a reference to what could possibly be found and not a study on the site, hence, the request for a meeting to discuss the issue. It was Jonathan's opinion that he would not find any additional to what he is aware of. From your response to our request for a meeting we understood that you will assess the report and then make a decision on whether you accept Jonathan' recommendation or whether you would require a specific study for the three farms. I contacted you on 28 May 2018 re your response on the report submitted (emailed on 17-04-2018) on which you request that the report be uploaded on the 28 May 2018. Again we were awaiting a response on whether the report for adjacent sites would be sufficient as per Jonathan's recommendation or whether you require a new study. Can you please revisit your response in the light of our previous agreement so that we can confirm to the client that a new study is required.
			ACRM – Mr Jonathan Kaplan	Please note the following: • The affected landholdings are already irrevocably transformed as a result of more than 10 years of vineyard production (refer to Figure 2). • It is considered highly unlikely that any significant archaeological heritage will be present on the affected landholdings. Any heritage remains encountered such as Stone Age tools would be ex-situ. • Impacts prior to development, would most likely have been dispersed and isolated scatters of Middle Stone Age and Later Stone Age lithics, consistent with the results of the previous surveys in the surrounding area1. Most of the remains represent discarded flakes and flake debris It is my professional opinion that a field based Heritage Impact Assessment (HIA) is not required, since it is considered very unlikely that any important heritage remains will be encountered.

Appendix F2.8: Comments received

South African Heritage Resource Agency

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, 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: 12154

Date: Thursday April 05, 2018
Page No: 1

Interim Comment

In terms of Section 38(3), 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Mrs Elanie Kuhn
Pieter Badenhorst Professional Services
P. O. Box 1058
Wellington
7654

Clearance of approximately 19.8hectares of vegetation and across small streams on Kakamas Norht Settlement no 343, Augrabies, Northern Cape.

Pieter Badenhorst Professional Services has been appointed by Valam Boerderye (Pty) Ltd to conduct a Section 24G rectification application for the cultivation of vineyards across small streams on Kakamas North Settlement 343, Augrabies, Northern Cape Province. A S24G Assessment Report has been submitted in terms of the National Environmental Management Act, Act No 107 of 1998 (NEMA) and the NEMA Environmental Impact Assessment (EIA) Regulations.

The S24G Report notes that the surrounding area was assessed by heritage specialists and Stone Age tools were identified, however no heritage assessment report has been submitted as per section 38(3) and 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA).

Interim Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit requests that a report conducted in terms of section 38(3) of the NHRA be submitted for comment as per section 38(8) of the NHRA as part of the S24G process. The heritage assessment must assess all heritage resources as defined in section 3 of the NHRA that would have been present before the cultivation of the vineyard.

Further comments will be issued upon receipt of the above.

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

Yours faithfully

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, 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: 12154

Date: Thursday April 05, 2018

Natasha Higgitt
Heritage Officer
South African Heritage Resources Agency

Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/488098
(DENC, Ref: S24G 04/03/2017)

SARHA – Final Comment

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, 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: 12154

Date: Friday June 08, 2018
Page No: 1

Final Comment

In terms of Section 38(4), 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Mrs Elanie Kuhn
Pieter Badenhorst Professional Services
P. O. Box 1058
Wellington
7654

Clearance of approximately 19.8hectares of vegetation and across small streams on Kakamas Norht Settlement no 343, Augrabies, Northern Cape.

Pieter Badenhorst Professional Services has been appointed by Valam Boerderye (Pty) Ltd to conduct a Section 24G rectification application for the cultivation of vineyards across small streams on Kakamas North Settlement 343, Augrabies, Northern Cape Province. A S24G Assessment Report has been submitted in terms of the National Environmental Management Act, Act No 107 of 1998 (NEMA) and the NEMA Environmental Impact Assessment (EIA) Regulations.

The S24G Report notes that the surrounding area was assessed by heritage specialists and Stone Age tools were identified, however no heritage assessment report has been submitted as per section 38(3) and 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA).

In an Interim Comment issued on 05/04/2018, SAHRA requested that a report conducted in terms of section 38(3) of the NHRA be submitted for comment as per section 38(8) of the NHRA as part of the S24G process. The heritage assessment must assess all heritage resources as defined in section 3 of the NHRA that would have been present before the cultivation of the vineyard.

An Archaeological Impact Assessment (AIA) and a Letter of Recommendation for Exemption from Palaeontological Studies was submitted to the case, however these reports assessed the following properties: Farm 1726, 1537 and 1290, Augrabies.

Final Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit does not accept the AIA or PIA submitted to the case, as the current application has not been assessed. SAHRA cannot endorse this application and advises the Northern Cape Department of Environmental and Nature Conservation (DENC) to reject the 24G application to rectify cultivation of vineyards on Kakamas North Settlement no 343, Augrabies, Northern Cape

Omdraai S24G Rectification of the unlawful cultivation of vineyards across small streams on Kakamas North Settlement no 343, 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
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Enquiries: Natasha Higgitt
Tel: 021 462 4502
Email: nhiggitt@sahra.org.za
CaseID: 12154

Date: Friday June 08, 2018

(DENC Ref: S24G 04/03/2017).

This comment must be forwarded directly to the competent authorities and proof of the submission and receipt thereof must be provided to SAHRA.

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

Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/488098
(DENC, Ref: S24G 04/03/2017)

water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA
Private Bag X313, PRETORIA, 0001. Sedibeng Building 185, Francis Baard Street, PRETORIA, 0001.
Tel: +27 12 336 7500 www.dws.gov.za

(012) 336 6608 | P/Bag X313 | Ms L Kuse
e-mail: kusel@dwa.gov.za | PRETORIA | (012) 336 8336
0001 | Not indicated

Northern Cape Region
Private Bag X 5912
UPINGTON
8800

ATTENTION: Ms. Jolene Towell

APPLICATION FOR A WATER USE AUTHORISATION IN TERMS OF THE NATIONAL WATER ACT, ACT 36 OF 1998: VALAM BOERDERY (PTY) LTD - PROPOSED TRANSFER OF WATER FROM PORTION 37 OF FARM ZEEKOESTEEK NO 9 TO KAKAMAS NORTH SETTLEMENT NO 343, NORTHERN CAPE

This letter has reference to the documentation submitted on 31 January 2018 and site observations and findings by Dr. Paul Meulenbeld for the above activities.

1. Background

The applicant, Valam Boerdery (Pty) Ltd, intends to transfer water rights from Portion 37 of Farm Zeekoesteek No 9 to Kakamas North Settlement No 343 in order to rectify water allocations to these properties. The proposed activity involves abstraction of water from the Orange River and destruction of watercourses to establish vineyards. The proposed activities have already been undertaken except for transfer of water rights. The farm is currently irrigating the vineyards with water that is pumped directly from Orange River at an existing abstraction point. The additional water allocation will be pumped directly from Orange River and irrigated onto the vineyards.

1.1 Watercourses affected

- Several drainage lines and streams that form tributaries of Orange River have been affected.

1.2 Documents submitted

- Water use licence application documentation.

2. Summary or Analysis

2.1 Several drainage lines and stream were altered (destroyed) during cultivation of vineyards for table grapes.

2.2 Water is required for the drip irrigation of the established vineyards and is supplied via pipelines from the booster pump station and pump lines.

2.3 The positions of the abstraction point and associated infrastructure have not been shown.

2.4 The drainage lines, for most of the year, are dry, sandy and flow for short periods after relatively heavy rains.

2.5 The 1:100 year floodline has not been determined.

2.6 According to the stormwater management plan, stormwater run-off is not considered to be a high risk due to the low rainfall generally experienced in the area. However, there is no stormwater management drawing or layout.

2.7 The risk assessment matrix has been completed and risk rating came out as low for aspects of the proposed activities. However, risks associated with abstraction point and associated structures and infrastructure was not considered.

3. Recommendations

3.1 Instream Water Use (IWU) does not recommend issuance of the water use licence. This application will be considered again after submission of the following:

3.1.1. Master layout plan must be updated to indicate all activities and associated infrastructure in relation to all watercourses, 1:100 year floodline for at least the Orange River and buffer zones. Furthermore, the position of the abstraction and associated infrastructure (pipelines, powerline, etc.) must be clearly shown.

3.1.2. Stormwater management layout drawing must be submitted.

3.1.3. Method statement and designs of the abstraction structure and associated infrastructure.

3.1.4. All structures and infrastructure that will be situated within 1:100 year floodline must be protected against 1:100 flood events and also not obstruct/impede flow that can cause erosion/damage.

3.1.5. Environmental impact assessment for all activities affecting watercourses must be submitted with the risk matrix. Please note that it must pay attention to amongst others characteristics of the watercourse and proposed mitigation measures.

3.1.6. Indicate if the pipelines that are used to transport water from the abstraction point to the vineyards are crossing any watercourses. If they are, submit the following:

3.1.6.1. Method statement and designs.

3.1.6.2. Impact assessment and mitigation measures.

3.1.7. Flow meters must be equipped on the pipelines.

3.1.8. The applicant must ensure that:

3.1.8.1. Ephemeral flow is not impeded and/or obstructed on the western and eastern boundaries of the property.

3.1.8.2. Occasional run off to be dispersed in the vine yard.

3.1.8.3. Ephemeral flow is impacted at the dam through a road, no formal drainage line and rubble disposed in the depression. This must be addressed through reshaping of the road and topography around the dam. The rubble can be used in this process as it consists of soil and rocks.

4. Conclusion

4.1. The information highlighted above must be submitted in order to enable IWU to advise the Regional Office.

Please do not hesitate to contact the above official should there be any queries.

Regards

DR PAUL MEULENBELD
SCIENTIFIC MANAGER GRADE A: INSTREAM WATER USE
DATE: 2018/4/19

Appendix F2.9: Comments response

Jonathan Kaplan – ACRM

Agency for Cultural Resource Management

Specialists in Archaeological Studies and Heritage Resource Management

18 June, 2018

Att: Ms Natasha Higgit
South African Heritage Resources Agency
PO Box 4637
Cape Town
8001

Dear Ms Higgitt,

SECTION 24G RECTIFICATION PROCESS FOR THE ILLEGAL CONSTRUCTION OF CULTIVATED AREAS ON PORTION 80 OF THE FARM ORANGE FALL NO. 16 AUGRABIES, NORTHERN CAPE

CASE ID: 12153

Your letter dated 08 June, 2018 (Final Comment) refers:

The affected landholdings are located ± 7.5kms south of Augrabies in the Northern Cape (Figure 1).

Please note the following:

- The affected landholdings are already irrevocably transformed as a result of more than 10 years of vineyard production (refer to Figure 2).

- It is considered highly unlikely that any significant archaeological heritage will be present on the affected landholdings. Any heritage remains encountered such as Stone Age tools would be *ex-situ*.

- Impacts prior to development, would most likely have been dispersed and isolated scatters of Middle Stone Age and Later Stone Age lithics, consistent with the results of the previous surveys in the surrounding area[1]. Most of the remains represent discarded flakes and flake debris

[1] Kaplan, J. 2017 Archaeological Impact Assessment, proposed citrus development, Renosterkop Extension (Kakamas South Settlement No. 2185 & 2193) Augrabies, Northern Cape

Kaplan, J. 2017 (incomplete). Archaeological Impact Assessment, Proposed development of agricultural land on Portion 13 of Orange Falls Farm No. 16, Augrabies Falls Way, Augrabies, Northern Cape

Kaplan, J. 2016 Archaeological Impact Assessment, proposed vineyard development on Farm 1726 Renosterkop, Farm 1290 & Farm 1537 Augrabies Northern Cape. Report prepared for Pieter Badenhorst Professional Services. ACRM, Cape Town

Beaumont, P.B. 2008. Phase 1 Archaeological Impact Assessment report on Kakamas South Farm 2092 near Augrabies, Siyanda District Municipality, Northern Cape Province

Van Schalkwyk, J. A. 2013. Cultural Heritage Impact Assessment for the proposed township development on a section of the Farm Kakamas Suid 28 Augrabies, Kai !Garib Municipality, Northern Cape Province. Report prepared for MEG Environmental Consultants.

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

It is my professional opinion that a field based Heritage Impact Assessment (HIA) is not required, since it is considered very unlikely that any important heritage remains will be encountered.

On behalf of the applicant, I hereby request exemption from undertaking a HIA, as requested by SAHRA.

Yours sincerely

Jonathan Kaplan

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

Figure 1. Google satellite map indicating the affected landholdings in relation to the town of Augrabies

Figure 2. Close up Google satellite map of the affected landholdings, showing the irrevocably transformed landscape (vineyard development)

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

From: Pieter Badenhorst (iafrica)
To: Elanie Kuhn
Subject: Re: SAHRIS Case ID 12153, 12154 and 12156
Date: Monday, 11 June 2018 10:09:48 AM

Regards/Groete
Pieter Badenhorst
PBPS – Environmental and Water License Consultants
PO Box 1058
Wellington 7654
Cel: 0827763422
Fax: 0866721916

From: Elanie Kühn <elaniem@iafrica.com>
Date: Monday, 11 June 2018 at 09:21
To: "'Pieter Badenhorst (iafrica)'" <pbps@iafrica.com>
Subject: SAHRIS Case ID 12153, 12154 and 12156

Morning Natasha

Thank you for your response. However, we are very surprised with the response and find it respectfully unacceptable because that is not what we have discussed previously and the decision that was being awaited. It seems there is a serious misunderstanding. Herewith, please find previous communications and background in order to resolve this.

These farms were developed previously and thus the areas are already completely transformed and developed. To correct the unlawful actions, processes are now underway to apply for the relevant authorisations.

In you interim comments, dated 05 April 2018 you requested the following:

"The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit requests that a report conducted in terms of section 38(3) of the NHRA be submitted for comment as per section 38(8) of the NHRA as part of the S24G process. The heritage assessment must assess all heritage resources as defined in section 3 of the NHRA that would have been present before the cultivation of the vineyard."

After the above comment, an email correspondence was sent via Mnr Jonathan Kaplan and Mnr Pieter Badenhorst to setup a meeting to discuss the relevance of the said Heritage Report. Your email dated 16 April 2018, you stated the following:

"I have discussed this with Phillip, and we believe there is no need for a meeting as the 24G Report submitted for these three cases references an assessment conducted by an archaeologist (see page 32). This is the HIA I was referring to in my comment. Please submit that report so that SAHRA can provide a comment in terms of section 38(8) of the NHRA."

On page 32 of the S24G Report, reference was made to a previous study conducted in the area,

indicating what is normally found, but did not specifically reference the Capespan sites. In the response on page 32 the following was also clearly stated:
"No further studies are required. However, the site has entirely been transformed with agricultural activities and therefore possibility of any further finds is scarce."

The study referred to was by Jonathan Kaplan for another site, and not that of Capespan. It was just a reference to what could possibly be found and not a study on the site, hence, the request for a meeting to discuss the issue. It was Jonathan's opinion that he would not find any additional to what he is aware of. From your response to our request for a meeting we understood that you will assess the report and then make a decision on whether you accept Jonathan' recommendation or whether you would require a specific study for the three farms.

