

FINAL BASIC ASSESSMENT REPORT

EXPANSION OF AGRICULTURE ON FALCON RIDGE FARM, PORTION 274 OF STRATHSOMERS ESTATE No. 42, SUNDAYS RIVER VALLEY MUNICIPALITY (DEDEAT Reference Number: EC06/LN1&3/M/12-31)



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Abbreviations:

BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act
DBAR	Draft Basic Assessment Report
DEA	Department of Environmental Affairs
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DWA	Department of Water Affairs
EA	Environmental Authorisation
EMPr	Environmental Management Programme
FBAR	Final Basic Assessment Report
I&APs	Interested and Affected Parties
CNECO	Cape Nature and Environmental Conservation Ordinance (19 of 1974)
NMBM	Nelson Mandela Bay Municipality
SAHRA	South African Heritage Resources Agency
SRVM	Sundays River Valley Municipality



**PROVINCE OF THE EASTERN CAPE
DEPARTMENT OF ECONOMIC DEVELOPMENT AND
ENVIRONMENTAL AFFAIRS**

BASIC ASSESSMENT REPORT

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable or **black out** the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The report must be compiled by an independent environmental assessment practitioner.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES	NO
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If YES, please complete form XX for each specialist thus appointed:
Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail

Introduction

The applicant (*Habata Boerdery*) operates an existing farming operation on Falcon Ridge Farm, Portion 274 Strathsomers Estate No. 42 (671 ha in extent) and intends to expand the existing operation by including an additional 31 hectares of land for the cultivation of crops (vegetables / citrus), and the construction of a storage dam with a storage capacity of approximately 15 000 cubic metres. Because the proposed parcel of land falls within an established farm it can readily be tied into the access and irrigation infrastructure of the existing farming operation. The site is zoned for agriculture and is currently used for the production of citrus and a variety of vegetables.

Environmental authorisation in terms of Section 22 of the Environment Conservation Act, Act 73 of 1989, for the agricultural development of the farm was granted in March 2004 (EC 06/2d/183-03). Clearing of the parcel of land which is currently under assessment was included in the authorisation; however the timeframes stipulated in the authorisation have subsequently lapsed. Therefore, in order to develop the proposed parcel of land and establish the associated infrastructure, environmental authorisation must again be obtained in terms of the NEMA EIA Regulations, 2010.

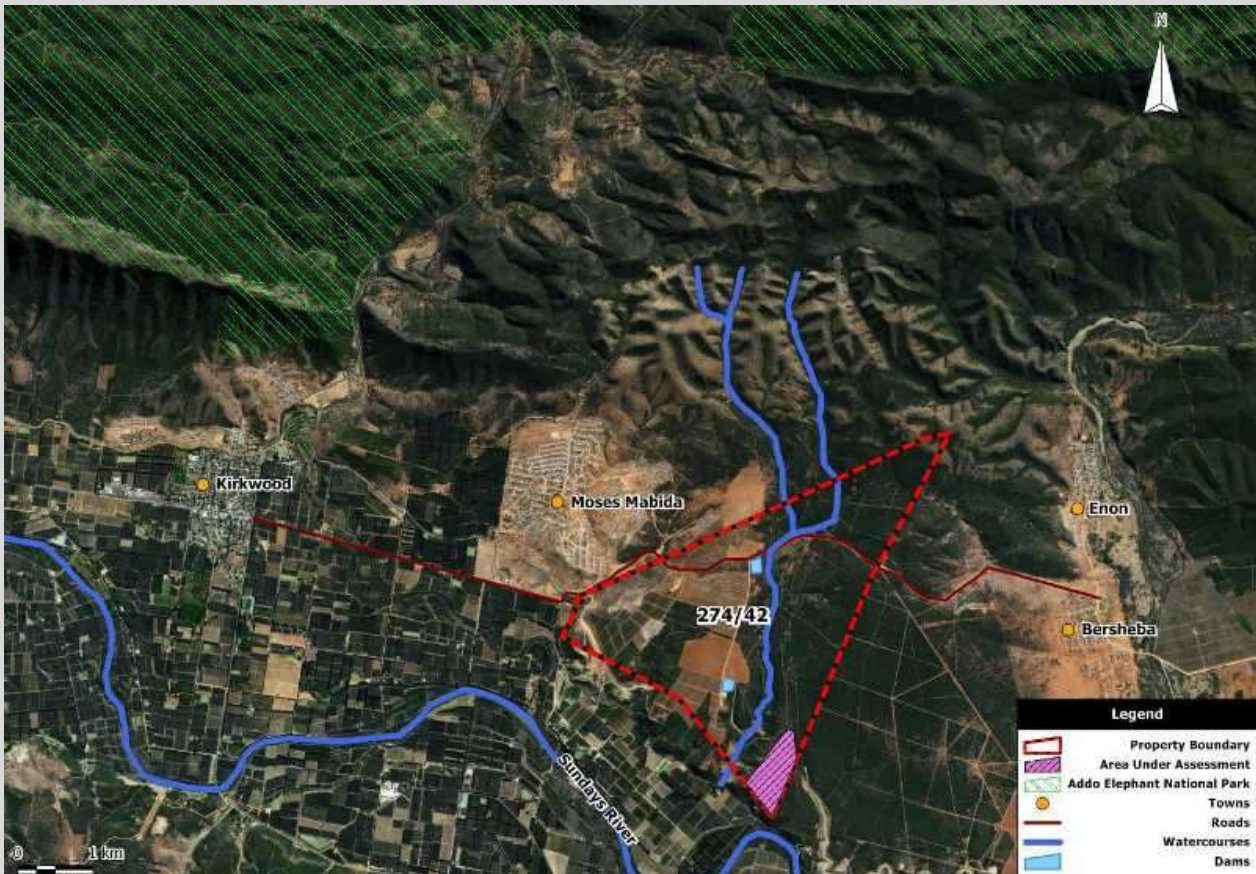
Locality & Town Planning

The site is located in the Sundays River Valley Municipal area and can be accessed from the gravel road which extends between Kirkwood and Enon/Bersheba. The entrance to the farm is located approximately 5.8km from Kirkwood along the aforementioned gravel road. The entire farm is zoned for Agriculture. The affected portion of land is located in Ward 2 of the Sundays River Valley Municipality.

Surrounding Land-use

The portion of land that is under assessment falls within an already established farm – Falcon Ridge. The Falcon Ridge farm has been developed in accordance with an Authorisation (Record of Decision), based on the original EIA for the agricultural development of the farm. With the exception of the 31 ha portion being considered in this assessment; all the phases of the farm as approved have already been developed. The developed portions include citrus orchards, cultivated lands, and associated farming infrastructure (sheds, dams & service areas).

The land to the east and south of the farm is also agricultural in nature. Agricultural land to the south is almost exclusively citrus orchards, while the parcel of land to the east (Landdrost Veeplaats) is currently being developed to provide for the cultivation of melons and butternuts. Portions of the Landdrost Veeplaast site have been set aside to remain natural bush, and will not be developed. The nearest town is Moses Mabida Settlement / Bontrug, which lies approximately 2 kilometres north west of the entrance to the site; with the communal land next to the settlement also bounding the Falcon Ridge farm to the north. The Addo Elephant National Park is located approximately 4 kilometres north of the site.



Map 1.1. Site locality & regional setting

Site Overview

The proposed development footprint is located in the south-eastern corner of the farm (Portion 42 of Farm No 274), on a plateau adjacent to the valley associated with the Brakkloof river which traverses the farm. The footprint has previously been approved for development in a lapsed Environmental Authorisation that was issued in March 2004. The site is covered predominantly by indigenous Sundays Spekboom Thicket which is generally in a good condition, with occasional weeds such as Prickly Pear and Jointed Cactus. The thicket is dissected by a number of grassy cut-lines and fence-line clearings, as well as open patches of grassy vegetation. The existing access to the site is via a steep existing vehicle track, which crosses the Brakkloof valley, and is currently used to service the Lower Sundays River Water Use Association canal near the site. Access to the proposed site can also be gained via the old clearings along historic fence-lines, which extend northwards from the proposed development footprint to the gravel road north of the site.

CONSTRUCTION PHASE

The project will entail the clearing of vegetation and topsoil from the development footprint, and the establishment of irrigation infrastructure and citrus trees. The proposed development will entail the following activities on the site:

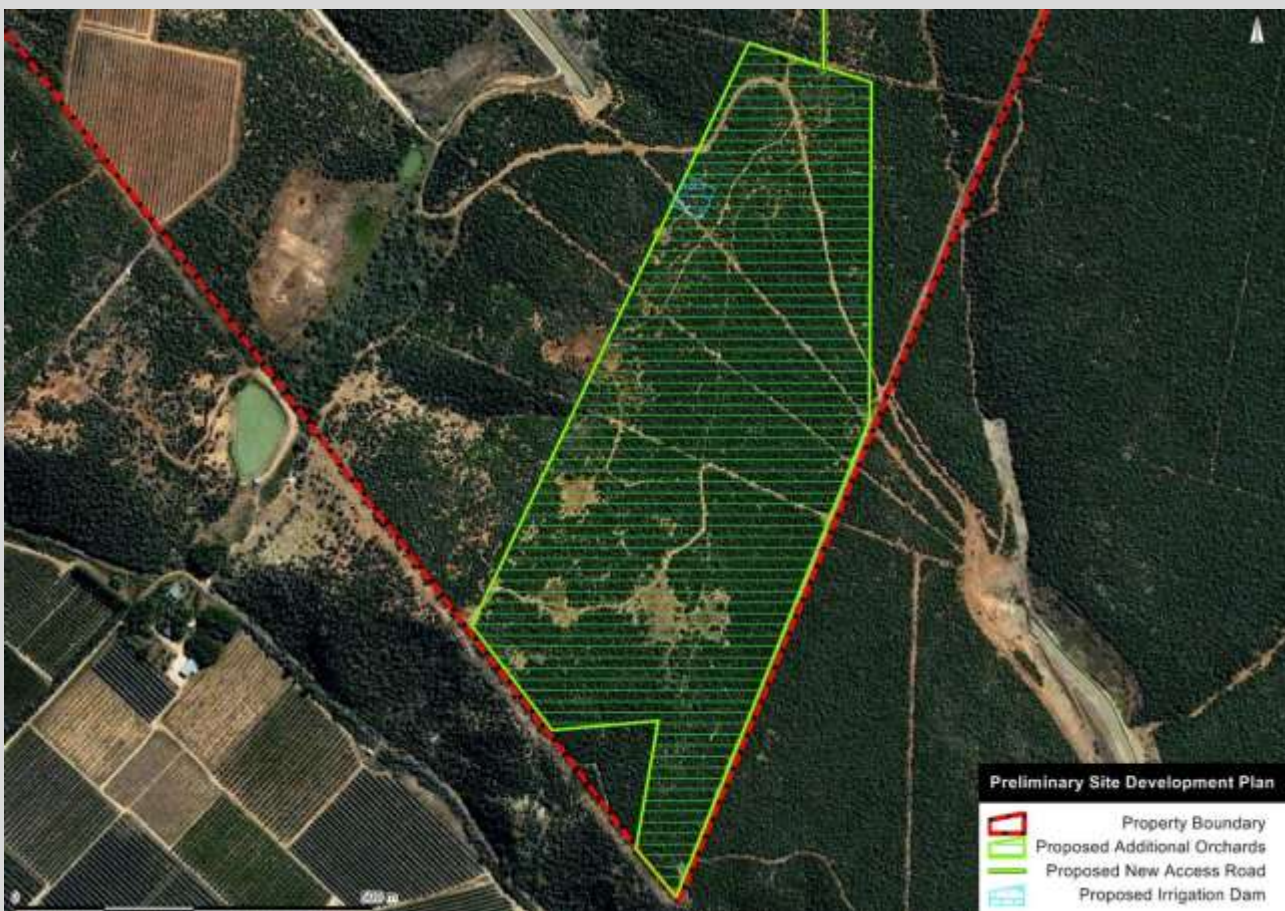
- Clearing of vegetation and topsoil from portions of the site proposed for agriculture (approximately 30 hectares)
- Levelling and landscaping the site to provide runoff control and facilitate the installation of irrigation systems
- Construction of a balancing dam (15 000 cubic metres storage capacity, approximately 1 ha in extent)
- Upgrading and re-alignment of the unpaved internal roads to provide access to the proposed parcel

of land

- Installation of drip irrigation system
- Establishment of windbreaks using suitable tree species
- Establishment of cultivated lands / orchards

Clearing of vegetation

The clearing of vegetation will be undertaken in accordance with the planting plan (Appendix A). The proposed planting plan takes cognisance of the areas approved for cultivation in the original RoD issued in respect of the activity in 2004, as well as the requirement for a 5 metre wide vegetated buffer along the fence-line to the property. The area proposed for cultivation is based on the soil suitability mapping undertaken for the site (attached Appendix D(ii)), as well as constraints imposed by the biophysical attributes of the site (vegetation, ecological processes, erosion risk).



Map 1.2. Proposed layout

Shaping and earthworks

Levelling and shaping of the site will be required prior to the establishment of crops to enable access as well as to manage potential runoff and enable the installation of drip irrigation infrastructure.

Internal roads

The development does not require formal surfaced roads, however reliable vehicle access needs to be maintained to the cultivated area. It is anticipated that this will be achieved by creating and maintaining vehicle tracks (< 5m) to allow access for vehicles and equipment. It is proposed that the site be accessed via an entrance off the gravel Enon/Bersheba road along historic cutlines as

this will negate the need to construct a road through the watercourse.

Irrigation

A 15 000m³ earthen storage dam will be constructed on the western portion of the site. It is anticipated that the dam will occupy an area of ca. 2 500m². The proposed footprint for the storage dam is above the small valley on the west of the site. Water from the Lower Sunday River Water Users association will be used for irrigation and will need to be pumped to the storage dam where from it will be reticulated to the orchards. Irrigation water will be reticulated within the cultivated area via a network of irrigation pipes and valves. Water will be supplied to the cultivated lands via underground PVC pipes with diameters ranging from 50 mm to 300 mm. Water delivery to trees will be achieved with the aid of aboveground polypropylene pipes providing drip irrigation. Water use and accessibility is discussed in more detail in the section on Operational Phase procedures below.

Planting of windbreaks

It is an accepted practice to establish exotic Silky Oaks (*Grevillia robusta*) as wind-breaks in the citrus orchards in the Sundays River valley. However this tree is listed in Category 3 of the Regulations in terms of the Conservation of Agricultural Resources Act (Act 43 of 1983). According to these regulations; propagative material of these plants, such as seeds or cuttings, may no longer be planted, propagated, imported, bought, sold or traded in any way. It is recommended that a tree species, which is not listed as invasive in terms of the CARA Regulations, is selected for planting as windbreak (e.g. Beefwood or Yellowwood).

It is anticipated that trees will be planted as windbreaks at 100 metre intervals parallel to the rows of citrus and at 120 metre intervals perpendicular to the rows of citrus.

Planting and Labour

It is anticipated that vegetation clearing, landscaping, construction and planting will be done both by hand and with the aid of suitable earth moving equipment (excavators, bulldozers, TLBs). Equipment required for construction will be housed and maintained at an appropriate facility on the Falcon Ridge Farm. No construction phase workers' accommodation will be provided at the site.

OPERATIONAL PHASE

Crop cultivation

Once established, the orchards will be used to cultivate a number of citrus varieties, the selection of which will be determined by market demand and seedling availability. Crop watering will be achieved by drip irrigation which reduces water loss, and thus reduces the water requirements of the development.

Water Use and Availability

The cultivated area is anticipated to be approximately 31 hectares in extent. The water requirements will be approximately <400mm/year/ha. Therefore, it is estimated that Habata Boedery will require 124 000m³ annually to irrigate the proposed agricultural development. Habata Boedery hold sufficient water use entitlements to provide irrigation water for the proposed agricultural expansion (Proof attached in Appendix G(x)).

Water will be sourced from the Lower Sundays River Water Users Association (LSRWUA) scheme. The LSRWUA has confirmed (see Appendix G(x)) that Habata Boedery has access to 669ha (6 021 000m³) of irrigation water annually, through water entitlements attached to land owned by Habata Boedery. In addition, Habata has access to approximately 39.4 ha (or 354

600m³/a) of water use entitlements which are attached to properties (Ptns 177, 178 and 180 of Farm 113) being leased by Habata Boerdery (see Appendix G(x)).

This brings the total water volume of irrigation water to which Habata Boerdery currently has access to 6 375 600m³ per year. The portion of this water currently committed to existing farms, and farms in the process of being developed (including Logan Braes, Oliphantkop & Landdrost Veeplaats), amounts to 6 147 000 m³/a.

Based on the above, Habata Boerdery currently has approximately 228 600m³ spare capacity annually. Thus the additional water demand arising from the proposed agricultural expansion can be met by the water use entitlements currently held by Habata Boerdery. Written confirmation from the LSRWUA of water availability has been included in Appendix G(x).

Employment Creation

Citrus cultivation is a labour intensive enterprise, since planting and harvesting are done manually. It is estimated that, should the project proceed, it will create an additional approximately 20 permanent and 100 temporary (seasonal) employment opportunities once operational. These jobs have an estimated value of R3 million per year. Labour will be preferentially selected from the local communities near the site, in the Sundays River Valley Municipality.

Chemical use and storage

Agricultural chemicals and fertilisers are used conservatively as required by the target market. Habata Boerdery currently holds GlobalGAP, Tesco Nurture, M&S Field to Fork, & Woolworths supplier accreditation, and as such all Waste Management, Sanitation & Hygiene, Materials Storage & Handling, as well as Environmental practices at the farm need to comply with the environmental standards of these organisations.

Supporting Infrastructure (potable water, sanitation, administration)

No additional infrastructure is proposed on the area planned for expansion. The existing administrative and technical infrastructure on Falcon Ridge Farm will be utilised to service the expanded agricultural activities (offices, storage areas, and service buildings). The sanitation facilities at the Falcon Ridge office will be used during the day to day maintenance of the cultivated areas and associated infrastructure. During harvesting when there is a larger labour force present at the site, portable sanitation and washing facilities need to be provided as per the GlobalGAP requirements.

Project Scheduling and Timeframes

Should Environmental Authorisation for the project be issued, it is anticipated that the applicant will secure the necessary permits, authorisations and seed-stock, during **a two (2) year pre-construction phase**, which will commence after the issuing of the environmental authorisation. This process will also include securing the rights to the preferred citrus cultivars, and the ordering of samplings.

In order to meet the requirements of export stock, seed (block seed) is required to be booked and purchased from a certified agency. This is booked approximately two years in advance in order to secure the seed, as well as a financial deposit. The seed is provided to a certified nursery for a two year growing period, during which the seeds are germinated and the seedlings grown to sapling stage. Careful coordination is required between the seed supplier, the nursery for grow-out, and the citrus producer, in order to meet contractual obligations for harvesting and export of

the crop.

Once all the necessary authorisations have been secured; phased vegetation clearing, site preparation, and infrastructure installation will commence during a **two (2) year construction phase**.

It is expected that cultivation will commence as soon as the site preparation has been completed, approximately **four (4) years** after the issuing of the Environmental Authorisation.