I contacted you on ??? re your response on the report submitted on which you request that the report be uploaded. Again we were awaiting a response on whether the report for adjacent sites would be sufficient as per Jonathan's recommendation or whether you require a new study.

Can you please revisit your response in the light of our previous agreement so that we can confirm to the client that a new study is required.

Vriendelike groete/Kind Regards
Elanie Kühn
Environmental Assessment Practitioner
Pieter Badenhorst Professional Services cc
PO Box 1058
Wellington
7654
Cell: 0765840822
Fax: 0866721916
Website: www.pbps.co.za

APPENDIX H1: EMP

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

OMDRAAI 24G RECTIFICATION OF CULTIVATION OF 19.8 HA OF VINEYARDS ACROSS SMALL STREAMS ON KAKAMAS NORTH SETTLEMENT NO 343 (OMDRAAI), AUGRABIES

DENC Ref: S24G 04/03/2017

Prepared by:

Elanie Kühn

Environmental Assessment Practitioner

Pieter Badenhorst Professional Services CC

PO Box 1058

Wellington 7654

(elaniem@iafrica.com)

Date: June 2018

CONTENTS

Contents

List of Figures

List of abbreviations

CA	Competent Authority
DENC:NC	Department of Environment and Nature Conservation: Northern Cape
DEAT	Department of Environmental Affairs and Tourism
dAR	Draft Assessment 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
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 45 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 last15 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 11 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 development is situated approximately 6 kilometers outside of the small town of Augrabies in the Northern Cape, in the Kai! Garib Municipal area.

Refer to the Locality Plan inserted below as Figure 1. 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 Valam Boerdery (PTY) Ltd and has appointed PBPS as the independent consultant to undertake the EIA process.

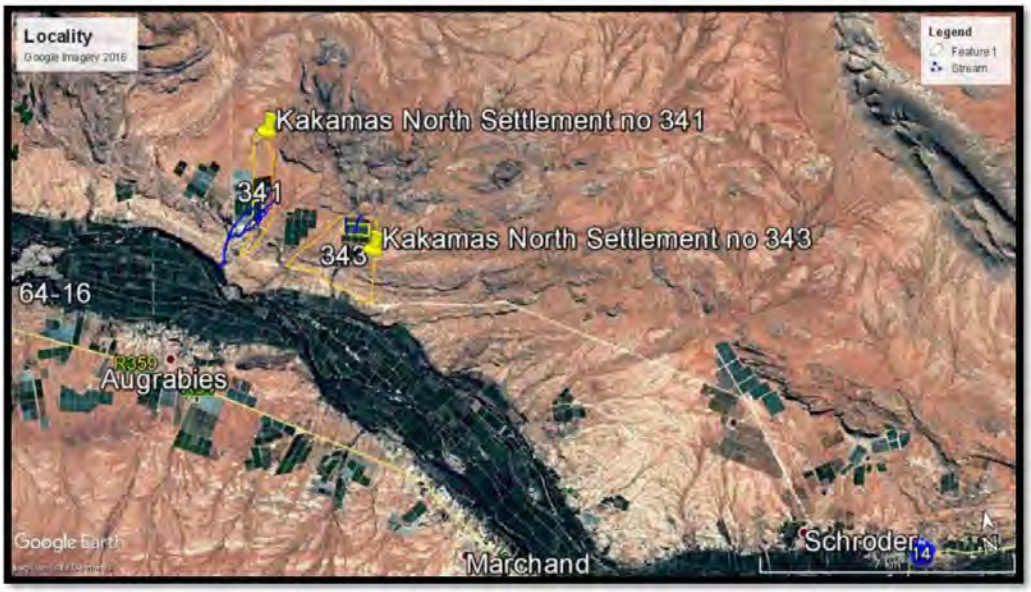

Figure 1: Locality plan

Proposed development:

The proposed development consisted out of the following activities that triggered NEMA 2014 Regulations:

NEMA 2014:

1. Clearance of approximately 19.8 hectares of indigenous vegetation between in 2015, also the clearing within a watercourse. (Refer to Figure 2 and 3).
2. Construction of pipelines and roads (infrastructure) as part of the clearance of the 19.8 hectares of indigenous vegetation.

By end 2015, a total of 19.8 hectares had been cleared and planted (Figure 3).

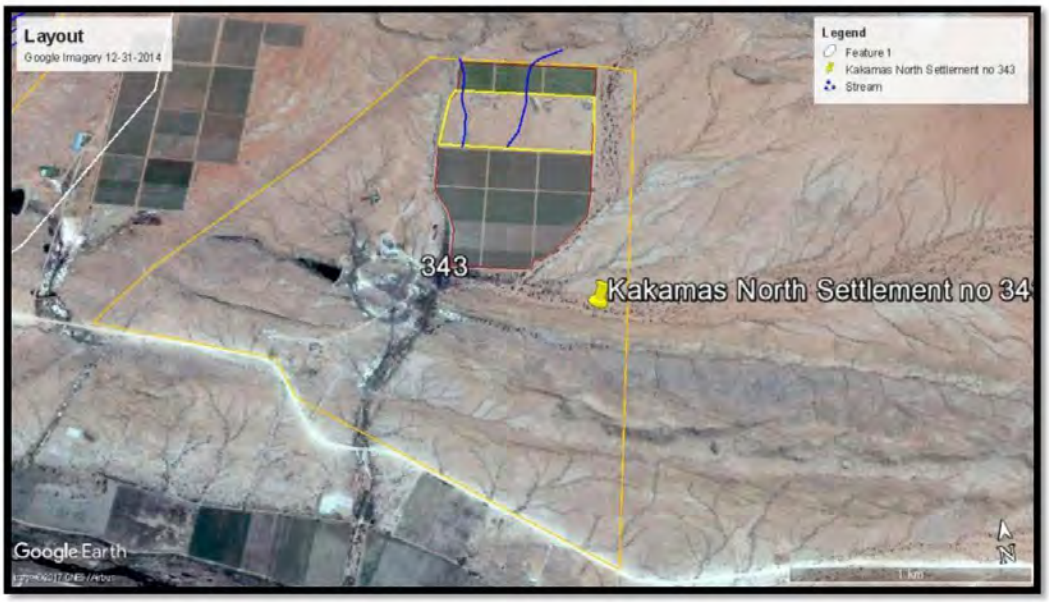

Figure 2: Prior to vegetation clearing on 12 December 2014.

As shown in Figure 3, these areas were under cultivation of vineyards for table grapes by 2016. Access tracks were constructed within the cultivated area to facilitate the farming activities.

Figure 3: Vegetation clearing complete December 2016.

No further agricultural activities are required within the project area comprising the 24G application.

The SG 21 Digit Codes of the property indicated in Figure 1 above is provided in the list below:

C	0	3	6	0	0	0	7	0	0	0	0	0	3	4	3	0	0	0	0	0

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

The site is covered by Bushmanland Arid Grassland, it has a least threatened status [according to Mucina & Rutherford (2006).

According to Namakwa District Biodiversity Sector Plan (2008), the development encroaches on an ecological support area (ESA) which was established as a terrestrial migration corridor associated with the Orange River corridor. However, it must be noted that most of this corridor in this vicinity is compromised as a result of existing agricultural development. Most of the neighbouring areas to the west, north and east of the site have already been transformed into agricultural land. To the north of the property (falling outside of the ESA) natural is still encountered.

Mitigation:

Mitigation during for the planning and construction can no longer be applied as the activity already took place, however, the 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.

Recommended mitigation for the loss, particularly of seasonal watercourses, would be in the form of storm water management in the channelled areas and to prevent any further degradation of the streams below the site.

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.

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.

2.3 Heritage, Archaeology and Palaeontology

The site has already been developed and the possibility of any future finds is low, however the following mitigation measures should be considered for the operational phase of the site.

If any archaeological material or human burials are uncovered during the course of the operational phase 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.

2.4 Access

There is existing access for all areas proposed for cultivation, and for the construction of the water extraction infrastructure.

2.5 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.

2.6 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.

2.7 Plough certificate

A plough certificate will be obtained and included as part of the WULA included in the EIA phase of the development.

2.8 Water Use License

An application for a license in terms of the National Water Act, 1998 is being made by the developer, Valam Boerdery PTY Ltd for the transfer water rights, 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 the EIR for the WULA.

2.9 Ephemeral stream and drainage areas

The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel does not flow directly towards the Orange River, it links into the unnamed tributary which flows into the Orange River, however a series of structures and agricultural developments cut the system off prior to entering the unnamed tributary.

The streams for most of the year are dry and sandy and flow for short periods after relatively heavy rains. Refer to further details with regards to maintenance and design of these streams contained in the Storm Water Management Plan referred to above in Appendix D.

3 Management Programme – Construction

Please note that the Construction section for the EMP is not applicable as the development already took place and no mitigation measures that would require construction on the site was outlined in the studies.

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 should be environmentally friendly and best available for water usage as per DWS 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.

4.5 Storm water management

As per the Storm Water Management Plan included in Appendix D.

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				

Appendix D: Storm Water Management Plan

STORM WATER MANAGEMENT PLAN

for

THE PROPOSED TRANSFER OF WATER FROM VARIOUS PROPERTIES AND THE CONSTRUCTION OF VINEYARDS ACROSS STREAMS ON KAKAMAS NORTH SETTLEMENT NO 343, NORTHERN CAPE

Light yellow block area depicts the approximate main proposed development area.

Prepared by:
Elanie Kühn
Environmental Assessment Practitioner
Pieter Badenhorst Professional Services CC
PO Box 1058
Wellington 7654
(elaniem@iafrica.com)

Date: June 2018

CONTENTS

TABLE OF FIGURES

2

List of abbreviations

DENC	Department of Environment and Nature Conservation: Northern Cape
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner

Definitions

For the purposes of this Specification the following definition shall apply:

Storm water – Storm water is defined as surface water that concentrates as a result of precipitation, in locations where water is generally not otherwise found.

Expertise of the EAP

Pieter Badenhorst

He has more than 42 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 20 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 harbour development for DEA.

He has a B.Sc. Civil Engineering Degree as well as B.Hon 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 more than 10 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 seven years working on environmental impact assessments.

1. INTRODUCTION

This Storm water Management Plan (SWMP) forms part of the Water Use License Application (WULA) and is intended to provide the Department of Water Affairs (DWS) with all necessary information to assess the suitability of mitigation measures included in the WULA. The report describes the pre development status of the site, the storm water management objectives and mitigation measures that the land-owner will undertake to ensure sustainable management of the area to be developed.

The development area is shown in Figure 1. The area use to contains natural vegetation which was dissected by two small ephemeral streams. The green arrows indicated the flow direction.

In the WULA application is made to rectify the illegal planting over some of the minor existing natural water courses. The report will identify mitigation measures to prevent erosion of the new planted areas and to mitigate against enrichment of downstream flows.

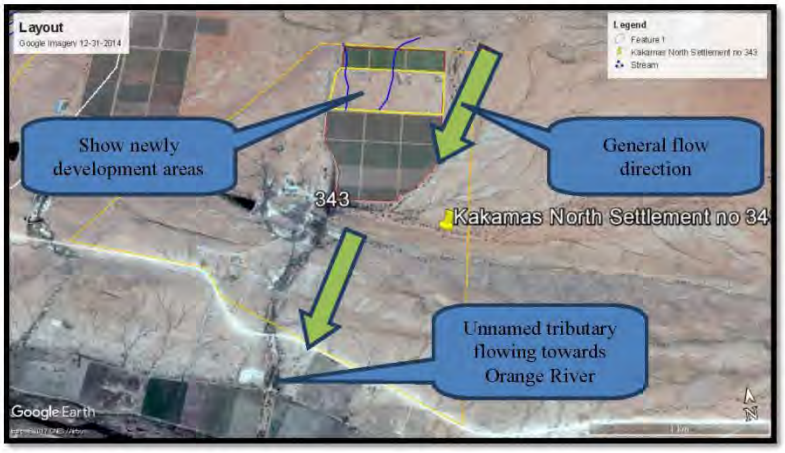

Figure 1: Development area.

2. DESIGN POLICIES, GUIDELINES AND OBJECTIVE

2.1.Design Guidelines and Policies

This storm water management plan adopts and conforms to the policies of the Department of Water and Sanitation

The design guidelines incorporated are:

- Storm water management planning and design guidelines for new developments, July 2002, CCT.

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2.2.Objective

The main objective of storm water management planning for the development is to ensure that a site's run-off characteristics are not negatively influenced by the agricultural development and thus does not have a negative impact on downstream flows. Characteristics that could be impacted include storm water flow changes and enrichment of the water and flow towards the agricultural areas do not accumulate to high volumes and an increased hydrological response that will result in destruction of property and natural flow downstream.

Note, however, agricultural development is not similar to urban development with hardened surfaces ultimately resulting in a higher hydrological response. The proposed agricultural development will have the opposite effect in that farming practices will result in minimising storm water flows. Therefore, catchment characteristics of the larger system will be changed from semi-permeable to highly-permeable after development. As a result storm water flows will be reduced thereby minimising the impact of nutrient enrichment downstream.

In addition, storm water run-off is not considered to be a high risk due to the low rainfall generally experienced in the area. However, during downpours storm water could be generated and the overall objective of storm water would be to minimise storm water flows, the potential for erosion and downstream nutrient enrichment.

3. LOCALITY, AND ENVIRONMENT

3.1.Locality

The proposed property on which the expanded of agricultural activities took place across the small streams is Kakamas North Settlement no 343 (further also referred to as Omdraai).

The farm Omdraai is situated to the north of the Orange River and Augrabies and gains access via a gravel road onto the R359, see Figure 1. Farm Omdraai is situated on the right side of the R64 approximately 6km outside the small town of Augrabies in the Northern Cape Province, see Figure 2.

Figure 2: Locality

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3.2.Topography, Geology and Soils

The terrain studied is on the lowlands north and north-west of the Orange River. 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."

3.3.Climate and rainfall

The property 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 3), mean summer daytime temperature (October to March) of 35 °C and mean winter night temperature (April to September) of 5 °C.

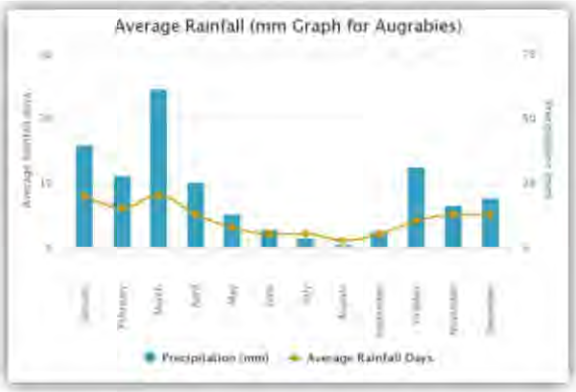

Figure 3: Average rainfall.

4. PRE- AND POST-DEVELOPMENT RUNOFF AND WATER QUALITY

4.1.Runoff

The pre-development status of the site with ephemeral streams and flow direction is shown in Figure 4. The two smaller streams to the left of the site would have flown into the an unnamed tributary which would have flowed directly to the Orange River, however the small streams were already cut off by existing agricultural development downstream.

The post-development status of the site is shown in Figure 1 and 5. The green arrows indicate flow direction of the small water courses.

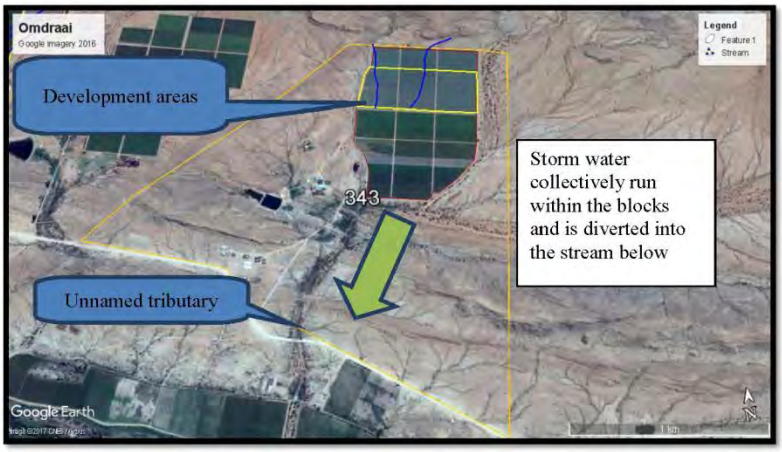

Figure 4: Catchment areas on site.

Figures 4 clearly demonstrate that the design of the blocks planted already aimed to minimise disruption of the natural storm water flows, by developing between the larger stream areas. All storm water flows between the blocks towards the channel that will flow towards the unnamed tributary on the right, see Figure 5 below. Flow entering the unnamed tributary will then flow downstream towards the Orange River.

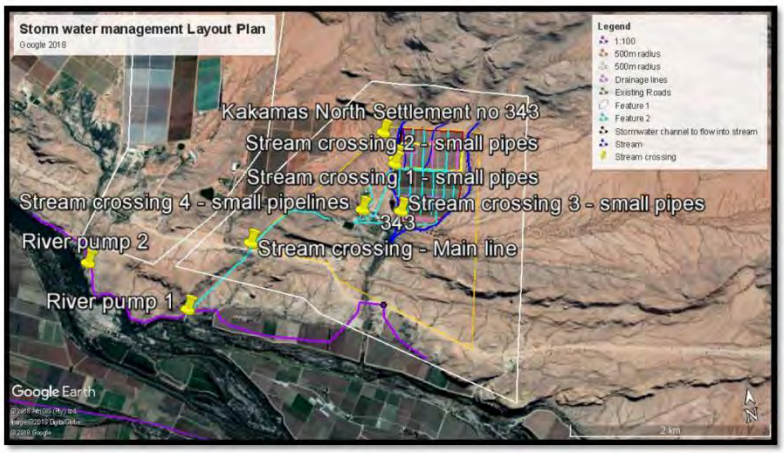

Figure 5: Storm management layout plan

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Along the upper reaches on the right or to the west of the agricultural areas, outlined as the black line is a storm water channel that diverts the flow into the stream at stream crossing 2, shown in Figure 5 above.

It should be noted that this pump station was constructed in the 1980's. See Storm water management layout plan in Appendix A and a typical design of a floating jetty pump station included in Appendix C. As shown below in Figure 6 the abstraction pump will be below the 1:100 year floodline. Care will be taken to minimize impacts on the bed of the Orange River. Refer to section 5 below within the design mitigation measures taken into consideration to prevent impediment of flow of the Orange River.

The pipelines running from the Orange River to the small balancing dam and then crossing the canal, runs further to the site crossing small streams across various points shown in Figure 5. Note this pipeline was constructed in the 1980's and purchased by CapeSpan. These pipelines run underground the method statement of how these pipes are constructed is included in Appendix C. As shown in the photo below in Figure 6, this is the only crossing, stream crossing 3, shown in Figure 5, that is not below ground. No design available as stated above this was constructed in the 1980's already. All the other pipeline crossing including the main pipeline from the Orange River to the small balancing dam was constructed underground.

Figure 6: Stream crossing 3 – small pipelines

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4.2.Water Quality

Planting of vineyards or most other crops require proper irrigation and supply of nutrients to ensure optimum growth and production. If not managed properly the water quality of the post-development run-off could be affected by nutrients, chemicals spraying or over irrigation. In order to achieve sustainable crop production and management of the environment control elements should be implemented. The control measures to be implemented are the following:

- Care to taken to reduce nutrient application to land.
- 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.

5. MITIGATION

The main issues to be addressed with mitigation measures include

1. Design
2. Irrigation
3. Nutrients (fertilisers)
4. Spraying (pesticides)
5. Storm water channels
6. Pipelines
7. Erosion control
8. River pump station

5.1. Design

The design of vineyard blocks took into account the natural flows and minimise impacts on the ephemeral streams. A storm water channels divert flow around the planted blocks towards the diversion channel. Flow entering the diversion channel will then flow downstream and naturally enter an existing stream.

5.2.Irrigation

In order to prevent over irrigation, which might lead to water flows creating erosion and or transporting nutrients to the retained ephemeral streams, good farming practises such as irrigation on demand should be utilised.

In addition, the use of mulching should be used to reduce evaporation losses. The mulch also serves to retain moisture and prevent erosion near the plants at the source of irrigation; microjet or drip.

A typical example with mulching along the planted rows and planting between rows is shown below in Figure 7.

Figure 7: Mulching and planting between rows

5.3.Nutrients

Nutrients are usually applied in the irrigation water. Every effort must be made to only apply as required by the plant and soil.

Should fertiliser powder or pellets be used and applied by hand or machine it must only be placed along the vine plants and no mess or waste between rows should be allowed.

Powder or pellet fertiliser may not be spilled between vine rows or on access roads between the vine blocks. Should this happen it must be picked up and removed immediately.

5.4.Spraying

Spraying of pesticide is normally applied by machine as a vapour. The main potential source of pollution would be from spillages. Therefore, filling of the spray machine must be done in a safe area where pollution of the soil would not be possible. The best place would be on a concrete area where the pesticide is mixed with water.

5.5.Storm water channels

As shown in the Storm water management Layout Plan, the black line indicated are the storm water channel constructed to accumulate the storm water, the water would then flow lower into the unnamed tributary and flow towards the Orange River.
It should be noted that no dissipation/retention structures other than the storm water channels and drainage pipelines (shown in Figure 5 pink lines) are included to prevent erosion and storm water accumulation. However, natural vegetation has over time accumulated within the channels and does reduce flow. The storm water channels are deep enough to prevent overflow and erosion.

5.6.Pipelines

The pipelines was constructed in the 1980's and purchased by CapeSpan. The main pipeline from the Orange River to the small balancing dam will run along an existing gravel road, the only section of the pipeline that will affect one of the streams is shown in Figure 6. The pipelines running towards the irrigation area will also cross the stream at 4 crossings, refer to section 4 for further details. Care will be taken to prevent any future impediment of flow related to these pipes, as the pipes will be constructed below the ground. Find included in Appendix C the pipeline method statement for construction of pipelines (PVC Pipes) below ground. The following mitigation measures should be implemented for work on the pipelines:

- Care will be taken to only construct the pipelines during the dry seasons

- As far as possible the section of the pipeline across/within the stream should be done manually, no machinery, resulting in the lowest possible impact.
- Infilling with original soils (as per method statement)
- Flow meters must be equipped on the pipelines.-protective measurement on water losses. This must be monitored on a regular basis and records kept on site.

5.7.Erosion control

Erosion would normally occur with the following:

1. Over irrigation which create water flows from the planted rows to the area between the rows and then to roads between the blocks.
    a. For mitigation see (3) below.
2. Pipe breakages where water will wash from the plants to the area between the rows to the roads between blocks and from where water can flow towards the retained ephemeral streams – thereby causing erosion gulleys.
    a. For mitigation see (3) below.
3. Rain events where the water will flow down slope to reach the ephemeral streams and along the way cause erosion where development took place; that is – between the planted rows and along the roads between blocks.
    a. Mitigation include the following:
        i. Mulching and planting/mulching between rows – see Figure 7 for typical example.
        ii. Scarifying of soil between planted blocks and roads to create a soft/rough area to retain moisture and prevent erosion – see Figure 8.

Figure 8: Scarifying of soil

iii. Create a buffer with natural vegetation between the planted blocks and roads as shown in Figure 9.

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Figure 9: Buffer areas with natural vegetation between blocks and roads

Overall therefore, the natural approach is preferred whereby mulching, planting and natural buffer areas are used to serve as mitigation to prevent flows that could create erosion. This has the further advantage that it also act against spreading of nutrients and pesticides.

5.8. River pump station

The following mitigation measures apply:

- Care was taken in the design of the Pump Station at the Orange River, so as not to impede flow, seeing as the floating jetty has the lowest possible impact on the river and riverbanks. See Figure 11 for the floating jetty.
- Any maintenance will take place as far as possible during the dry season.
- Care was taken for the smallest footprint and least amount of damage to the Orange River.
- During periods of heavy rains the pumps will be removed from the Orange River and stored away from the River. Note the pumps are below the 1:100 year floodline, see Figure 10 below.
- The design for the maintenance of the jetty and pipelines are included in Appendix C, this should be adhered to. Note the jetty design is only a typical design for a floating jetty and specifications not necessarily for the existing jetty at the Orange River.
- Note the electrical connection run with the pipeline, underground as far as possible.

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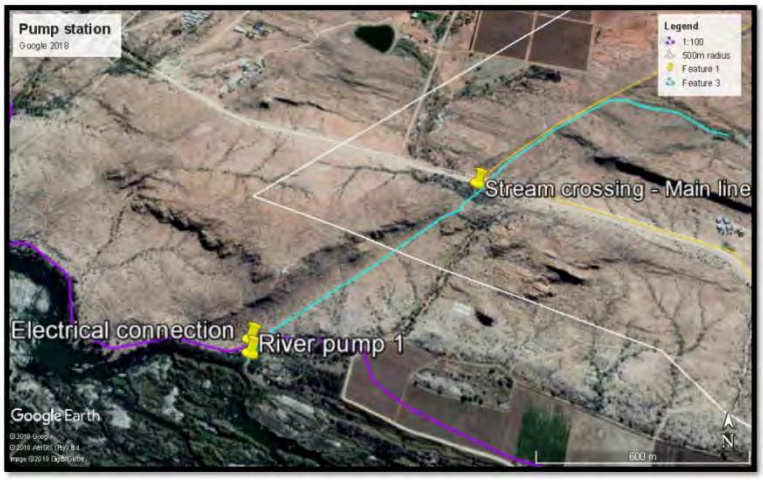

Figure 10: 1:100 Year flood line and pump station

Figure 11: Photo's of pump station

6. REFERENCE

- Alternative Technology for Storm Water Management, The South African Guidelines for Sustainable Drainage Systems, Neil Armitage, Michael Vice, Lloyd Fisher-Jeffes, Kevin Winter Andrew Spiegel & Jessica Dunstan, Report to the Water Research Commission
- Land Type Survey Staff 1972—2006. Land Types of South Africa: Digital Map (1 250 000 scale) and soil inventory databases. ARC – Institute for Soil, Climate & Water, Pretoria.

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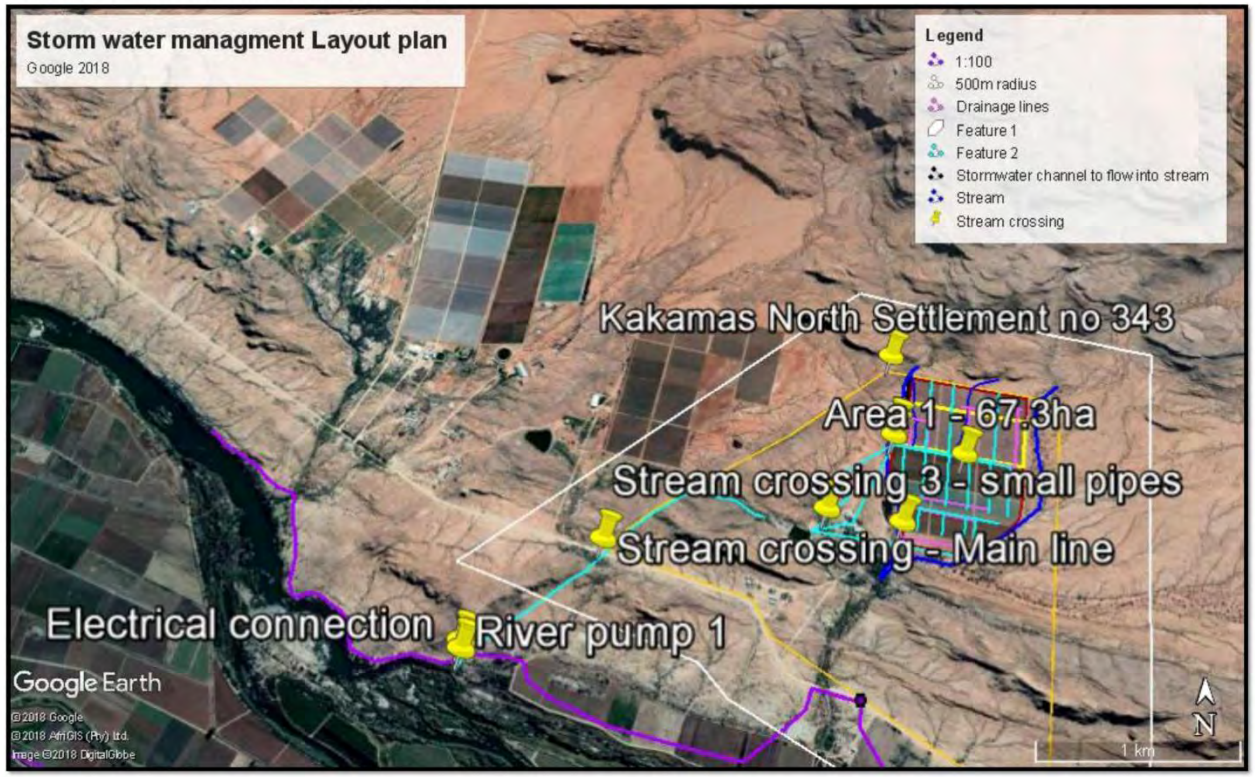
7. APPENDIX A: STORM WATER MANAGEMENT LAYOUT PLAN