2. FEASIBLE AND REASONABLE ALTERNATIVES

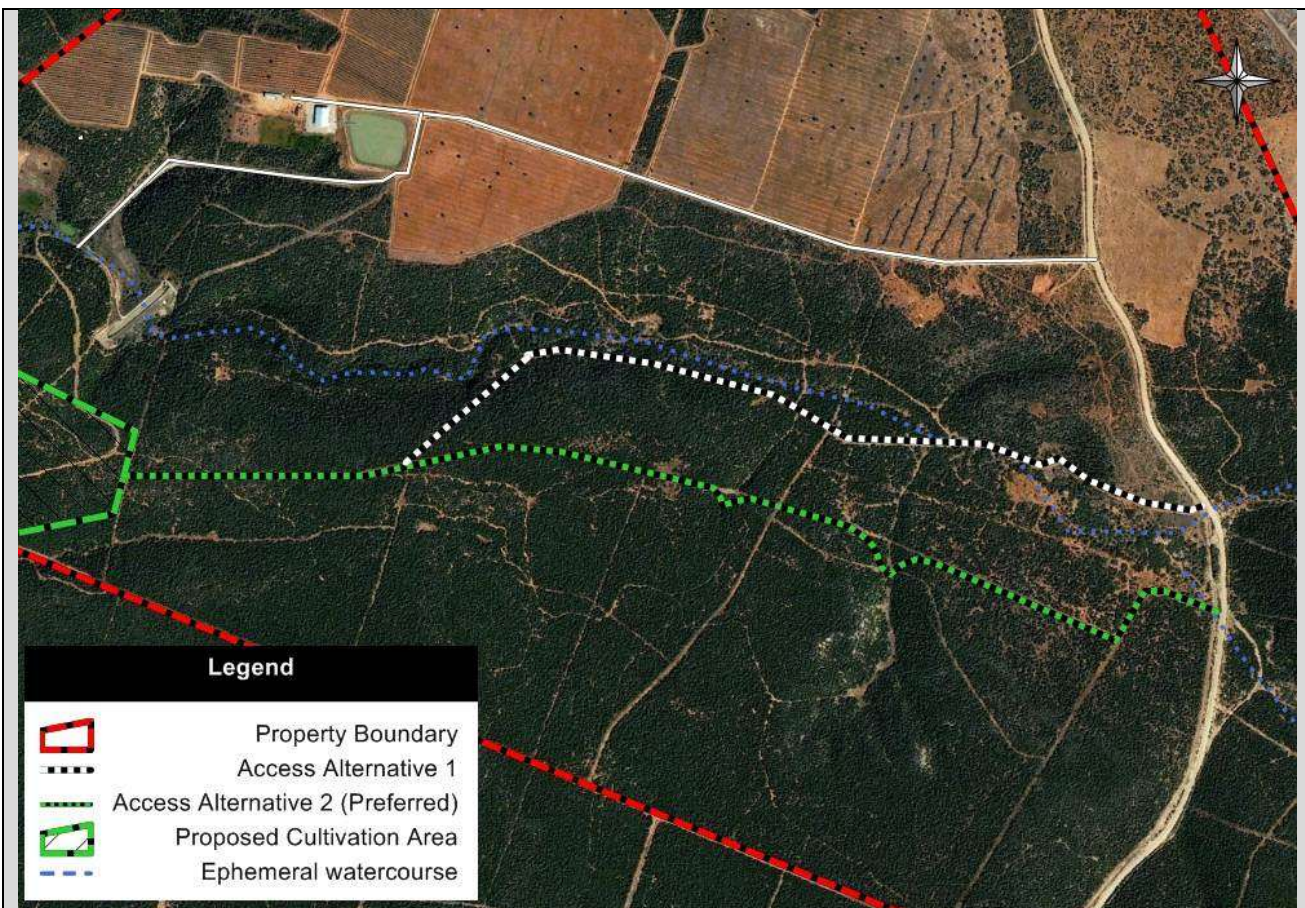
The proposed site has previously been approved for cultivation in a lapsed authorisation dated March 2004 (EC 06/2d/183-03). The area proposed for cultivation is located on an existing working farm and can readily be tied in with the existing farming and irrigation infrastructure at the site. Furthermore the soil suitability study for the site has shown that the entire site is suitable for the cultivation of citrus crops. In view of the above, no site alternatives were considered in this assessment.

Potential layout and technology alternatives have been considered as outlined below.

LAYOUT ALTERNATIVES

Access Alternative 1 (black/white line)

The initial proposal included an access road along the existing vehicle track which follows the Brakkloof River northwest of the site. This would require the clearing of vegetation along the valley slope as well as construction of the road through the watercourse in order to connect the existing road to the area proposed for cultivation.



Map 1.3 Site access alternatives

Access Alternative 2 (black/green line) (Preferred)

An alternative access route was proposed which makes use of existing cleared areas (cut-lines) along the old fence-lines across the site. This alignment makes maximum use of existing cleared areas at the site, and avoids the need for access across the ephemeral watercourse (Brakkloof River).

WIND-BREAK ALTERNATIVES

Silky Oak (*Grevillea sp.*)

In order to provide optimum yields and quality, citrus crops need to be protected from environmental extremes, including wind. Damage as a result of wind exposure may include reduced growth rates, reduced yields, root damage, bark damage, distorted shape, loss of fruit, as well as lesions and scarring of leaves and fruit (Australian Citrus Growers Inc. 2006). The applicant originally proposed the use of River Oak / Silky Oak (*Grevillea robusta*) as windbreaks for the citrus orchards.

The Citrus Academy relates the following with regards to species selection for windbreaks in citrus cultivation: “There are two invasive plant species that are commonly used as windbreaks on citrus farms, this being *Casuarina cunninghamiana* – River Oak (category 2) and *Grevillea robusta* – Silky Oak (category 3). *Grevillea* is no longer recommended for use, but is still found on some farms. *Casuarina* is still widely used, in line with the regulations for category 2 plants, being that they are planted for a specific commercial purpose in controlled, demarcated areas.” (Citrus Academy. Undated. Learner guide: Enterprise Selection, Planning and Establishment, Level 3.) In line with the above River Oak / Silky Oak was not considered further in this assessment as a potential species for use as a windbreak.

Beefwood or Yellowwood (Preferred)

The preferred species for use as windbreaks at the proposed farm are indigenous Yellowwood trees (*Podocarpus* sp.); or exotic Beefwood trees (*Casuarina* sp.), depending on availability. Should exotic Beefwood trees be selected as the preferred option, all the CARA requirements regarding the use of these trees should be adhered to:

- All reasonable steps must be taken to curtail the spreading of seeds or vegetative reproductive material outside the demarcated area
- The land user must obtain a water use license
- The plants may not be planted within 30m of the 50-year flood-line
- The plants are only allowed in demarcated areas under controlled conditions
- All specimens outside the demarcated area must be eradicated
- The conditions under which the plants are cultivated must be controlled
- Plants may only be sold by permit holders.

(Source: Citrus Academy. Undated. Learner guide: Enterprise Selection, Planning and Establishment, Level 3.)

The Department of Agriculture has indicated that the use of Category 2 species for wind breaks is an accepted practice on citrus and deciduous fruit orchards. However the provisions of Regulation 15(B) (a) of the CARA Act 43 of 1983 require land users to apply for the demarcation permit before they can establish wind breaks of Category 2 species. The use of Category 3 species as windbreaks is prohibited (Comment from Gcinile Dumsse – Department of Agriculture Forestry & Fisheries).

NO GO ALTERNATIVE

In addition to the alternatives discussed in this section, both the Go and the No-Go Alternatives were assessed in full in the Impact Assessment section of this report (Section D).

“alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

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

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Paragraphs 3 – 13 below should be completed for each alternative.

3. ACTIVITY POSITION

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 should be in degrees and decimal minutes. The minutes should have 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.

List alternative sites if applicable.

Alternative:	Latitude (S):		Longitude (E):	
	Alternative S1 ¹ (preferred or only site alternative)	33°	25.565'	25°
Alternative S2 (if any)	o	'	o	'
Alternative S3 (if any)	o	'	o	'
In the case of linear activities:				
Alternative:	Latitude (S):		Longitude (E):	
Alternative S1 (preferred or only route alternative)				
• Starting point of the activity	o	'	o	'
• Middle point of the activity	o	'	o	'
• End point of the activity	o	'	o	'
Alternative S2 (if any)				
• Starting point of the activity	o	'	o	'
• Middle point of the activity	o	'	o	'
• End point of the activity	o	'	o	'
Alternative S3 (if any)				
• Starting point of the activity	o	'	o	'
• Middle point of the activity	o	'	o	'
• End point of the activity	o	'	o	'

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	Size of the activity:
Alternative A1 ² (preferred activity alternative)	310 000m ²
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²
or, for linear activities:	
Alternative:	Length of the activity:
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

¹ "Alternative S.." refer to site alternatives.

² "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative:		Size of the site/servitude:
Alternative A1 (preferred activity alternative)		6 710 000m ²
Alternative A2 (if any)		m ²
Alternative A3 (if any)		m ²

5. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES	NO
	Approx. 2 310 m

Describe the type of access road planned:

In order to access the cultivated area, old disused vehicle tracks in cut-lines along the original internal fence-lines on the property will be used. While these have become overgrown in places, they represent already disturbed / cleared areas along which the site can be accessed. In order to use these cut-lines to provide access, the vegetation will need to be trimmed from the edges of the cut-lines where these have become overgrown. The alignment will need to be graded and a layer of calcrete gravel imported and rolled to provide a durable wearing course. It is anticipated that the access road will be approximately 6 metres wide.

In order to traverse steep sections of the alignment, two section of the road will require short deviations from the cutlines, which will necessitate the clearing of some indigenous vegetation.



Photo 1 & 2. Existing cleared areas along the old fence-lines on the site. The photo on the right shows the overgrown condition of certain portions of these cut-lines.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.10 the positions from where photographs of the site were taken.

A preliminary layout plan for the proposed development has been included in Appendix A.

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Photographs from the centre of the site, as well as additional photos of key features of the site have been included in Appendix B.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

Photographs of typical orchards and irrigation dams have been included in Appendix C.

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

- What is the expected capital value of the activity on completion?
- What is the expected yearly income that will be generated by or as a result of the activity?
- Will the activity contribute to service infrastructure?
- Is the activity a public amenity?
- How many new employment opportunities will be created in the development phase of the activity?
- What is the expected value of the employment opportunities during the development phase?
- What percentage of this will accrue to previously disadvantaged individuals?

R 5 Million	
R 9 Million	
YES	NO
YES	NO
50	over 2
years	
R 1 Million	
90%	

How many permanent new employment opportunities will be created during the operational phase of the activity?	20 permanent
What is the expected current value of the employment opportunities during the first 10 years?	100 seasonal
What percentage of this will accrue to previously disadvantaged individuals?	R30 Million
	90%

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

The area under assessment forms part of an existing working farm in the Sundays River Valley Municipality (SRVM). According to the SRVM Integrated Development Plan (2010/2011) "...the Sundays River Valley plays an important role in the local economy of the Eastern Cape. The area is characterized by high intensity irrigation farming which is largely based on the export market..."(Pg 19). Agricultural development is a key driver in the local economy, with agriculture related industries (agriculture, forestry & fisheries) currently providing approximately 48.6% of employment in the SRVM, while these industries account for 31.2% of the Gross Geographic Product in the area (Pg 38). "Of particular importance to the Municipality is the partnership with the Department of Agriculture regarding the poverty alleviation projects of agriculture coupled with the high agricultural potential in the area." (Pg. 38.)

It is the applicant's intention to build on this important economic base in the SRVM, by making optimum use of the available resources that the area has to offer, i.e. the availability of a sustainable supply of irrigation water from the Sunday River Water Users Association canal system; and the suitability / fertility of the soils on the property under assessment (see attached Soil Suitability study in Appendix D).

The site is located adjacent to the Bontrug / Moses Mabhida Settlement, and approximately 4 km from the Enon/Bersheba communities; which provides ready access to a labour force, from communities with a high unemployment rate. By making use of this labour market the proposed development would also support the SRVM's economic vision, of "A growing economy that provides a sustainable quality of life for its people to eradicate unemployment and poverty in the Sundays River Valley Municipality." (SRVM IDP - 2010/2011 - Pg. 34). One of the goals by which the municipality aims to realize this vision is to "retain and expand the existing base of established business".

The area proposed for development is located on an existing citrus farm, on land currently zoned for Agricultural use. The properties to the east, south and west of the site are all currently engaged in some form of agriculture – citrus, vegetables or grazing. The development would therefore not conflict with the character of the surrounding landscape.

The proposed orchards and associated infrastructure are located in close proximity to the existing infrastructure on the farm. The area can thus easily tie into the existing access and irrigation infrastructure of the current farming operation; maximising the area available for cultivation and reducing the initial capital costs.

South Africa has limited surface area available for crop production, approximately 13%, with 1.3 million hectares under irrigation. The availability of and access to water for irrigation is the most limiting factor in crop production. Rainfall is distributed unevenly across South Africa, with 50% being used for agricultural purposes. The proximity of the site to the Sundays River Water Users canal scheme and availability of water through this scheme makes the farm suitable for

the production of crops.

Indicate any benefits that the activity will have for society in general:

The proposed development will not have any benefits for society in general.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

The 2010 SRVM IDP indicates that the unemployment rate for the Sundays River Valley Municipality may be as high as 44%. Currently between 500 and 700 people are employed by the Habata farming operations. These are predominantly from the local communities where the farms are located. The proposed development will create an additional approximately 20 permanent and 100 temporary (seasonal) employment opportunities, and will also assist in skills development of individuals from these local communities.

The employment opportunities that will be generated by the proposed development will improve the buying power of individuals in the local communities, which in turn, may provide a boost for the local economy and enable these individuals to improve their standard of living.

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
<p>GN R546 <i>“13. The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation,</i> <i>(c) In Eastern Cape...</i> <i>ii. Outside urban areas, the following:</i> <i>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;”</i></p> <p><i>“2. The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</i> <i>(a) In Eastern Cape...:</i> <i>iii. Outside urban areas, in:</i> <i>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve...”</i></p> <p><i>“4. The construction of a road wider than 4 metres with a reserve less than 13,5 metres.</i> <i>(a) In Eastern Cape...:</i> <i>ii. Outside urban areas, the following:</i> <i>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a</i></p>	<p>Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) -</p>	<p>2010</p>

<i>biosphere reserve;"</i> "14. "The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: (a) In Eastern Cape...: i. All areas outside urban areas."		
National Water Act 36 of 1998	Department of Water Affairs	1998
DEAT Guideline 4: Public Participation	Department of Environmental Affairs	June 2006
DEAT Guideline 5: Assessment of Alternatives and Impacts	Department of Environmental Affairs	June 2006
National Forests Act 84 of 1998 with Amendments	Department of Agriculture, Forestry and Fisheries	1998
Conservation of Agricultural Resources Act 43 of 1983	Department of Agriculture, Forestry and Fisheries	1983
National Heritage Resources Act 25 of 1999	South African Heritage Resources Agency	1999
Eastern Cape Nature and Environmental Conservation Ordinance 19 of 1974	Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	1974

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO
1.5m³	

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

Waste material produced during construction may include wood, wire, metal, plastic, fill material, chemical containers.

Construction waste will be reduced, re-used and recycled on site as far as possible. Waste that cannot be reused or recycled will be disposed off at an appropriately registered / licensed waste disposal facility. E.g. Kirkwood Waste Disposal Site.

Where will the construction solid waste be disposed of (describe)?

Kirkwood Waste Disposal Site

Will the activity produce solid waste during its operational phase?

YES	NO
10m³	

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

It is anticipated that approximately 10m³ of waste will be generated during the operational phase of the proposed project. The kind of wastes generated may include biodegradable plant material which will be left to decompose on site after harvesting. In addition it is anticipated that there may be generation of non-biodegradable containers that contain herbicides and pesticides used in the maintenance of the crops.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

Herbicide and pesticide containers should be stored in a suitable enclosed area at the Falcon Ridge facility, and disposed of at an appropriately registered waste disposal facility e.g. Koedoeskloof. Biodegradable waste from the crops on site will be left to decompose in the fields after harvesting.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	NO
-----	----

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
-----	----

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
-----	----

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO
-----	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO
-----	----

If yes, provide the particulars of the facility:

Facility name:

Contact

person:

Postal

address:

Postal code:

Telephone:

Cell:

E-mail:

Fax:

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

--

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
-----	----

If yes, is it controlled by any legislation of any sphere of government?

YES	NO
-----	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

--

11(d) Generation of noise

Will the activity generate noise?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

<p>The activity will generate noise during the construction phase when heavy plant machinery is operating at the site.</p> <p>During the operational phase the noise will be limited to normal agricultural sounds such as tractor and vehicle movements during maintenance and harvesting in the orchards. The proposed activities will be required to abide by the applicable noise limits for the area.</p>
--

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

municipal	water board	groundwater	river, stream, dam or lake	Other	the activity will not use water
-----------	--------------------	-------------	----------------------------	-------	---------------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

litres	
YES	NO

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

13. ENERGY EFFICIENCY

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

--

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

--

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete 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. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	NO
------------	----

The EAP is a Botanist and has the necessary expertise to complete this section of the Basic Assessment Report.

If YES, please complete form XX for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than 1:5
	1:20		1:15			1:7,5			

Alternative S2 (if any):

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than 1:5
	1:20		1:15			1:7,5			

Alternative S3 (if any):

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than 1:5
	1:20		1:15			1:7,5			