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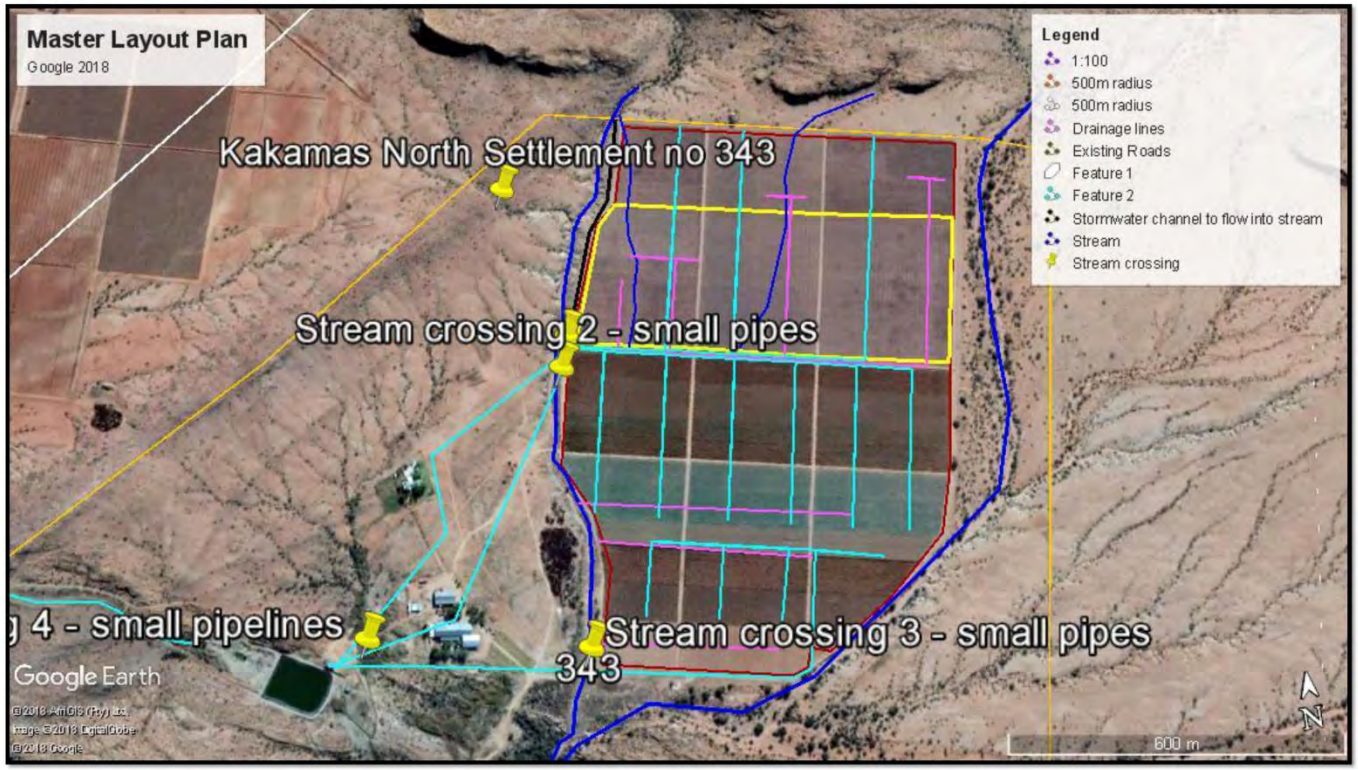
8. APPENDIX B: DEVELOPMENT MASTER LAYOUT PLAN



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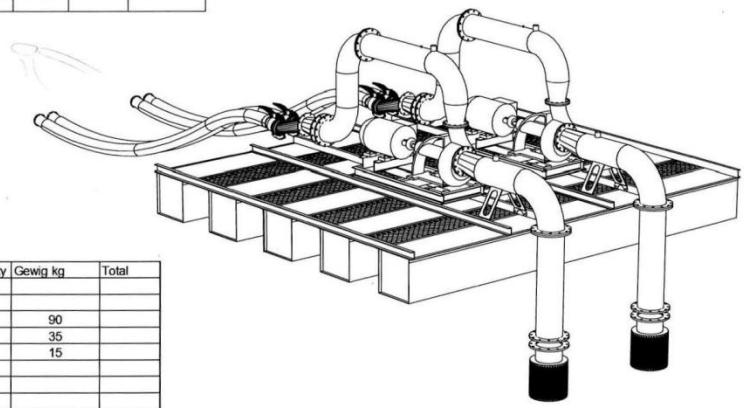
9. APPENDIX C: PIPELINE DESIGN/LAYOUT AND METHOD STATEMENT

Typical design of a floating jetty

Voorbeeld van 10 000 l vlot
Let wel pryse sluit pypwerk, pomp en motor uit.

6 000 liter	dravermoë:	2 500 kg,	lysprys:		.S 326 5 140
10 000 liter	dravermoë:	4 000 kg,	lysprys:		.S 326 5 280



No	Item	Qty	Gewig kg	Total
1	Pomp ( )			
2	Motor ( )			
3	Galv. Base plate, large		90	
4	Galv. Base plate, medium		35	
5	Galv. Base plate, small		15	
6	Suiglyn (pypwerk)			
7	Stootlyn (pypwerk)			
8	Foot valve			
9	Non return valve			
10	Starter			
11	Rubber hose x 4 with water			
12	Water in suigpyp			
13	Water in stootpyp			
14	Persoon (werktuigkundige)	1	80	80
15	Ander			
			Dravermoë	

DRWG TITLE	3CR12
DRAWING NR	14040701
SCALE	
DATE	2014-04-07
DRAWN BY	GE
PROJECTION	A4 PAGE 1 OF 1

AGRICO Meer as 100 jaar van diens! More than 100 years' service!

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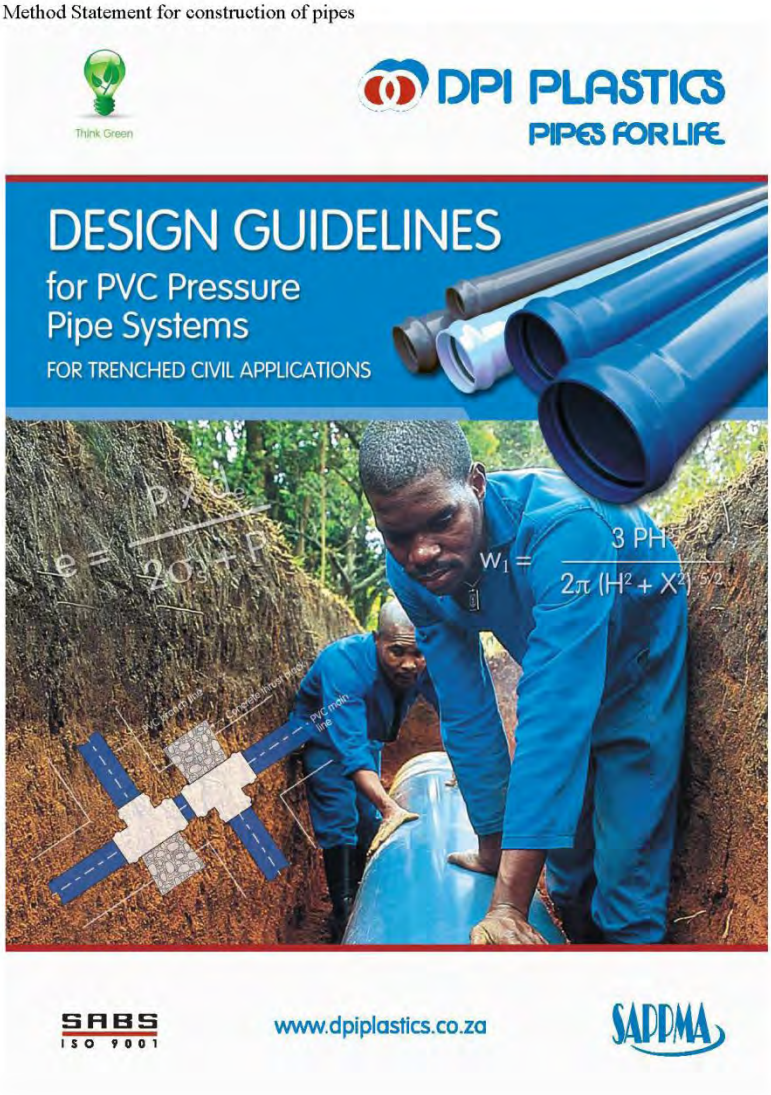
Method Statement for construction of pipes



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6. Installation

6.1 Excavation of trenches

A recommended alignment and grade of trench is established by the engineer in charge of the project. The width of the trench should be kept to a minimum allowing just sufficient working area for jointing and initial compaction around the pipe. For most purposes a trench 300mm wider than the diameter of the pipe allows enough room for jointing. (Fig. 6.1)

It is important that the trench is not opened too far in advance of the pipe laying operation. Pipes must be backfilled immediately after laying, with the joints left open for testing.

It is recommended that the depth of cover from the top of the pipe to the ground surface be no less than 0.9 metre. (Figure 6.1).

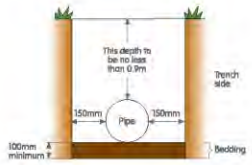

Figure 6.1

6.2 Trench preparation

The trench bed must be free from all stone or hard projections which are likely to cause damage to the pipe.

The bottom of the trench should be backfilled to a depth of 100mm, with suitable bedding material such as free-drainage coarse sand, gravel, or soil of a friable nature. (Figure 6.1)

The bedding should be carefully and thoroughly compacted to produce a level uniform bed onto which the pipe is directly laid.

All levelling and side sheeting must be removed before bedding.

The size of the majority of particles in a bedding material should not exceed 20mm. The presence of some particles of up to 40mm in size is permissible, providing that the total quantity of these particles represents a very small fraction of the whole and that these particles have no sharp edges. The engineer should refer to SANS 2001 DP[1] for specification of bedding.

6.3 Determination of soil suitability for use as bedding material

6.3.1 Take a 2kg sample of the material and pass it through a sieve with a nominal aperture size of 20mm. If more than 25g material is retained, pass the retained material through a 40mm aperture size sieve. If particles are retained and will not break up under light finger pressure, the material must be regarded as unsuitable.

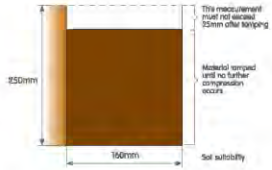

Figure 6.3

6.3.2 If the material passes the sieve test as indicated above then proceed with testing as follows: Take a further sample of approximately 50 kg in mass, heap on a clean level surface. Using a spade, divide this heap through the middle in 2 separate heaps. Sub-divide one of the heaps again and again until a sample which will fill a 2,0 litre container is obtained.

6.3.3 Cut a length of 250mm from a pipe 160mm in diameter and stand this upright on a level surface. Ensure that the moisture content of this sample is the same as that of the main body from which it was taken and then loosely fill the pipe with this material. Empty the material from the pipe into a suitable container. Using this same material charge the pipe in layers of 60mm in height, firmly tamping each layer with a metal hammer weighing between 1 and 1,25kg and having a striking face of approximately 40mm in diameter.

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[1] SANS 2001 DP: Earthworks for buried pipelines and prefabricated culverts.

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6.3.4 Use all material from the container which originally was loosely filled into the pipe, tamping continually until no further compression of the material occurs. Measure the distance from the top of the pipe to the surface of the tamped material. If this measurement does not exceed 25mm then the material is suitable for use. (Figure 6.3)

6.4 Pipe laying

The pipeline must be laid directly on the prepared bedding in the trench and any temporary supports, bricks or other foreign hard bodies must be removed. All spigots must be checked to ensure that they are free from burrs. Both the spigot and socket surfaces must be carefully cleaned with a dry cloth.

It is important to ensure that the rubber ring is clean and free of stones and grit.

Check the chamfer on the spigot end - a uniform chamfer to approximately 15° must occur around the external circumference of the pipe for approx. half the wall thickness.

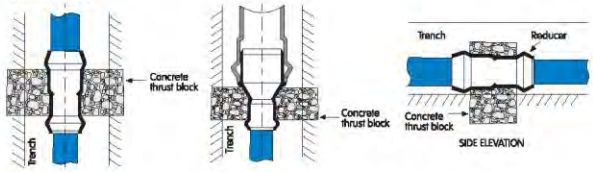
The depth of entry is marked on the spigot and must be positioned so as to be just visible outside the mouth of the socket.

6.5 Anchoring and thrust blocks

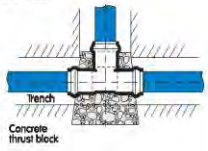
Pipelines must be anchored at all changes of direction, at all valves, all stop ends and reducers. Concrete anchor thrust blocks are most commonly used at all anchor points. Where anchor points are in direct contact with the pipe (eg. at bends) the bend should be protected by means of a layer of plastic sheeting.

An alternative anchoring method uses Durolok joints. (See Section 5.3) Install at least four lengths containing Durolok joints on either side of the fitting. Soil/pipe friction will anchor the pipeline.

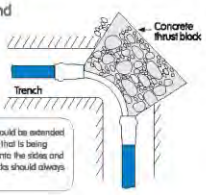
6.5.1 Reducer



6.5.2 Tee



6.5.3 Bend



IMPORTANT: All anchor blocks should be extended onto the socket area of the fitting that is being anchored, and should be keyed into the sides and bottom of the trench. Anchor blocks should always bear against undisturbed soil.

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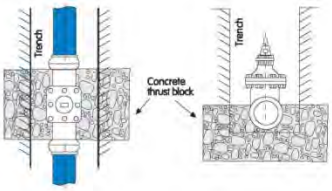
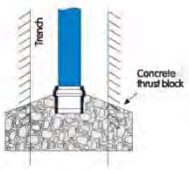
6.5.4 Sluice valve



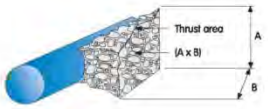
6.5.5 End cap

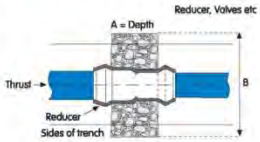


6.5.6 Thrust block size guide

The intention is to provide a guide to thrust block sizes as it is necessary to install thrust blocks at all changes of direction. This is to neutralise the thrust caused by the pressure of the water in the pipe. Thrust blocks must be placed between the fitting which is to be supported and the undisturbed wall of the trench, or preferably keyed into the sidewall of the trench.

The size of the thrust block depends on; pipe size, line pressure, type of fittings, degree of bend and type of soil.