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline

2.2 Plateau

2.3 Side slope of hill/mountain

2.4 Closed valley

2.5 Open valley

2.6 Plain

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

Geology

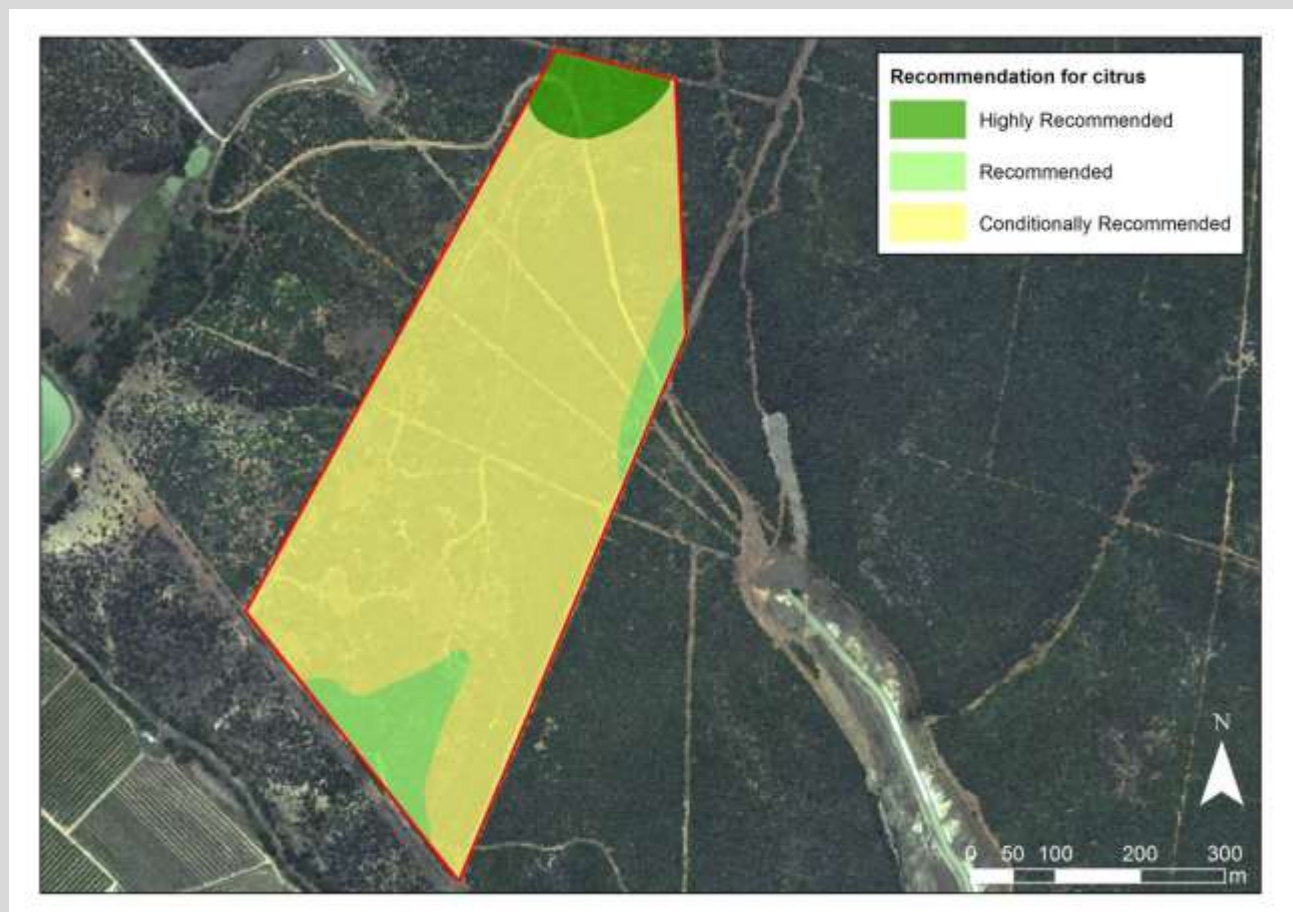
According to the geological map (Sheet 1:250 000, Geological Series - 3324 Port Elizabeth) for the area the site is underlain by mudstone and sandstones of the Kirkwood Formation (Shown as J-Kk on geological maps). These in turn are covered, over most of the site, by Intermediate and low level fluvial terrace gravel (shown as T-Qg on the geological maps). The Kirkwood Formation is thought to have originated in a fluvial depositional environment during the Cretaceous period. The formation includes silty mudstones and sandstones. Some fossil finds have been made in these rocks, including plant, reptile and invertebrate fossils. However the farming activities proposed for the site will be limited to the overlying fluvial terrace deposits, and are unlikely to affect these. The fluvial terrace deposits are believed to be Miocene to Pleistocene in age. These are often cemented by ferricrete and calcrete. In the Sundays River these sediments consist mainly of white, and reddish quartzite, vein quartz, shale and lidianite. The proposed agricultural expansion will make use predominantly of these gravelly sediments overlying the Kirkwood Formation mudstones.

Soils

A reconnaissance soil survey was undertaken by Dr Ellis of the University of Stellenbosch on the proposed development footprint in order to assess the suitability of the soil for the commercial cultivation of citrus.

According to the reconnaissance survey, all the map units and soil types (100 % of the farm) are suitable for annual watermelon and cabbage production under irrigation. Except soil types Py 2, Va 1 and Va 2 with a conditional recommendation for citrus (due to the underlying clay horizon or soft carbonate horizon) all the other soil types can be recommended for citrus. The limitations in soil types Py 2, Va 1 and Va 2 (underlying clay horizon or soft carbonate horizon), however, are low enough that these soil types can successfully be developed for citrus with correct amelioration measures and selection of high pH adapted rootstocks. All the map units could potentially therefore be used for citrus.

Provided that there is sufficient irrigation water available, the total 31 ha could be deforested for the production of watermelons and cabbage, and with the correct soil amelioration measures, for the production of citrus. The full report is attached in Appendix D(ii).



Map 1.4 Recommendation from soil study for the production of citrus under irrigation on the farm Falcon Ridge, Portion 274 of Strathmore Estate No. 42.

Hydrology & Drainage

The ephemeral Brakkloof River, and its associated small valley, extends across the farm in a north-south orientation. The Brakkloof River reportedly flows during periods of prolonged or heavy rainfall. The proposed site is located approximately 160 – 200 meters from the watercourse, and at an elevation of 50 meters above the watercourse. The site is therefore located well outside the potential flooding areas associated with this watercourse.

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

4.1 Natural veld – good condition^E

4.2 Natural veld – scattered aliens^E

4.3 Natural veld with heavy alien infestation^E

4.4 Veld dominated by alien species^E

4.5 Gardens

4.6 Sport field

4.7 Cultivated land

4.8 Paved surface

4.9 Building or other structure

4.10 Bare soil

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

4.1 Vegetation & Habitat

The vegetation in the area proposed for the establishment of the additional cultivated lands is covered by Spekboom Thicket vegetation; which is traversed by a number of grassed cut-lines and associated clearings. The Thicket vegetation is dominated by Spekboom (*Portulacaria afra*), with *Cynodon dactylon* representing the main groundcover in the previously cleared areas and cut-lines. While no heavy infestations were noted, the alien weeds Prickly Pear (*Opuntia ficus-indica*) and Jointed Cactus (*Opuntia aurantiaca*) are common at the site. The alignment of the proposed access to the site would follow an existing grassed cut-line, which extends from the proposed site to the gravel road. A full species list for the vegetation recorded at the site is included as Appendix G(ix).

The vegetation at the site can be broadly divided into two types:

- Thicket vegetation which is dominated by Spekboom , Jacket Plum and Aloes, and
- Grassy vegetation dominated by *Cynodon dactylon* and succulents.



Photo 4.1. Sundays Spekboom Thicket which dominates the proposed development area.



Photo 4.2. Grassy areas typical of clearings and cut-lines.

The table in Appendix G(ix) contains a list of all the species recorded in these vegetation types, as well as their protection status.

4.2 Species of Special Concern

4.2.1 Protected species

Seven plant species which are protected in terms of the Cape Nature and Environment Conservation Ordinance (19 of 1974) were recorded in the proposed development footprint. Individuals of these species need to be translocated to portions of the site that are not going to be developed.

Table 4.1 Protected Plant Species recorded at the site.

Species	Family	Clearing	Thicket	Status
<i>Aloe africana/ferox</i>	Asphodelaceae		x	P
<i>Aloe pluridens</i>	Asphodelaceae		x	P
<i>Dosanthemum hispidum</i>	Mesembryanthemaceae	x		P
<i>Mesembryanthemum aitonis</i>	Mesembryanthemaceae	x		P
<i>Ruschia rigens</i>	Mesembryanthemaceae	x		P
<i>White flowered mesemb</i>	Mesembryanthemaceae	x		P
<i>Lampranthus sp.</i>	Mesembryanthemaceae	x		P

4.2.2 Exotic

Two exotic plant species which are listed as Category 1 weeds in terms the Conservation of Conservation of Agricultural Resources Act (Act 43 of 1983) were recorded on site.

Species	Family	Clearing	Thicket	Status
<i>Opuntia aurantiaca</i>	Cactaceae	x		Exotic
<i>Opuntia ficus-indica</i>	Cactaceae	x	x	Exotic

These plants should be eradicated from the site. It is recommended that a systematic alien plant control plan is developed and implemented at the site, so that alien plant infestation can be monitored and controlled.

4.3 Systematic Biodiversity Plans

Three regional systematic biodiversity plans relate to the site. The relevant mapping and

ecosystem status designations of these are briefly outlined below:

4.3.1 Subtropical Thicket Ecosystem Plan (STEP)

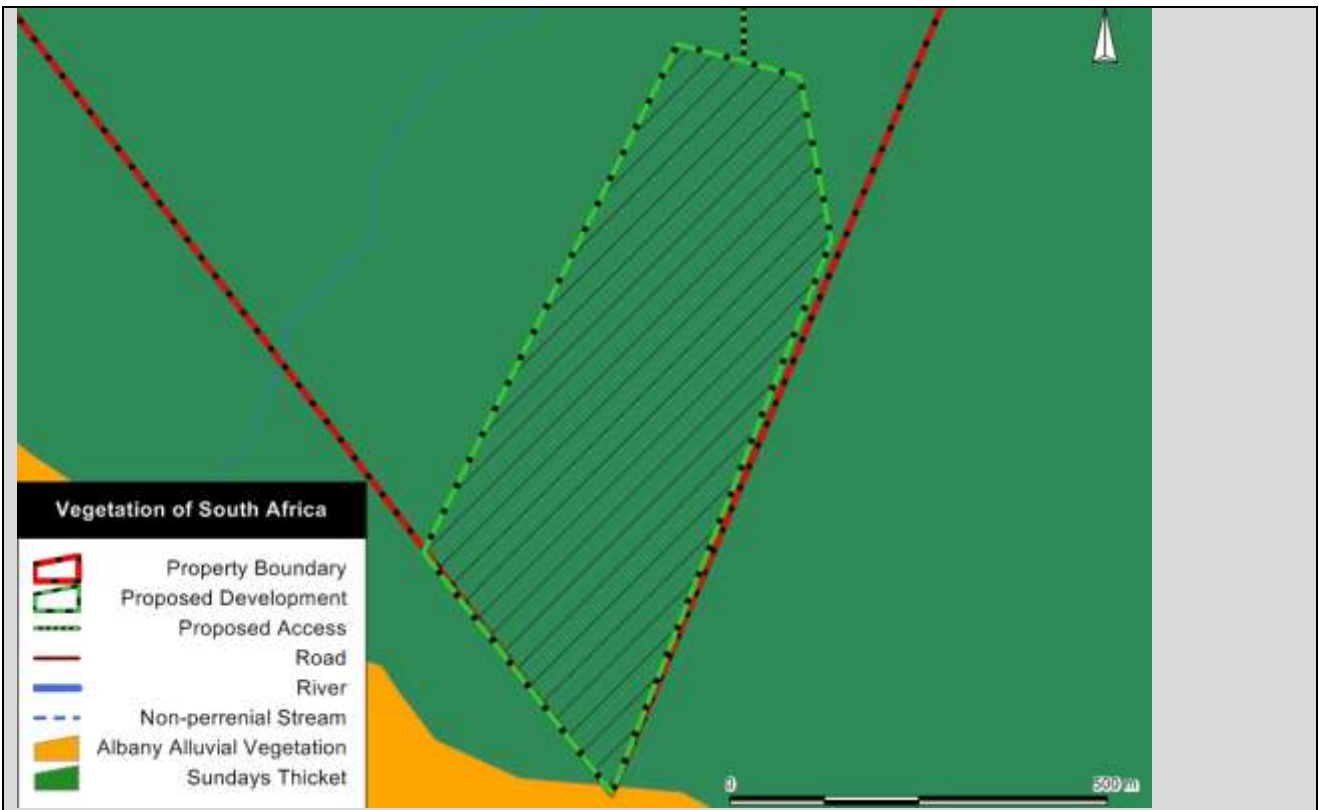
The vegetation is mapped as Sundays Spekboom Thicket in the Subtropical Thicket Ecosystem Plan documents (Pierce 2003, & Pierce & Mader 2006), which considers the vegetation to be *Vulnerable* (Map 4.1)



Map 4.1 STEP vegetation mapping for the affected area.