Pipe size (mm)	90° Bends A x B (m)	45° Bends A x B (m)	Tees A x B (m)	End caps, sluice valves, reducers A x B (m)
50 to 90mm	0,2 x 0,2	0,2 x 0,2	0,25 x 0,25	0,25 x 0,6
110mm	0,3 x 0,3	0,3 x 0,25	0,3 x 0,3	0,3 x 0,6
125 & 140mm	0,3 x 0,45	0,3 x 0,3	0,3 x 0,4	0,3 x 0,65
160mm	0,3 x 0,6	0,3 x 0,4	0,3 x 0,45	0,3 x 0,7
200mm	0,45 x 0,7	0,3 x 0,7	0,45 x 0,6	0,45 x 0,8
250mm	0,6 x 0,9	0,6 x 0,6	0,45 x 0,8	0,45 x 0,85
315mm	0,6 x 1,3	0,6 x 0,9	0,6 x 0,9	0,6 x 1,0
355mm	0,8 x 1,5	0,6 x 1,2	0,6 x 1,4	0,6 x 1,4
400mm	1,0 x 1,6	1,0 x 1,2	0,8 x 1,5	0,8 x 1,5

ASSUMPTIONS: Line pressure - 90m, plus allowance for surge pressure, Soil - medium loam
NOTE: These dimensions may vary considerably with different soil types

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6.6 Backfilling

It is essential that PVC pressure pipes are backfilled immediately after each pipe is installed, in order to contain the expansion and contraction to each individual pipe length where it is catered for by the socket. Trenching, bedding and backfilling to be carried out according to SANS 2001:2010 or as specified in the contract documentation.

6.6.1 Side-filling and initial backfilling

Check that the depth of entry mark is just visible on all joints. Selected material (as for bedding) should be placed gently and evenly in uncompacted layers of 75mm in thickness between the sides of the trench and the pipe. (Figure 6.6.1)

Tamp each layer firmly with a hand tamper until the level of the crown of the pipe is reached, taking care to ensure that no voids are left under the pipe. All joints must be left exposed at this stage. (Figure 6.6.2). Movement of the pipe should be prevented by the simultaneous filling and even compaction of material on either side of the pipe.

Selected material should be placed in even and uncompacted layers of 150mm in thickness over the entire width of the trench to a height of 300mm above the crown of the pipe. All layers must be firmly tamped by hand. All joints are still exposed at this stage. (Figure 6.6.2)

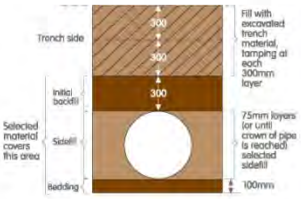

Figure 6.6.1

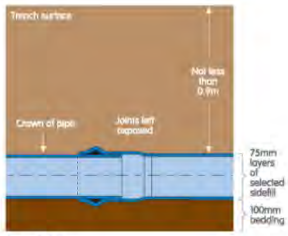

Figure 6.6.2

6.6.2 Main backfill

The remainder of the trench, excluding the areas where joints must still remain exposed, should be filled in layers of 300mm thickness and excavated trench material can be used. Each layer must be firmly tamped, the first layer by hand and subsequent layers by mechanical means if so desired. (Figure 6.6.1) Refer to SANS 2001 DP2: 2010.

6.7 Testing

6.7.1 Preparation of the pipeline for the field pressure test

6.7.1.1 General

The purpose of a field pressure test is to test the design of the pipeline and the quality of the workmanship applied during construction. Batch samples of the pipes are pressure tested at the factory during manufacture. Pressure testing is to be carried out according to SANS 2001:2010 or as specified in the contract documentation.

6.7.1.2 Test lengths

The test should be carried out on a short length (<500m). This is recommended as it will show up any leaking joints or pipes damaged through laying or handling. The test sections must be isolated to limit water loss in the event of a failure.

6.7.1.3 Sealing of test section

The test section should be plugged with end-caps or end-plugs fitted with inlets and outlets for filling and bleeding

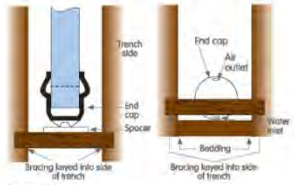

Figure 6.7

purposes. The plugged ends must be braced to prevent movement when pressure is applied to the pipeline. It is not recommended that the test be carried out against closed inline valves. (Refer figure 6.7)

6.7.1.4 Before filling

Before filling the line, check that all joints are exposed, thrust blocks are set (see Anchoring section 6.5) and, if the

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pipeline goes over a rise, there is enough backfill to prevent the pipes from lifting due to thrust. Remove all air valves and open their isolating valves to release the air when filling. Close all scour valves. Make provision to dispose of the water after the test.

6.7.1.5 Filling of test section

Fill the test section from the lowest point. The filling rate must be in accordance with the recommendation in Table 6.7. Allow the line to bleed well through the isolating valves and ensure that all the air has been removed from the system before closing the bleed valves.

6.7.1.6 Before testing

Allow the pipeline to stand for 12 hours under static pressure after it has been filled. This is to allow any remaining air to reach the highest point. (Refer to Section 6.8) Inspect the line for leaks and settlement.

N.B. DON'T apply any pressure during this 12 hour period. Top up the line after 12 hours and bleed again to get rid of any remaining air. The presence of air can seriously affect the results of pressure test operations. (See section 6.8)

Table 6.7 Recommended filling rate

Size	Litres/minute
50	5
63	8
75	11
90	15
110	20
125	30
140	37
160	50
200	95
250	150
315	215
355	290
400	380

6.7.2 Applying pressure

Apply the required pressure slowly by means of a suitable test pump. (Recommended test is for a 1 hour period, to a hydraulic pressure not exceeding 1,25 times the stated pressure of the class of pipe under test, as per SANS 2001 DP2 requirements). Take pressure readings from the lowest point. Once the pipeline has been pressurised to the test pressure, the drop in pressure must be recorded every 15 minutes, whereafter the test pressure must be restored and the make-up water recorded. Refer to Table 6.7.3.

The rate of pressure drop between readings should decrease. If not, look for the leaks, yielding thrust blocks or open valves. If no cause is found, it may be due to entrapped air. Let water flow through the test section to move air to the bleeding points.

N.B. Don't test against a closed inline valve as the pressure may cause damage or it may leak.

6.7.3 Allowable leakage rates (ALR)

Seepage may occur at valve glands and areas of transition. Table 6.7.3 is an indication of allowable leakage rates.

Pipe Outside Dia. Size (mm)	Test Pressure 750kPa (Class 6)	Test Pressure 1125kPa (Class 9)	Test Pressure 1500kPa (Class 12)	Test Pressure 2000kPa (Class 16)	Test Pressure 2500kPa (Class 20)	Test Pressure 3125kPa (Class 25)
	ALR	ALR	ALR	ALR	ALR	ALR
50	0.43	0.53	0.61	0.71	0.79	0.88
63	0.55	0.67	0.77	0.89	1.00	1.11
75	0.65	0.80	0.92	1.06	1.19	1.33
90	0.78	0.95	1.10	1.27	1.42	1.59
110	0.95	1.17	1.35	1.57	1.74	1.94
125	1.08	1.33	1.53	1.77	1.98	2.21
140	1.21	1.48	1.71	1.98	2.21	2.47
160	1.39	1.70	1.96	2.26	2.53	2.83
200	1.73	2.12	2.45	2.83	3.16	3.54
250	2.17	2.65	3.06	3.54	3.95	4.42
315	2.73	3.34	3.86	4.46	4.98	5.57
355	3.07	3.77	4.35	5.02	5.61	6.28
400	3.46	4.24	4.90	5.66	6.32	7.07

Table 6.7.3 Allowable Leakage Rates - ALR in Litres/Kilometre/Hour (Based on test pressure = 1.25 x rated pressure of the pipe)

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SANS 2001 DP2 section 7.3.3 (b) specifies the following equation to calculate allowable leakage rates in litres.

The system is isolated from the test pump for a period of one hour. The test is then deemed satisfactory if the quantity of water required to restore the pipeline to the test pressure does not exceed the amount of litres calculated by the formula:

0.01 x diameter of pipe in millimetres
x length of test section in kilometres
x square root of the test pressure in megapascals

eg. A 160mm Class 12 pipeline 1000m in length test pressure 1500 kPa. Allowable amount of water required to restore system to test pressure after 1 hour

$= 0.01 \times 160 \times 1 \times \sqrt{1,5}$
$= 1,96$ litres

For pipelines shorter than 30m in length, the maximum pressure loss after 1 hour test period shall be 50 kPa.

6.7.4 Completion of test

After a satisfactory test period of a least one hour, release the pressure and, if required, open bleed and drain points to drain the water.

6.8 The effect of entrapped air on a pressurised pipeline[17]

The effect entrapped air has on a pipeline is difficult to calculate or even evaluate. Independent international and local studies have shown that pressure surges in excess of 15 times the actual applied internal pressure can occur if entrapped air is released in an uncontrolled manner from a pressurised pipeline.

6.8.1 General

Entrapped air in a pipeline will have a different influence under the following conditions:

- Under static conditions, ie. when no flow takes place and the pipe is only subjected to static pressure;
- under operational conditions, ie. when flow takes place in the pipeline; and
- when waterhammer occurs for whatever reason.

During the design, filling, testing, commissioning and operation of any pipeline it is essential that the necessary precautions be taken to try and minimise the volume of air present in the system. Since it is not practically possible to totally prevent air from entering, it is necessary that provision be made to remove the remaining air from the system, thereby reducing the potential negative effect thereof.

6.8.2 The effect of entrapped air under static conditions

Joints are absolutely watertight but not necessarily airtight, especially when subjected to low and high pressures.

Should an air pocket be present in a pipeline when under static pressure, the pressure in that air pocket is equal to that in the water, say X MPa. Contrary to water, air is compressible and, under a pressure of X MPa its volume will be X times smaller than its initial uncompressed volume. If at a certain instant one or more couplings release air under the applied pressure, the compressed air escapes almost instantaneously and the surrounding water rushes rapidly into the created void, unable to escape through the coupling it results in waterhammer in the "static" pipe.

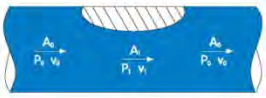
Experiments have shown that these openings through which air is able to escape are microscopically small and that a single drop of water completely seals such "openings".

6.8.3 The effect of entrapped air under operational conditions

When an air pocket of considerable size occupies a certain part of a pipeline in which water is flowing, surge pressures may be created by the air pocket itself without it actually escaping from the system.

The mechanics of this phenomena can best be explained by means of the illustration in Figure 6.8.

Figure 6.8: Pressure variations caused by entrapped air in a pressure pipeline



The discharge through the pipeline is equal through cross-sections A_o and A_i. The flow velocity v_i is thus greater than v_o. When the equation of Bernoulli is applied it follows that pressure P_i must be smaller than pressure P_o.

The amount of dissolved air in water is a function of both the temperature and pressure, and when the temperature is constant and the pressure decreases, as in the vicinity of cross-section A_i, more air will be liberated from the water and the size of the airpocket will increase. This will

[17] Eventle Hydraulics Design Technical Document – TA 2/92

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result in further increase in velocity v_1 and decrease in pressure P_1. The airpocket may eventually get so big that it will occupy the whole cross-section of the pipeline for a short period of time, resulting in a momentary interruption in flow and collision of the two water columns causing a surge wave of significant magnitude.

6.8.4 Influence of entrapped air on the magnitude of surge caused by waterhammer

Depending on the quantity of air present and the location thereof, the magnitude of the surge pressure caused by waterhammer can either be aggravated or reduced. It is thus important to try and minimise the quantity of air present in the system, and to make provision for the orderly release of remaining air.

6.8.5 Removal of entrapped air from a pipeline

There are two ways in which air can be removed from a pipeline:

- Hydraulically; and
- Mechanically.

Both methods however only operate effectively when flow takes place in the pipeline, and a combination of the two methods is normally employed in practice, ie. sufficiently high flow velocities as well as correct sizes and effective air release valves are correctly positioned and installed.

6.8.5.1 Hydraulic removal of air

In order to remove air hydraulically, a certain minimum flow velocity, corresponding to the slope and diameter of the pipeline, is necessary to move the air to the air valves and/or outlet of the pipeline.

The minimum flow velocity necessary to move entrapped air along the pipeline can be calculated with either the formula of Kalliske and Bliss or Wisner. Both have been derived mathematically, but in addition to this, Wisner's equation was modified through physical observations on experiments conducted on the rag forces on air bubbles. For this reason the Wisner equation gives a higher minimum flow velocity, and is considered to be more accurate and therefore more commonly used.

These equations should be applied between air valves on the flattest sections to determine whether entrapped air will in fact be transported to the air valves thus enabling it to escape.

Wisner

$$v \geq (0.25\sqrt{\sin\theta} + 0.825)\sqrt{gd}$$

Kaliske and Bliss

$$v \geq \sqrt{111.73gd\tan\theta}$$

where: v = minimum flow velocity required to transport air along pipe (m/s)

θ = gradient of section of pipeline under consideration (degrees)

g = gravity acceleration (m/s^2)

d = internal diameter of pipe (m)

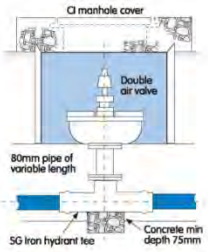
6.8.5.2 Mechanical removal of air

Entrapped air must be set free from pipelines by means of strategically positioned air valves. When designing, filling, testing, commissioning and operating a pipeline the following must be kept in mind:

- Air valves must be positioned not only on local high points, but also at regular intervals along even or flat sections;
- air valves must not be positioned above the hydraulic gradient as air will then be sucked in;
- air valves do not operate under static conditions;
- air valves do not function properly when filling a pipeline;
- it is recommended that all air valves be installed on collector pipes of diameter of no less than that of the pipeline, extending at least half the pipe diameter above the pipe crown;
- in order to prevent blowshut, the flow velocity of air through an air valve must not be more than 30m/s (consult valve manufacturer for accurate requirements); and
- air valves must be checked and serviced regularly.

More specific information on air valves should be obtained from the manufacturers and relevant literature.

Typical air valve installation



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6.9 Backfilling at joints

After completion of acceptance testing, the parts of the trench left unfilled for the testing must be backfilled in exactly the same way as that used for the rest of the trench. (Figure 6.9)

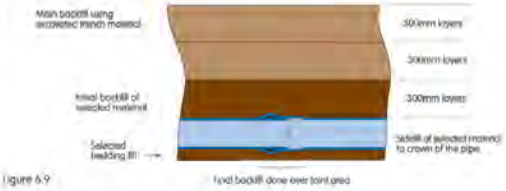

Figure 6.9

6.10 Repair

SG iron or PVC repair couplings (See 5.4) are designed to slide over a damaged pipe in order to effect a repair. The SG iron couplings are rated to Class 25 and are easily installed on the smooth constant outside diameter of the PVC pressure pipe. The following figures indicate the method of use.

6.10.1 Damaged pipe

6.10.2 Remove damaged section

6.10.3 Install repair coupling

After chamfering ends with file, measure half of repair coupling length and mark each pipe end as shown. Using lubricant liberally, install repair couplings, one on each exposed pipe end.

6.10.4 Insert new pipe section

Cut and chamfer new section of pipe and make the same marks equal to approximately half the coupling length as shown. Insert into the gap.

6.10.5 Secure couplings in place

Tap couplings into place using rubber mallet or hammer and drift.

6.10.6 Backfill after the system has been put under pressure

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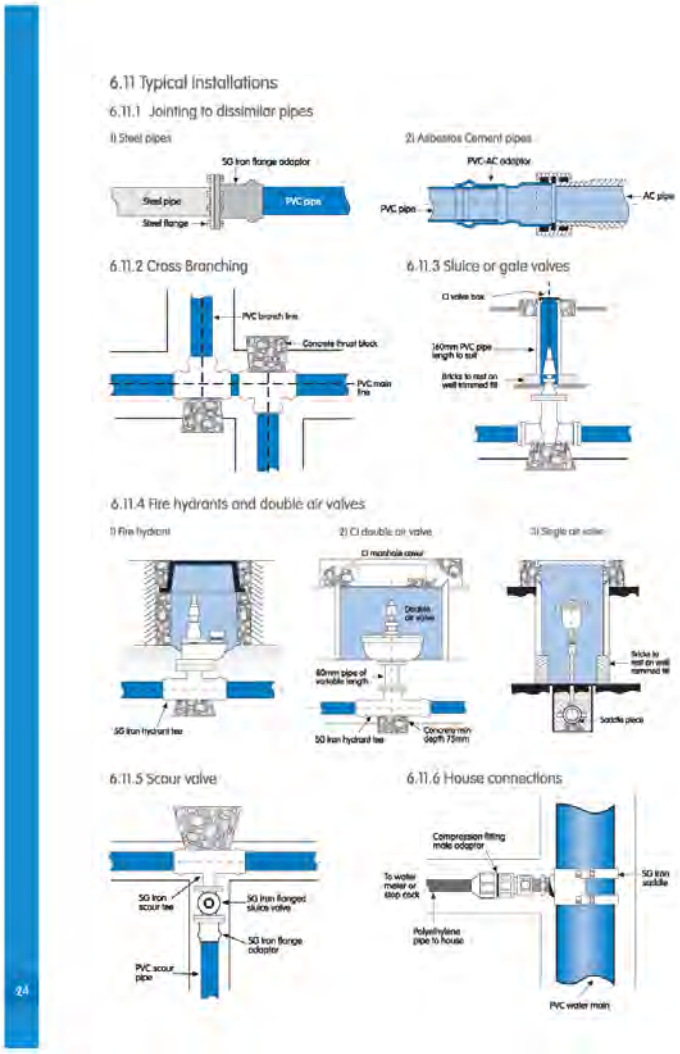
6.11 Typical installations
6.11.1 Jointing to dissimilar pipes
1) Steel pipes
SG iron flange adaptor
Steel pipe
PVC pipe
Steel flange
2) Asbestos Cement pipes
PVC-AC adaptor
PVC pipe
AC pipe
6.11.2 Cross Branching
PVC branch line
Concrete thrust block
PVC main line
6.11.3 Sluice or gate valves
CI valve box
160mm PVC pipe length to suit
Bricks to rest on well trimmed fill
6.11.4 Fire hydrants and double air valves
1) Fire hydrant
2) CI double air valve
CI manhole cover
Double air valve
60mm pipe of variable length
SG iron hydrant tee
Concrete min depth 75mm
3) Single air valve
Bricks to rest on well rammed fill
Saddle piece
SG iron hydrant tee
6.11.5 Scour valve
SG iron scour tee
SG iron flanged sluice valve
SG iron flange adaptor
PVC scour pipe
6.11.6 House connections
Compression fitting male adaptor
To water meter or stop cock
SG iron saddle
Polyethylene pipe to house
PVC water main
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APPENDIX H2: WATER USE LICENSE APPLICATION

INTEGRATED WATER USE LICENSE APPLICATION REPORT

PROPOSED TRANSFER OF WATER FROM VARIOUS PROPERTIES AND THE CONSTRUCTION OF VINEYARDS ACROSS STREAMS ON KAKAMAS NORTH SETTLEMENT NO 343, NORTHERN CAPE

Prepared by:
Elanie Kühn
Pieter Badenhorst Professional Services
June 2018

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, Valam Boerdery PTY Ltd for the transfer of water from Portion 37 of Farm Zeekoesteek no 9 and to transfer the water rights to Kakamas North Settlement no 343 (see tables below) all owned under the affiliation of CapeSpan (PTY) Ltd to rectify the water allocations to the said properties. Approval is also necessary for the development of agricultural areas across small ephemeral streams/drainage areas that already took place. The application is summarised for the following water usages:

(a) taking water from a water resource;	[transfer of water between properties] The transfer of water to Kakamas North Settlement no 343.
(c) impeding or diverting flow of water in a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas. The application will take place on Kakamas North Settlement no 343.
(i) altering the bed, banks, course or characteristics of a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas. The application will take place on Kakamas North Settlement no 343.

The applicant, Valam Boerdery PTY Ltd, wishes to transfer 180 000m³/a of water from Portion 37 of Farm Zeekoesteek no 9 owned by the applicant, which are currently fully utilised with additional water allocations, to Kakamas North Settlement no 343, to rectify the water allocations to the above mentioned properties. See Table below:

	Transfer from (Donor)						Transfer to (Receiving)				
Nr	FARM	PROPERTY DESCRIPTION	OWNER	EXISTING WATER RIGHTS (HA)	SURPLUS	TRANSFER FROM (HA)	FARM	PROPERTY DESCRIPTION	OWNER	EXISTING WATER RIGHTS (HA)	TRANSFER TO (HA)
1	Zeekoesteek (A)	Portion 37 of Farm Zeekoesteek no 9.	Aggrigate Investment Properties	50.2	30.75	12ha	Omdraai	Kakamas North Settlement Farm no 343	Valam Boerderye PTY Ltd	60ha	12ha
	Total transfer										12ha (180 000m³/a)

The farms are currently irrigating their vineyards with water that is pumped directly from the Orange River at an existing abstraction point, note however this is an existing lawful use.

It has already been confirmed by the Kakamas WUA the existing rights and the transfer of water is from Department of Water Affairs as Zeekoesteek falls outside the Water Users Association zones and is managed by DWS, therefore no objections to the transfer has to be confirmed as

part of this application. 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 the vineyards on Kakamas North Settlement no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03245. The unnamed sub-catchment is not really a river, but more fits the description of a mostly dry drainage line. The sub-catchment is about 28 km long.
The ephemeral drainages systems will ultimately have flowed into the Orange River, this is no longer the case as all these streams are cut off from the Orange River via agricultural developments.

1. THE APPLICATION AND TECHNICAL DETAIL

1.1 The applicant

The applicant, Valam Boerdery PTY Ltd, organogram of company structures shown in Appendix J) is applying for the section 21 (a) for transfer of water from Portion 37 of Farm Zeekoesteek no 9 to Kakamas North Settlement 343, Augrabies to allow for the correct water allocation per property as outlined in the National Water Act 1998. The application is also for the Section 21 (c) and (i) for the construction of vineyards across small streams on the property. A NEMA Application for the rectification of unlawful construction of irrigation areas, under Section 24G has been submitted to DENC. Please note the receiving and donor properties are owned by CapeSpan Pty Ltd.

1.2 The property on which the water use is intended

The proposed property on which the expanded of agricultural activities took place and on which the new water allocations will be transferred to is the following Kakamas North Settlement no 343 (further also referred to as Omdraai).

The farm Omdraai is situated to the north of the Orange River and Augrabies and gains access via a gravel road onto the R359, see Figure 1. Farm Omdraai is situated on the right side of the R64 approximately 6km outside the small town of Augrabies in the Northern Cape Province, see Figure 1.

Figure 1: Locality Kakamas North Settlement 343

1.3 Water Use License Application

Application for a license in terms of the National Water Act, 1998 is made by the developer, Valam Boerdery PTY Ltd, for the following water usages:

(a) taking water from a water resource;	[transfer of water between properties] The transfer of water to Kakamas North Settlement no 343.

(c) impeding or diverting flow of water in a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas. The application will take place on Kakamas North Settlement no 343.
(i) altering the bed, banks, course or characteristics of a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas. The application will take place on Kakamas North Settlement no 343.

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	**River (ha)**	**m³/ha**	**m³/a**
Kakamas North Settlement no 343	60ha	15 000	900 000
Boegoe Berg WUA			
Portion 37 of Farm Zeekoesteek no 9.	50.2ha	15 000	753 000
Total new			

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, Valam Boerdery PTY Ltd wishes to transfer water from Portion 37 of Farm Zeekoesteek no 9 to Kakamas North Settlement no 343 to ensure the properties and water allocations comply with the National Water Act (1998). The transfer intended for the properties are shown below in Tabel 3.

	Transfer from (Donor)						Transfer to (Receiving)				
Nr	FARM	PROPERTY DESCRIPTION	OWNER	EXISTING WATER RIGHTS (HA)	SURPLUS	TRANSFER FROM (HA)	FARM	PROPERTY DESCRIPTION	OWNER	EXISTING WATER RIGHTS (HA)	TRANSFER TO (HA)
1	Zeekoesteek (A)	Portion 37 of Farm Zeekoesteek no 9.	Aggrigate Investment Properties	50.2	30.75	12ha	Omdraai	Kakamas North Settlement Farm no 343	Valam Boerderye PTY Ltd	60ha	12ha
											(180 000m³/a)

Table 3: Proposed transfer and new water allocations

1.5.1.1 Irrigation of any land

Kakamas North Settlement 343 (Omdraai):

The farm is currently irrigating their vineyards with water that is pumped directly from the Orange River at an existing abstraction point. The property has been developed with a total of

approximately 43.74ha of vineyards, see Figure 2. The site has additional 23.23ha that is currently developed that will be redeveloped. The ELU allocated to the property is 60ha, therefore an application made for an additional water allocation of 12ha. The additional water allocation (180 000m³/a from the from Portion 37 of Farm Zeekoesteek no 9) will be pumped directly from the Orange River and irrigated onto the vineyards.

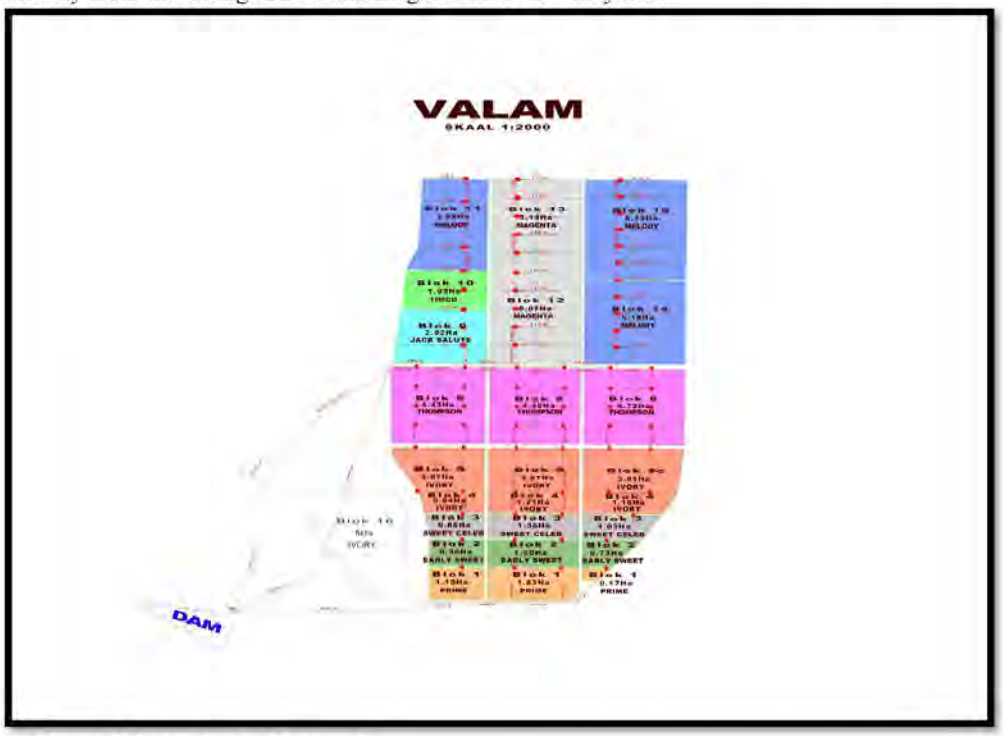

Figure 5: Irrigation on Omdraai

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 that it will have no impact on the Water Users Association. 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 Omdraai

The establishment of the vineyards on Kakamas North Settlement Farm no 343 (Omdraai) took place across 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 is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel does not flow directly towards the Orange River, it links into the unnamed

tributary which flows into the Orange River, however a series of structures and agricultural developments cut the system off prior to entering the unnamed tributary.

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, see Figure 3 (dark blue lines).

Figure 3: Ephemeral streams/drainage areas

1.5.2.2 Present Ecological Status (PES) & Ecological Importance Sensitivity (EIS)

Reference is made to the Draft Department of Water and Sanitation (DWS) Report (dated August 2016): "Determination of Ecological Water Requirements for Surface Water (rivers, estuaries and wetlands) and groundwater in the Lower Orange WMA; Report No. RDM/WMA06/00/CON/COMP/2016)1.
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 sites.
Refer to Figure 4 below for the location of the Project Site (Kakamas North Settlement no 343,) in relation to EWR 02 and EWR 03.
EWR 02 and EWR 03 both have a:
□ 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 4: 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).

The drainage channel system is located in a sub-catchment that is unnamed, D81A-03269. The drainage channel flows directly towards the Orange River, however a series of structures and agricultural developments cut the system off from the Orange River
The overall all analysis according to DWS:PES & EIS Desktop Assessment is that the site falls within a PES Category D and is largely modified. According to the EIS summary the site extensively utilised for farming and irrigation along the floodplains.

1.6 Storm water Management

1.6.1 Introduction

This section in the report is intended to provide the Department of Water Affairs with all necessary information to assess the suitability of the measures to be taken by Valam Boerdery PTY Ltd regarding the successful storm water management of the proposed irrigation/agricultural development. This section describes the various infrastructure items that are/were to be constructed and the storm water management objectives that the land-owner will undertake to ensure sustainable management of the constructed storm water infrastructure. Find attached F2 the Storm water Management Plan.

1.6.2 Mitigation Measures:

The main issues to be addressed with mitigation measures include

1. Design
2. Irrigation
3. Nutrients (fertilisers)
4. Spraying (pesticides)
5. Storm water channels
6. Pipelines
7. Erosion control
8. River pump station

1.6.2.1 Design

The design of vineyard blocks took into account the natural flows and minimise impacts on the ephemeral streams. A storm water channels divert flow around the planted blocks towards the diversion channel. Flow entering the diversion channel will then flow downstream and naturally enter an existing stream.

1.6.2.2 Irrigation

In order to prevent over irrigation, which might lead to water flows creating erosion and or transporting nutrients to the retained ephemeral streams, good farming practises such as irrigation on demand should be utilised.

In addition, the use of mulching should be used to reduce evaporation losses. The mulch also serves to retain moisture and prevent erosion near the plants at the source of irrigation; microjet or drip.

A typical example with mulching along the planted rows and planting between rows is shown below in Figure 5.

Figure 5: Mulching and planting between rows

1.6.2.3 Nutrients

Nutrients are usually applied in the irrigation water. Every effort must be made to only apply as required by the plant and soil.