4.3.2 Vegetation of South Africa Lesotho and Swaziland (VegMap)

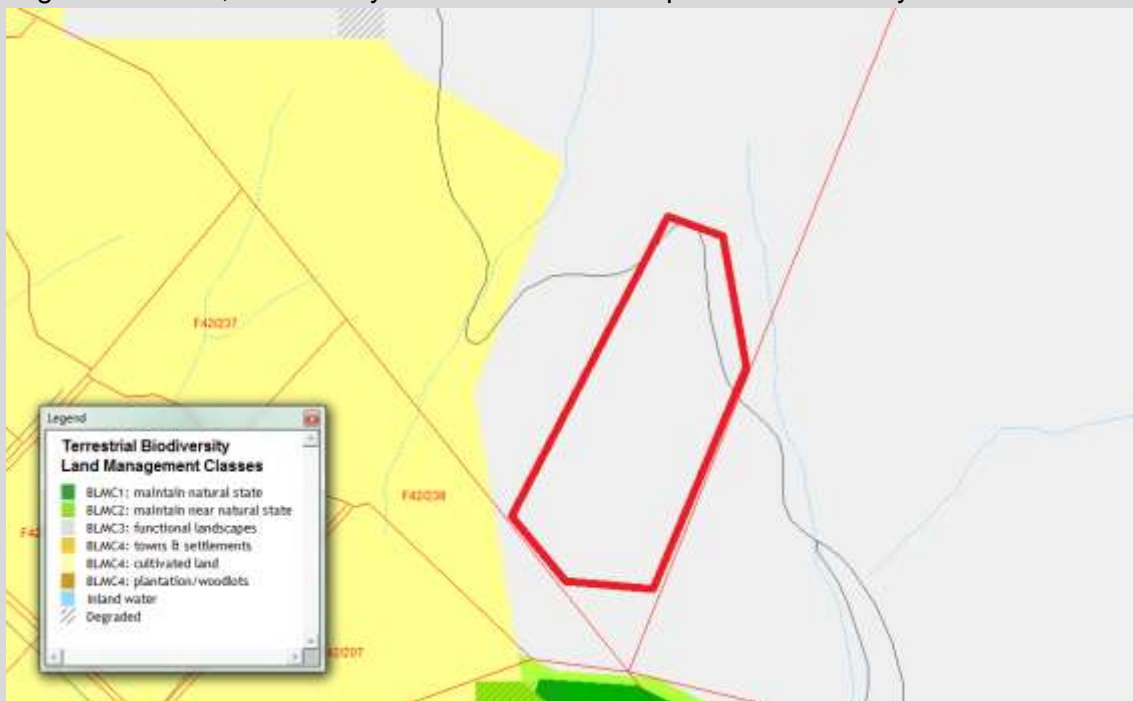
The Vegetation of South Africa Lesotho and Swaziland (VegMap) indicates that it is Sundays Thicket (Status: *Least Threatened*) (Map 4.2).



Map 4.2 Vegetation types at the site according to the Vegetation of South Africa Lesotho and Swaziland (Mucina & Rutherford 2006).

4.3.3 Eastern Cape Biodiversity Conservation Plan (ECBCP)

According to the Eastern Cape Biodiversity Conservation Plan the site does not fall within any Critical Biodiversity areas, but falls within a Biodiversity Land management Class referred to as “Functional landscape”. The biodiversity plan recommends that functional landscapes are managed to maintain basic ecosystem processes despite expecting significant loss in natural vegetation cover, biodiversity maintained in critical patches and ecosystem corridors.



Map 4.3 ECBCP Map for the site (red outline) showing the relevant biodiversity land management classes.

4.4 Ecological Processes

The Brakkloof Valley west of the proposed site represents an important corridor for faunal movement and seed dispersal. The corridor plays an important role in maintaining connectivity between the low-land areas associated with the Sundays River and the Zuurberg hinterland. Development and/or disturbance in the valley should be kept to a minimum.



Photo 4.3 A view from the site down to the Brakkloof river and the LSRWUA canal.



Photo 4.4. View to the north from the proposed site, up the Brakkloof valley.

In order to limit potential disturbance in the Brakkloof valley, the proposed access road to the area proposed for cultivation has been re-aligned. The preferred alignment follows an existing cleared cut-line between the road and the footprint, and negates the need for an access road near or through the ephemeral watercourse in the valley. The small valleys near the development footprint play a similar role in the landscape, albeit on a smaller scale. These small valleys have been excluded from the proposed development footprint (see layout in Appendix A).

4.5 Conclusions

The intact Sundays Spekboom Thicket is considered to be of medium to high conservation value. No Rare or Endangered species were recorded within the vegetation at the development footprint, and the vegetation has a low representivity of Protected species. The vegetation has also not been transformed or degraded to a large degree (clearings & cut-lines), and only exhibits low levels of alien plant invasion. It is recommended that the loss of the vegetation is off-set by rehabilitating previously disturbed areas (e.g. cutlines, fencelines & clearings) of Sundays Spekboom Thicket. This can be achieved by transplanting species such as Spekboom and Aloes from the proposed development area; as well as the relocation of plant species of special concern (Protected plants), to these previously disturbed portions of the site.

NOTE: Translocation of plant species of special concern should be undertaken under the supervision of a qualified botanist / horticulturalist prior to vegetation clearing commencing. The relevant permits need to be obtained from the DEDEAT before these plants are removed and transplanted.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area

- 5.2 Low density residential
- 5.3 Medium density residential
- 5.4 High density residential
- 5.5 Informal residential
- 5.6 Retail commercial & warehousing
- 5.7 Light industrial
- 5.8 Medium industrial^{AN}
- 5.9 Heavy industrial^{AN}
- 5.10 Power station
- 5.11 Office/consulting room
- 5.12 Military or police base/station/compound
- 5.13 Spoil heap or slimes dam^A
- 5.14 Quarry, sand or borrow pit

5.15 Dam or reservoir

- 5.16 Hospital/medical centre
- 5.17 School
- 5.18 Tertiary education facility
- 5.19 Church
- 5.20 Old age home
- 5.21 Sewage treatment plant^A
- 5.22 Train station or shunting yard^N
- 5.23 Railway line^N
- 5.24 Major road (4 lanes or more)^N
- 5.25 Airport^N
- 5.26 Harbour
- 5.27 Sport facilities
- 5.28 Golf course
- 5.29 Polo fields
- 5.30 Filling station^H
- 5.31 Landfill or waste treatment site
- 5.32 Plantation

5.33 Agriculture

5.34 River, stream or wetland

- 5.35 Nature conservation area

5.36 Mountain, koppie or ridge

- 5.37 Museum
- 5.38 Historical building
- 5.39 Protected Area
- 5.40 Graveyard
- 5.41 Archaeological site
- 5.42 Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

If YES, specify:

|

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

If YES, specify:

|

|

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including

YES	NO
-----	----

Archaeological or palaeontological sites, on or close (within 20m) to the site?

Uncertain

If YES, explain:

--

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

An archaeological specialist assessment was undertaken by Dr Johan Binneman (attached as Appendix D(i))

Briefly explain the findings of the specialist:

Findings
 The footprint investigated is covered with dense thicket vegetation which made it difficult to find archaeological sites. Notwithstanding, occasional Middle Stone Age stone artefacts were found in exposed river gravel in most areas where the vegetation was cleared or disturbed by farming activities. No spatial patterning or distribution of the tools was observed. The stone tools are in secondary context and of low sensitivity. Usually one would expect to find freshwater shell middens along the banks of major rivers such as the Sunday's River. These are important archaeological sites and special care must be taken during development not to damage or to destroy them when found.

Recommendations
 1. The proposed development will take place close to the Sunday's River, in an area where one would expect to find fresh water shell middens. If such features are exposed, work should stop immediately and reported to the Albany Museum and/or the South African Heritage Resources Agency.
 2. If any other concentrations of archaeological material are uncovered during development, it should be reported to the Albany Museum and/or the South African Heritage Resources Agency immediately so that systematic and professional investigation/excavations can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix B for a list of possible archaeological sites that maybe found in the area).
 3. Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. It is suggested that a person be trained to be on site to report to the site manager if sites are found.

Will any building or structure older than 60 years be affected in any way?

YES	NO
-----	----

Is 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 submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;

A copy of the site notice board is attached in Appendix G (i).

- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;

The applicant is the landowner and therefore proof of notification is not required.

- (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
- (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

Process prior to the Review of the Draft Basic Assessment Report

Landowners of adjacent properties were identified using a Deed Search (WinDeed), and notification letters were mailed to these landowners providing them with a 30 day period within which to raise issues of concern. The comment period extended from the 26 April 2012 to the 28 May 2012.