Should fertiliser powder or pellets be used and applied by hand or machine it must only be placed along the vine plants and no mess or waste between rows should be allowed.

Powder or pellet fertiliser may not be spilled between vine rows or on access roads between the vine blocks. Should this happen it must be picked up and removed immediately.

1.6.2.4 Spraying

Spraying of pesticide is normally applied by machine as a vapour. The main potential source of pollution would be from spillages. Therefore, filling of the spray machine must be done in a safe area where pollution of the soil would not be possible. The best place would be on a concrete area where the pesticide is mixed with water.

1.6.2.5 Storm water channels

As shown in the Storm water management Layout Plan, the black line indicated are the storm water channel constructed to accumulate the storm water, the water would then flow lower into the unnamed tributary and flow towards the Orange River.
It should be noted that no dissipation/retention structures other than the storm water channels and drainage pipelines (shown in Figure 6 pink lines) are included to prevent erosion and storm water accumulation. However, natural vegetation has over time accumulated within the channels and does reduce flow. The storm water channels are deep enough to prevent overflow and erosion.

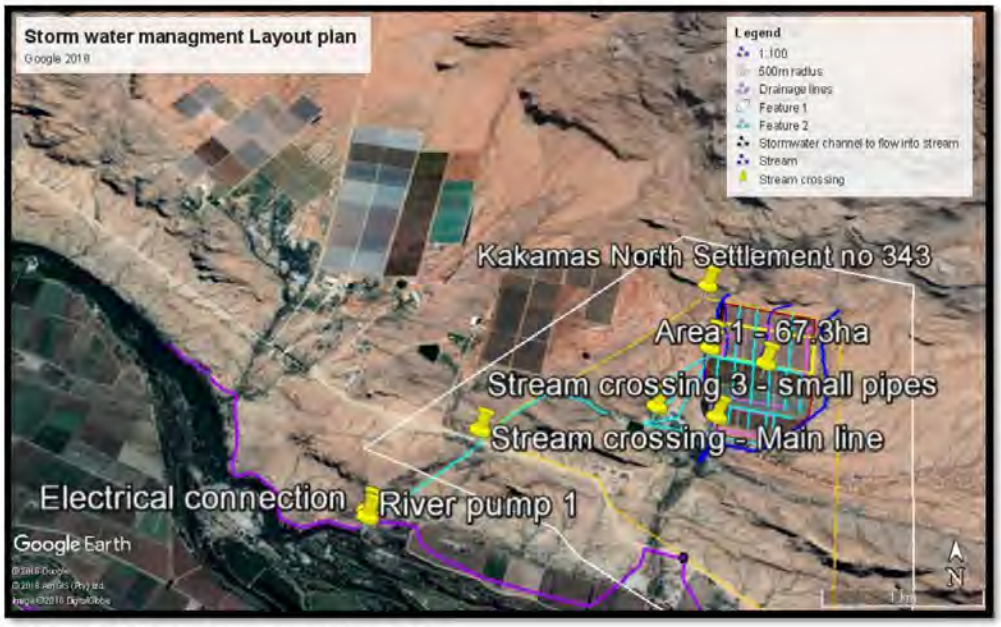

Figure 6: Storm management layout plan

1.6.2.6 Pipelines

The pipelines was constructed in the 1980's and purchased by CapeSpan. The main pipeline from the Orange River to the small balancing dam will run along an existing gravel road, the only section of the pipeline that will affect one of the streams is shown in Figure 5. The pipelines running towards the irrigation area will also cross the stream at 4 crossings, however they are constructed below ground with no impact. Care will be taken to prevent any future

impediment of flow related to these pipes, as the pipes are constructed below the ground. The following mitigation measures should be implemented for work on the pipelines:

- Care will be taken to only construct the pipelines during the dry seasons
- As far as possible the section of the pipeline across/within the stream should be done manually, no machinery, resulting in the lowest possible impact.
- Infilling with original soils (as per method statement)
- Flow meters must be equipped on the pipelines.-protective measurement on water losses. This must be monitored on a regular basis and records kept on site.

1.6.2.7 Erosion control

Erosion would normally occur with the following:

1. Over irrigation which create water flows from the planted rows to the area between the rows and then to roads between the blocks.
    a. For mitigation see (3) below.
2. Pipe breakages where water will wash from the plants to the area between the rows to the roads between blocks and from where water can flow towards the retained ephemeral streams – thereby causing erosion gulleys.
    a. For mitigation see (3) below.
3. Rain events where the water will flow down slope to reach the ephemeral streams and along the way cause erosion where development took place; that is – between the planted rows and along the roads between blocks.
    a. Mitigation include the following:
        i. Mulching and planting/mulching between rows – see Figure 5 for typical example.
        ii. Scarifying of soil between planted blocks and roads to create a soft/rough area to retain moisture and prevent erosion – see Figure 7.

Figure 7: Scarifying of soil

        iii. Create a buffer with natural vegetation between the planted blocks and roads as shown in Figure 8.

Figure 8: Buffer areas with natural vegetation between blocks and roads

Overall therefore, the natural approach is preferred whereby mulching, planting and natural buffer areas are used to serve as mitigation to prevent flows that could create erosion. This has the further advantage that it also act against spreading of nutrients and pesticides.

1.6.2.8 River pump station

The following mitigation measures apply:

- Care was taken in the design of the Pump Station at the Orange River, so as not to impede flow, seeing as the floating jetty has the lowest possible impact on the river and riverbanks. See Figure 10 for the floating jetty.
- Any maintenance will take place as far as possible during the dry season.
- Care was taken for the smallest footprint and least amount of damage to the Orange River.
- During periods of heavy rains the pumps will be removed from the Orange River and stored away from the River. Note the pumps are below the 1:100 year floodline, see Figure 9 below.
- The design for the maintenance of the jetty and pipelines are included in Appendix C of the SWMP, this should be adhered to. Note the jetty design is only a typical design for a floating jetty and specifications not necessarily for the existing jetty at the Orange River.

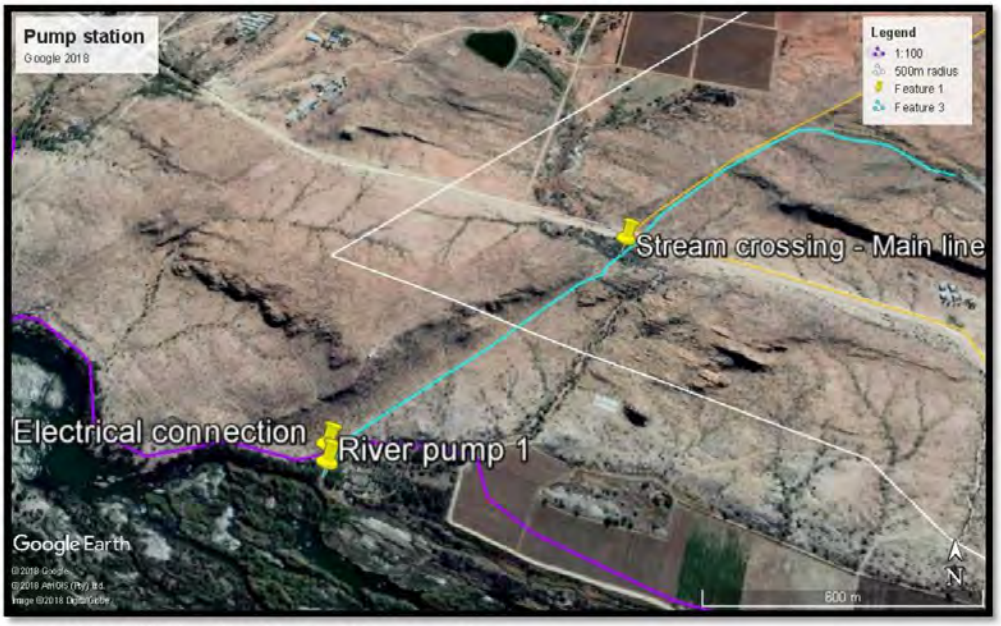

Figure 9: 1:100 Year flood line and pump station

Figure 10: Photo's of pump station

1.7 Plough certificate

Currently the applicant was unable to obtain an existing Plough certificate, although the existing developed areas has been cultivated since 1980's, with existing water rights. However, the new development areas and the additional water allocations are not indicated, therefore this will be discussed with the Department of Agriculture, Forestry and Fisheries.

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 marked 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 from outside the irrigation board zone and is managed by DWS to Kakamas Water Users Association and will have little effect on the quantity of water available from within the catchment.
Please see attached (Appendix B) letter from the Kakamas Water Users Associations a confirmation letter of the existing rights.

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 (Appendix B) letter from the Kakamas Water Users Associations a confirmation letter of the existing rights.

2.5 The likely effect of the water use to be authorized on the water resource and on other water users in the catchment

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, within the Kakamas Water Users Association as water will be pumped directly from the Orange River. The impacts and mitigation measures are summarised in the table 4 below:

Water Uses	Potential Impact on	Proposed Mitigation Measures	Review of the adequacy of suggested mitigation measures
Section 21(a)	Impact on existing properties for transfer of water rights	Impact is deemed low negative • The listed properties are partially/fully planted. However, these properties have sufficient water allocated. • No mitigation	No mitigation
	New irrigation areas associated with the additional water use rights	Low positive • Measures should be implemented to reduce water use within the proposed development, such as the use	Mitigation measures adequate to ensure positive impact takes place.

		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. • 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.	
Section 21 (c&i)	Water Quality	• No impact on water quality, as construction will be conducted outside the rainfall season. (Replanting) • No flow from agricultural areas as storm water berms will be constructed as far as possible. (Replanting) • 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.	Mitigation measures adequate to ensure impacts are fully mitigated.
	Impeding and diverting flow within ephemeral streams.	Low negative • 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 management mitigation measures, outlined in the SWMP.	Mitigation measures adequate to ensure impacts are fully mitigated.

	Impact of the pipelines, pump station, across small streams to the development area.	• 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. • Care should be taken during maintenance of the pipelines and flow meters and the pump station at the Orange River. • During floods the floating jetty should be removed.	Mitigation measures adequate to ensure impacts are fully mitigated.

Table 4: Impacts table

2.6.1 Assessment of the impacts associated with the water use:

The transfer of the water (180 000m³/a) from Portion 37 of Farm Zeekoesteek no 9, outside of the WUA zone to the Kakamas WUA on the Kakamas North Settlement no 343 will not have a negative impact on the existing water use within the catchment area. The water can be accommodated, as confirmed within the Kakamas Water Users Association (Appendix B).The impacts associated with the development (already took place) of agricultural areas across stream is low negative, however mitigation measure taken into account can prevent any further negative impacts, see Table 4 above.

2.7 The need to redress the results of the past racial and gender discrimination

It is envisaged that the applicant 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. There are 14 permanent HDIs working on Omdraai (2 female and 12 male). During the harvest season there are 320 HDI's working on the farm (214 female and 106 male)

The new water use licence will not create an immediate need to appoint more workers and supervisors, however will secure the existing job opportunities.

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 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.

No. of persons for employment	No. of persons for accredited training
Semi-skilled: 50 Unskilled: 270	Semi-skilled:10 Unskilled: 4

Men: 106 Women: 214	Men: 12 Women: 2
Youth: 0 Adult: 320	Youth: 0 Adult: 320

Table 5: New employment opportunities

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.
- The proposed water rights will increase employment opportunities on the farm and in the downstream supply chain (cold rooms, pack houses and logistics). Grape farming and the employment of staff in cold rooms and pack houses (who are specifically women) create many sustainable employment opportunities.
- The increased staff compliment will provide additional opportunities for upliftment and development.
- 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.
- The proposed water rights will increase employment opportunities on the farm and in the downstream supply chain (cold rooms, pack houses and logistics). Grape farming and the employment of staff in cold rooms and pack houses (who are specifically women) create many sustainable employment opportunities.
- The increased staff compliment will provide additional opportunities for upliftment and development.
- 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 Section 27 Report.

2.10 Investment already made and to be made by the water user in respect of the water use in question

The following investments have been made:

1. The water allocations are from small properties currently owned by the applicant and therefore no purchase of water needed.
2. All investments made already as this is an existing farm with existing infrastructure.

The future investments to be made:

1. No additional investments.

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.

2.12 Failure to authorize the water use

Failure to authorize the water use will result in the following:

- Financial loss due to existing investments already made, buying of properties and water use rights.
- The design and processes implemented to obtain authorisation also has a high financial implication that will be lost.
- Loss in current and future employment opportunities and skills development and training opportunities.
- If the transfer is not approved we will have to revise the group structure and curtail further investment which will lead to significant job losses and that will have a grave impact on the workers, their families and the socio-economic state of the local community.
- The crèche and clinic will close and there will no longer be family planning and HIV/Aids awareness training. The children will be affected very negatively due to the closure of the crèche since they receive day care and meals.
- There will be no further capital investments.

3. CONCLUSION

The transfer of the water (180 000m^3/a from the Kakamas WUA from the Portion 37 of Farm Zeekoesteek no 9) to Kakamas North Settlement no 343(900 000m^3/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 authorisation of the farm and procurement of the correct rights on each property, thereby complying with the necessary legislation will have numerous positive socio-economical impacts not only on the farm but also the region and result in job creations, job secuirty, 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 Portion 37 of Farm Zeekoesteek no 9 to Kakamas North Settlement no 343 be approved. It is also recommended that the irrigation area across small ephemeral streams on Kakamas North Settlement 343 be allowed.

6. APPENDICES

APPENDIX A: Completed License Application Forms

APPENDIX B: Existing Water Use Confirmation

Oosthuizenstraat
Privaatsak x4
Kakamas 8870

Oosthuizen Street
Private Bag x4
Kakamas 8870

Tel (054) 431 0725/6
Faks/Fax (054) 431 0348
E-Pos/e e Mail ceokwgv@isat.co.za

Watergebruikersvereniging
Water User's Association

Mnr. G. van Niekerk

14 September 2017

473/D2/2/341, 473/D2/2/343

Oorkant Boerdery + Valam Boerdery(Edms) Bpk T/A Omdraai Boerdery
Posbus 21
Kakamas
8870

KAKAMAS WATERGEBRUIKERSVERENIGING. NAVRAAG MET BETREKKING TOT WATERGEBRUIKSREGTE OP PERSELE 341 EN 343 KAKAMAS – NOORD NEDERSETTING.

U e-pos gedateer 14 September 2017 het betrekking.

Onderstaande tabel toon gegewens soos deur u versoek. Die gegewens was ten tye van u navraag korrek maar sou u in die onlangse verlede aansoek gedoen het vir wysigings , kan dit wees dat die wysigings nog nie afgehandel is nie en sal dit ook nie as sodanig weergegee wees nie.