All I&APs identified at the outset of the process, as well as those requesting to be registered on the project database were included on the database. A total of **25 I&APs** were identified at the beginning of the process and were provided with notification. Included in the notice was a Background Information Document on the proposed project, a locality map and comment form.

The owner of Portion 266 of Farm 42, adjacent to Portion 42 of Farm 274, could not be reached. Ownership and contact details could not be obtained from a Deeds Office search or any other means, and there was no dwelling or other infrastructure on the site to which correspondence could be delivered. This parcel of land is located 2km west of the property, and is separated from the site by LSRWUA canal. It is therefore unlikely that the I&AP will be affected by the proposed development. The assessment process was also advertised in a local newspaper, and a notice board was placed at the entrance to the site. All I&APs registered on the project database were notified of the release of the Draft Basic Assessment Report for a 30 day review period.

At the time of the release of the Draft Basic Assessment Report for review **26 I&APs** were registered on the project database. A copy of the project database is contained as Appendix G (ii).

Draft Basic Assessment Report Review

All I&APs registered on the project database were notified of the release of the Draft Basic Assessment Report for a 30 day review period, which extended from 12 June 2012 to 13 July 2012.

Section 4 below provides more detail on the Public Participation process followed for this assessment. A copy of the project database is contained as Appendix G (ii). Copies of correspondence sent to I&APs and Authorities are contained in Appendix G (iii), and copies of correspondence received from I&APs has been included in Appendix G (iv).

- (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;

Cllr Frans Adams, SRVM Ward 2 Councillor was included on the I&AP database and provided with copies of all the relevant correspondence, as was Cllr Bukelwa Snoek, SRVM ward 8 Councillor, as the representative for the community that owns the commonage adjacent to the site. See Section 4 below for more detail on the Public Participation Process. A copy of the database is contained as Appendix G (ii).

- (v) the municipality which has jurisdiction in the area;

The following representatives of the Sundays River Valley Municipality were included on the project database and notified of the commencement of the Basic Assessment Process: Cllr Adams, (Ward 2 Councillor), Cllr Snoek (Ward 8 Councillor – Commonage Representative) and Mr Lonwabo Ngoqo (SRVM: Municipal Manager). A copy of the database indicating interaction with I&APs is contained as Appendix G (ii).

- (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and

Andries Struwig of the Eastern Cape Regional Office for the Department of Economic Development, Environmental Affairs and Tourism, Dr Mariagrazia Galimberti of the South African Heritage Resources Agency, Rufus Maloma of the Provincial Department of Agriculture, Marisa Bloem and Lizna Fourie of the Department of Water Affairs were included on the project database and notified of the commencement of the Basic Assessment Process.

Mr Gcinile Dumse requested to be registered as an I&AP on the project database during the project notification stage of the process and has since been included on the database.

A copy of the database indicating interaction with I&APs is contained as Appendix G (ii).

- (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

A newspaper advertisement was placed in “The Herald” of 26 April 2012. A copy of the advertisement is included in Appendix G (i).

- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

The proposed development will not have any impact that will extend beyond the boundaries of the SRVM.

- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained; and
 - (v) the manner in which and the person to whom representations in respect of the application may be made.

In line with these requirements an advert notifying all I&APs of the commencement of the Basic Assessment Process was placed in “The Herald” on 26 April 2012 and a notice board was placed at the site. A copy of the notice board and newspaper advert are contained in Appendix G (i).

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

A copy of the notice board and newspaper advert are contained in Appendix G (i).

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

The public participation process up until the release of the Draft Basic Assessment Report is summarised below:

IDENTIFICATION AND NOTIFICATION OF I&APS

- **Advertisement to register interest** - "The Herald", 26 April 2012
- **Notice board at the site**
- **Notice to surrounding landowners** – see section 1(b) and (c) above.
- **Identification of key stakeholders** - One mechanism to identify I&APs is through media advertisements. In addition, the following I&AP groups were proactively identified, included on the project database and notified of the process:
 - Ward Committee and Councillor – SRVM Ward 2 Cllr
 - Relevant Organs of State – DEDEAT, SRVM, DWA, DAFF, SAHRA
 - Surrounding Landowners – as above
- **Availability of information** – all project information has been made available on the website www.publicprocess.co.za. In addition to this, hard copies of correspondence were mailed and/or hand delivered to surrounding landowners, as appropriate.

Copies of all communication to I&APs up to the release of the Draft Basic Assessment Report for the 30 day review period are attached as an Appendix G (iii) of this Report.

IDENTIFICATION OF ISSUES FOR INCLUSION IN THE DRAFT BASIC ASSESSMENT

At the time of the release of the Draft Basic Assessment Report there were **26 I&APs** registered on the project database, a copy of which is included as Appendix G (ii). One I&AP requested to be registered on the project database and stated that he had no objection to the proposed application. Comment was received from Mr Gcinile Dumse from the Department of Agriculture, Forestry and Fisheries advising that the applicant must comply with Regulation 2 of the Conservation of Agricultural Resources Act 43 of 1983. All correspondence from I&APs has been included in Appendix G(iv). A full comments and responses report is included as Appendix E.

The following outlines the public participation process during the Review of the Draft BAR.

NOTIFICATION OF DBAR REVIEW PERIOD TO I&APs

- All I&APs on the project database received written notification of the 30 day review period (12 June 2012 to 13 July 2012) including an executive summary of the Draft BAR and a comment form.
- The following authorities were provided with copies of the Draft Basic Assessment Report: Department of Economic Development, Environmental Affairs and Tourism, Sundays River Valley Municipality, Department of Water Affairs, Department of Agriculture (Provincial & National), and SA Heritage Resources Agency.
- The Draft Basic Assessment Report was placed on the website www.publicprocess.co.za for downloading.

One comment was received in response to notifications sent out with regards to the review of the DBAR. Mr Dumse from the Department of Agriculture provided further information regarding the use of Category 2 plants as windbreaks.

SUBMISSION OF THE FINAL BAR

All registered I&APs will be notified in writing (letter 3) of the submission of the Final BAR to the competent authority (DEDEAT), and the manner in which comment on the final report can be made. A copy of the Final BAR will be available on the project website, www.publicprocess.co.za.

In terms of regulation 56 of the NEMA EIA Regulations, 2010 (as amended), all registered I&APs are entitled to comment on final reports. Any comments I&APs may have on the Final BAR must be submitted directly to the competent authority, in this instance, the Department of Economic Development, Environmental Affairs and Tourism: Cacadu Region, and provide a copy of such

comments to the EAP. Comments should be submitted within 21 days of the written notification. The contact details for the competent authority are attached in Appendix G (vi) of this report.

Environmental Authorisation and Appeal Period

All I&APs on the project database will be notified of the outcome of the decision-making process and the appeals process, as well as the manner of appeal. An advert will be placed in one local newspaper to provide notice of the Decision and the Appeal process.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

The Comments and Responses Report is attached as Appendix E.

6. AUTHORITY PARTICIPATION

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

List of authorities informed:

1	Mr Andries Struwig – Department of Economic Development, Environmental Affairs and Tourism
2	Mr Rufus Maloma – Provincial Department of Agriculture
3	Dr Mariagrazia Galimberti – South African Heritage Resources Agency
4	Lizna Fourie – DWA (Eastern Cape)
5	Marisa Bloem – DWA (Port Elizabeth)

List of authorities from whom comments have been received:

Mr Gcinile Dumse (DAFF)

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

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SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Mr Gcinile Dumse from the Department of Agriculture, Forestry and Fisheries advised that the applicant must comply with Regulation 2 of the Conservation of Agricultural Resources Act 43 of 1983. During the Draft BAR review period Mr Dumse provided further information regarding the use of Category 2 plants as windbreaks.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report):

The applicant has been advised to comply with Regulation 2 of the Conservation of Agricultural Resources Act 43 of 1983 and submit an application to obtain approval to cultivate virgin land.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Planning and Design Phase

No impacts are expected in the planning and design phase of the development.

Construction Phase

Alternative (preferred alternative)

Direct impacts:

Destruction of plant species of special concern.

A total of 7 protected species were recorded on site. These may have to be removed or may be destroyed during construction.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Before site clearing commences the site must be surveyed for plant SSC by a suitably qualified botanist.
- It is recommended that these plants are transplanted prior to the commencement of site clearing, under the supervision of a qualified botanical / horticultural specialist.
- Permits for the removal of these plants need to be obtained from the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), or in the case of Protected Tree species, from the Department of Agriculture, Forestry and Fisheries (DAFF)

Significance & Status with mitigation: Very Low Negative (-)

Vegetation disturbance and removal, and associated terrestrial habitat destruction and disturbance.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Demarcate the areas to be cleared and limit vegetation clearing, and disturbance, as well as pedestrian and vehicle traffic to the demarcated area.
- The valleys on the site have been excluded from the development footprint. These areas should be demarcated as No-Go areas during construction
- Identify and demarcate already cleared / disturbed areas for material lay-down, workers rest areas and equipment storage, and limit these activities to the demarcated areas.
- Clearly demarcate the no-go areas using chevron tape.
- The collection of firewood or the collection of plants or plant material for medicinal or other use should not be permitted.
- Employees should undergo environmental awareness training and be sensitized to the need to avoid disturbance to the vegetation in the no-go areas on the site.

Significance & Status with mitigation: Low Negative (-)

Loss of indigenous Sundays Spekboom Thicket vegetation.

The development will result in the loss of approximately 31ha of Sundays Spekboom Thicket on the site. This represents a loss of 0.06% of the remaining regional extent; and 0.12% of the original extent of the vegetation type in the region, i.e. SRVM (Pierce 2003, STEP Handbook).

This loss should be weighed against the approximately 570 ha of Sundays Spekboom Thicket which is being conserved on Habata properties in the region.

- This 570 ha represents the retention of ~ 30% of the original regional extent of Sundays Spekboom Thicket on Habata land.
- The Sundays Spekboom Thicket conservation target is 18% of the original extent (Pierce 2003).