Perseelnommer	Maksimum moontlike hektare	Kanaal hektaar	Rivier hektaar
Kakamas – Noord 341	39.00	0.00	39.00
Kakamas – Noord 343	60.00	0.00	60.00
TOTAAL	**99.00**	**0.00**	**99.00**

(*) Geliewe kennis te neem dat die gebruiksreg van elke individuele eiendom as 'n volume (kubieke meter) toen elke eiendom , soos aangedui in bostaande tablel geregistreer is. Die geregistreerde volume van elke eiendom word dus bereken deur die aantal hectare te vermenigvuldig met die kwota van 15 000 m³ water per jaar.

Registrasie van bogemelde gebruiksregte uit die kanaal sowel as uit die rivier , soos in die tabel hierbo aangedui, is gedurende Oktober 2000 namens u geregistreer in terme van die Nasionale Waterwet (Wet 36 van 1998) soos gewysig. Geen verpligte lisensiëring is op hierdie stadium van toepassing nie , en slegs in die geval van permanente oordrag van gebruiksregte van een gedeelte grond na 'n ander gedeelte word die ontvanger eiendom gelisensieër.

Ek vertrou dat u die inligting in orde sal vind en sal graag meer besonderhede verskaf indien dit benodig word.

HOOF UITVOERENDE BEAMPTE

APPENDIX C: Deed Search and Title Deeds

APPENDIX D: Power of Attorney

I/we the undersigned ...Mnr Bernie Denton(COO) on behalf of Dormell Properties 485 (PTY) Ltd (ID . 7606145015084) hereby authorizes Pieter Badenhorst Professional Services (Pieter Badenhorst) whom is acting as our consultant, to sign and submit licence applications forms in terms the National Water Act, 1998 to the Department of Water and Sanitation, on our behalf.

Should you have any further questions in this regard please contact me at
Cell. Nr.: 083 702 5742 .

I/we are duly authorized to act on behalf of the following entities:
..Dormell Properties 485 (PTY) Ltd.....

Signed on this ....31th.....day of ...March....2017.... at Durbanville.

Signed by: Mnr. Bernie Denton.....

.....

Signature

1

CAPESPAN FARMS

CAPESPAN FARMS (PTY) LTD | Reg No. 2005 / 006089 / 07
99 Jip de Jager Vineyards Office Estate, Cabernet House, Bellville, 7530
PO Box 505, Bellville, 7535
Tel + 27 (0) 21 020 0160 | www.capespan.com

EXTRACT OF THE MINUTES OF THE MEETING OF CAPESPAN FARMS (PTY) LTD

At a meeting of the Board of Directors of CAPESPAN FARMS (PTY) LTD registration number 2005/006089/07 held at BELLVILLE on the 23 AUGUST 2017

It was RESOLVED that:

Bernie James Denton and Andrew Albertus Herholdt are the authorised Representatives to sign all legal documentation pertaining to the transfer of water rights on behalf of the following entities within the Capespan Farms Group.

1. Aggrigate Investments (Pty) Ltd
2. Dormell Properties 485 (Pty) Ltd
3. Valam Boerdery (Pty) Ltd

Signed at BELLVILLE on 23 AUGUST 2017

.....
AF FUCHS
DIRECTOR

.....
AG PETERSEN
DIRECTOR

VALAM BOERDERY (EDMS) BPK

REG NO: 1998/012817/07

Tel : 054 – 431 0568
Faks: 054 – 431 0565
Email: stephan@csfarms.co.za

Eerste laan no. 18
Kakamas
8870

Posbus 21
Kakamas
8870

EXTRACT OF THE MINUTES OF THE MEETING OF VALAM BOERDERY (PTY) LTD

At a meeting of the Board of Directors of VALAM BOERDERY (PTY) LTD registration number 1998/012817/07 held at BELLVILLE on the 23 AUGUST 2017

It was RESOLVED that:

Capespan Farms (Pty) Ltd is authorised to represent Valam Boerdery (Pty) Ltd in all legal matters pertaining to the transfer of water rights of Valam Boerdery (Pty) Ltd.

Signed at BELLVILLE on 23 AUGUST 2017

.....
BJ DENTON
DIRECTOR

.....
AA HERHOLDT
DIRECTOR

VALAM BOERDERY (EDMS) BPK

REG NO: 1998/012817/07

Tel : 054 – 431 0568
Faks: 054 – 431 0565
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Posbus 21
Kakamas
8870

EXTRACT OF THE MINUTES OF THE MEETING OF VALAM BOERDERY (PTY) LTD

At a meeting of the Board of Directors of VALAM BOERDERY (PTY) LTD registration number 1998/012817/07 held at BELLVILLE on the 23 AUGUST 2017

It was RESOLVED that:

Bernie James Denton and Andrew Albertus Herholdt are the authorised Representatives to sign all legal documentation pertaining to the transfer of water rights of Valam Boerdery (Pty) Ltd.

Signed at BELLVILLE on 23 AUGUST 2017

.....
BJ DENTON
DIRECTOR

.....
AA HERHOLDT
DIRECTOR

DORMELL PROPERTIES 485 (PTY) LTD

REG NO: 2005/017997/07

Tel : 054 - 431 0568
Faks: 054 - 431 0565
Email: stephan@csfarms.co.za

Eerste laan no 8
Kakamas
8870

Posbus 21
Kakamas
8870

EXTRACT OF THE MINUTES OF THE MEETING OF DORMELL PROPERTIES 485 (PTY) LTD

At a meeting of the Board of Directors of DORMELL PROPERTIES 485 (PTY) LTD registration number 2005/017997/07 held at BELLVILLE on the 23 AUGUST 2017

It was RESOLVED that:

Capespan Farms (Pty) Ltd is authorised to represent Dormell Properties 485 (Pty) Ltd in all legal matters pertaining to the transfer of water rights of Dormell Properties 485 (Pty) Ltd.

Signed at BELLVILLE on 23 AUGUST 2017

.....
BJ DENTON
DIRECTOR

.....
AA HERHOLDT
DIRECTOR

DORMELL PROPERTIES 485 (PTY) LTD

REG NO: 2005/017997/07

Tel : 054 – 431 0568
Faks: 054 – 431 0565
Email: stephan@csfarms.co.za

Eerste laan no 8
Kakamas
8870

Posbus 21
Kakamas
8870

EXTRACT OF THE MINUTES OF THE MEETING OF DORMELL PROPERTIES 485 (PTY) LTD

At a meeting of the Board of Directors of DORMELL PROPERTIES 485 (PTY) LTD registration number 2005/017997/07 held at BELLVILLE on the 23 AUGUST 2017

It was RESOLVED that:

Bernie James Denton and Andrew Albertus Herholdt are the authorised Representatives to sign all legal documentation pertaining to the transfer of water rights of Dormell Properties 485 (Pty) Ltd.

Signed at BELLVILLE on 23 AUGUST 2017

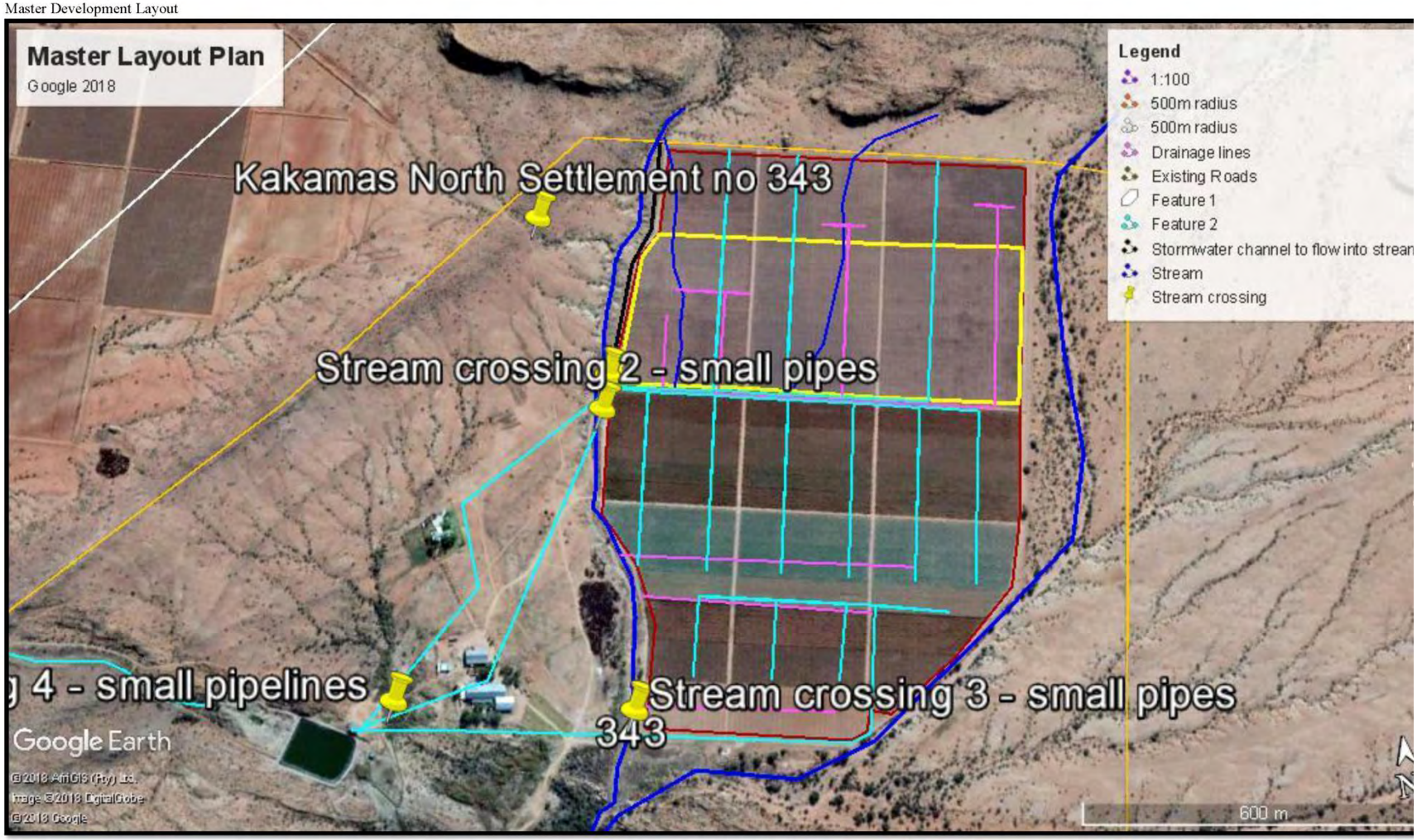
.....
BJ DENTON
DIRECTOR

.....
AA HERHOLDT
DIRECTOR

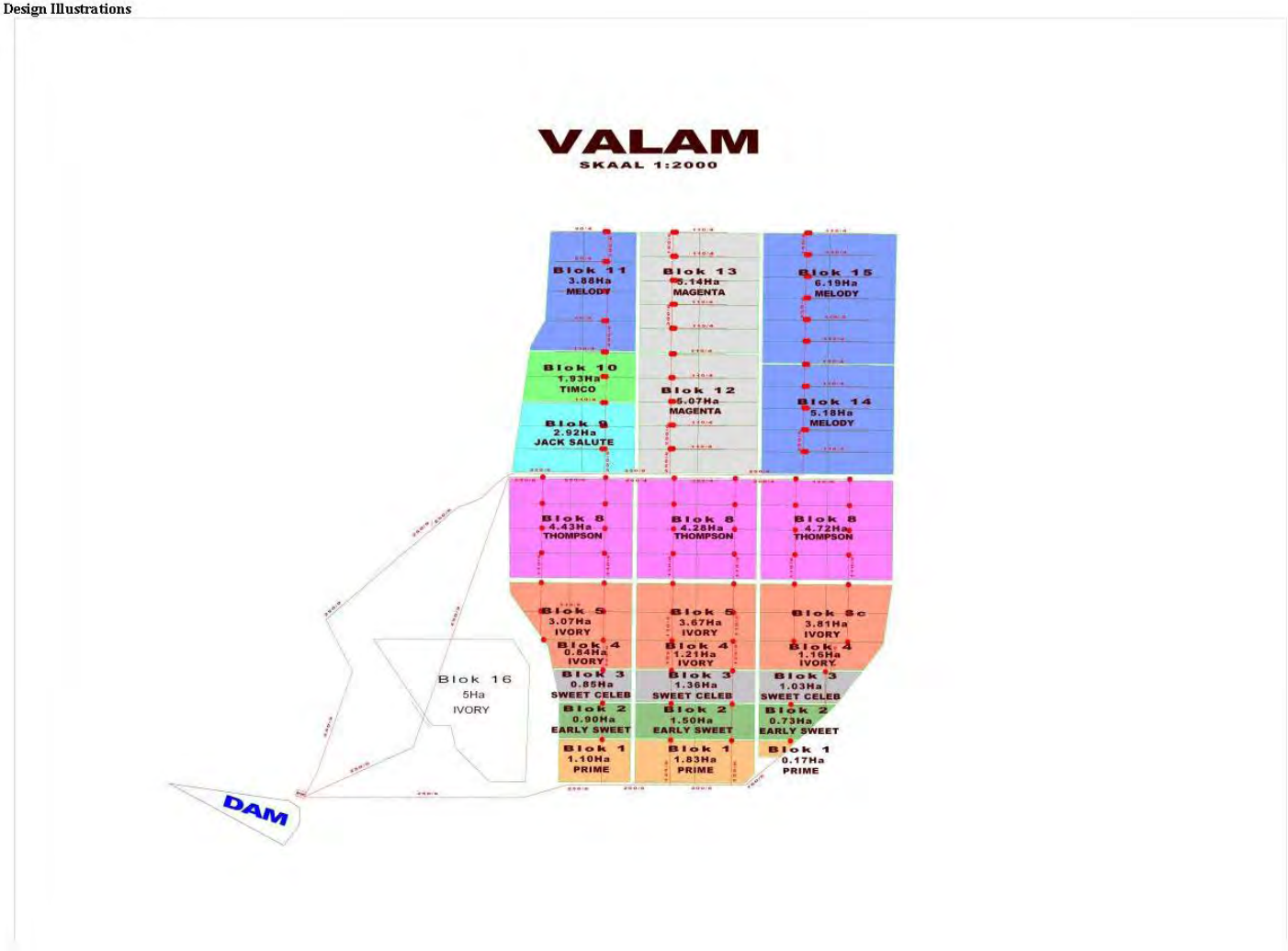
APPENDIX E1: Proposed Locality and Development layout

Locality

Master Development Layout



APPENDIX E2: Design Illustrations



APPENDIX F: Technical Documents
Appendix F.1: Environmental Impact Report
The S24G Report has been submitted to DENC, approval is awaited.

Appendix F.2: Storm Water Management Plan

APPENDIX G: Proof of Public Participation

APPENDIX H: Section 27 Report

APPENDIX I: Certified copy of ID

APPENDIX J: Company Registration certificates and Organogram

APPENDIX K: Copy of Receipt
Payment concluded with submission.

APPENDIX L: Section 21 c and i list of drainage lines coordinates and Risk Matrix

APPENDIX M: Lands Claim confirmation

APPENDIX N: Plough Certificate
None available

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