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Species of special concern that are removed from the vegetation prior to vegetation clearing must be transplanted into existing cut-lines and disturbed area during the rehabilitation phase of the development under the supervision of a qualified botanist.
- The retained and rehabilitated vegetation must be cleared of invasive alien species and kept clear of these by conducting regular follow-up clearing operations.

Significance & Status with mitigation: Low Negative (-)

Destruction and removal of exotic plants.

The exotics that are listed as Category 1 weeds in terms of CARA (Conservation of Agricultural Resources Act 43 of 1983) will be removed when vegetation is cleared during construction. I.e. prickly pear & jointed cactus.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- CARA listed weeds and invasive plants on the remainder of the property must be controlled.
- It is recommended that a systematic alien plant control programme is developed and implemented at the farm.

Significance & Status with mitigation: High Positive(+)

Disturbance and injury to fauna during construction and the associated loss of habitat.

Fauna within the vegetation may suffer injury during the site preparation and vegetation clearing phase.

Extent: Site Specific

Duration: Temporary

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Site clearing must be done in a phased manner to allow fauna the chance to move away from the disturbance footprint.
- No fauna encountered at the site may intentionally be harmed or killed.
- All personnel should be made aware of the need to prevent harm to fauna on site.
- Speeds travelled by vehicles must be kept to a minimum.
- Excavations must be checked daily for trapped fauna; and trapped animals rescued and released.
- Injured fauna should be referred to an appropriate faunal rehabilitation or care centre (e.g. SPCA, African Dawn Wildlife Sanctuary).

Significance & Status with mitigation: Low Negative (-)

The outbreak of fire on the site during construction.

If a fire were to break out on site there is the potential of it spreading and damaging the intact vegetation at the site. Portions of thicket which has been degraded, or invaded by woody alien species may be vulnerable to fire.

Extent: Site Specific/Local

Duration: Temporary

Probability: Improbable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Open fires used for cooking should be avoided where possible.
- If such a fire is truly necessary then it should only be made in a demarcated area (within the construction camp) that has little vegetation or other flammable substances in close proximity.
- Fires should never be left unattended and should be extinguished if not in use.
- Exotic vegetation on the site must be eradicated.
- It is recommended that, if possible, the applicant join the local Fire Protection Association.

Significance & Status with mitigation: Very Low Negative (-)

Increased stormwater runoff due to the removal of the vegetation.

Extent: Site Specific/Local

Duration: Temporary

Probability: Improbable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Limit vegetation disturbance outside the portions to be cleared.
- Stormwater on the site must be controlled for the duration of the site preparation phase by employing appropriate temporary stormwater control structures e.g. cut-off berms.
- Cleared areas must be re-vegetated (cultivated) as soon as possible after the initial vegetation clearing.

Significance & Status with mitigation: Low Negative (-)

Soil erosion of disturbed and unconsolidated soil once vegetation has been cleared.

Increased stormwater runoff as a result of the removal of vegetation is likely to increase the erosion of unconsolidated or disturbed soils. No development is proposed for the valley slopes and steep portions of the site.

Extent: Site Specific

Duration: Temporary

Probability: Probable

Intensity: Low

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Material lay-down areas, access routes, and No-Go areas should be clearly demarcated.
- Stormwater on the site must be controlled for the duration of the site preparation and vegetation clearing phase by employing appropriate temporary stormwater control structures e.g. cut-off berms.
- Topsoil should be cleared in a phased manner to avoid large areas of unconsolidated soils.
- Topsoil should be removed and stockpiled in an appropriate manner:
 - Stockpiled separately from subsoil, monitored for- and protected from erosion, kept clear of exotic vegetation
- The rehabilitated areas should be watered until vegetation has become established.
- Should erosion scars begin to form on the landscape, erosion counter measures should be implemented immediately.
- Erosion control and development disturbance should be an important monitoring facet falling under the control of an Environmental Control Officer (ECO), who should be appointed to implement the environmental management programme (EMPr) during the site preparation and vegetation clearing as well as the site rehabilitation phases of this project.

Significance & Status with mitigation: Very Low Negative (-)

Dust generation during the vegetation clearing and site preparation phase.

Areas of unconsolidated soil will be present during the vegetation clearing. These soils will be prone to wind erosion with associated generation of dust and windblown sand during high wind velocities.

Extent: Site Specific / Local

Duration: Temporary

Probability: Probable

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Topsoil should be cleared in a phased manner to avoid large areas of unconsolidated soils.
- Topsoil and soil stockpiles should be covered, wetted or otherwise stabilised to prevent wind erosion and dust generation.
- A water cart or sufficient watering equipment should be available to wet soils during windy days if wind-blown sand and dust becomes a problem.

Significance & Status with mitigation: Very Low Negative (-)

Noise and disturbance during the vegetation clearing and site preparation phase.

The use of machinery and the presence of additional labourers on site will result in greater than normal levels of noise for the area. However, given the agricultural nature of the area, and the distance to the nearest residential areas (~ 2.8 km), it is unlikely that this impact will be significant.

Extent: Site Specific

Duration: Temporary

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Low Negative (-)

Mitigation:

- Limit activities, as far as possible, to working hours (ie. 7am-6pm weekdays).
- Encourage labourers to not make unnecessary noise.
- Should after hours work take place nearby residents should be notified.
- Signage with the contact details of the responsible person should be provided at the site for residents with complaints in this regard.
- A complaints register should be kept to document complaints and the corrective action taken.
- No loud music to be allowed on site.

Significance & Status with mitigation: Very Low Negative (-)

Generation of waste during the vegetation clearing and site preparation phase.

Packaging, pipe off-cuts, and other construction phase waste is likely to be generated on site and may result in pollution at the site.

Extent: Site Specific

Duration: Temporary

Probability: Probable

Intensity: Low

Degree of Confidence: High

Significance & Status without mitigation: Low Negative (-)

Mitigation:

- Excavated material should be used at other sites where fill is required or disposed of at an appropriately licensed waste disposal facility.
- Any waste that may be produced during the construction phase must be disposed of at an appropriately licensed waste disposal facility.
- No waste is to be stockpiled on site.
- Adequate litter bins should be provided at the site for waste generated by labourers; these should be emptied on a regular basis and waste disposed of at an appropriately licensed waste disposal facility.
- Suitable potable sanitation facilities should be provided and maintained for the labourers during the construction phase.

Significance & Status with mitigation: Very Low Negative (-)

Pollution of surface and groundwater due to chemical, oil and fuel spills.

The use of plant equipment and machinery during site preparation may lead to pollutant spills, however it is unlikely that this impact will occur.

Extent: Site Specific

Duration: Temporary

Probability: Improbable

Intensity: Low

Degree of Confidence: High

Significance & Status without mitigation: Low Negative (-)

Mitigation:

- Fuel supply needed during the site preparation and construction phase must be placed on trays, which rest on clean sand. Once this phase is complete this must be removed from the site and disposed of at an appropriately registered waste disposal facility.
- Vehicles (bulldozers, tractors etc.) should not be serviced at the site to prevent pollution of the soils by hydrocarbons or oil.
- Vehicles should be checked for leaks to ensure no fuel, oil or other similar pollutant contaminates the soils.
- Sufficient portable chemical toilets or similar sanitation facilities should be provided and suitably maintained at the site for the duration of the site clearing and preparation phase.

Significance & Status with mitigation: Very Low Negative (-)

Impacts on potential undiscovered archaeological material or artefacts on site.

An archaeological specialist assessment was undertaken by Dr Johan Binneman (attached as Appendix D(i)): The archaeological specialist found occasional Middle Stone Age stone tools in areas where the dense vegetation has been cleared and in tracks where river gravels were exposed. In general the proposed property for development was found to be of low archaeological sensitivity. However the possibility that material may be uncovered during site clearing and earthworks cannot be entirely discounted.

Extent: Local

Duration: Temporary

Probability: Improbable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Low Negative (-)

Mitigation:

- It is recommended that in the unlikely event that any archaeological materials are exposed during the development, it should be reported immediately to the nearest museum/archaeologist or to the South African Heritage Resources Agency so that a systematic and professional investigation can be undertaken.
- If any evidence of archaeological sites or artefact, palaeontological fossils, graves or other heritage resources are found during development or construction, SAHRA and an accredited professional archaeologist or palaeontologist must be alerted immediately. (SAHRA APM Unit (Mariagrazia Galimberti / Nonoflo Ndobochani, tel. 021 462 4502).
- If the newly discovered heritage resources prove to be of archaeological significance a phase 2 rescue operation might be necessary at the cost of the developer. Sufficient time must be allowed to remove / collect such material.

- Site foremen should be informed before vegetation clearing commences on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites: i.e. human skeletal material, mussel middens, stone artefacts, fossil bone, stone features and historical artefacts or features.

Significance & Status with mitigation: Neutral to Very Low Negative (-)

Fossilised material may be uncovered and/or destroyed during excavations for the proposed development.

Based on the geology of the site (geologically young fluvial terrace gravels), it is unlikely that fossilised material will be present at site. However, if it is discovered, the following mitigation measures have been proposed.

Extent: Local

Duration: Temporary

Probability: Improbable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Very Low Negative (-)

Mitigation:

- Should substantial fossil remains be exposed during vegetation clearing and site preparation, the ECO should safeguard these, preferably in situ, and alert SAHRA as soon as possible so that appropriate action (e.g. recording, sampling or collection) can be taken by a professional palaeontologist.
- If any evidence of archaeological sites or artefact, palaeontological fossils, graves or other heritage resources are found during development, SAHRA and an accredited professional archaeologist or palaeontologist must be alerted immediately. (SAHRA APM Unit (Mariagrazia Galimberti / Nonoflo Ndobochani, tel. 021 462 4502).
- The palaeontologist will need to apply beforehand for a collecting permit from SAHRA for which an approved depository for any fossil material collected will need to be designated (eg Albany Museum, Grahamstown).
- Sufficient time must be allowed to remove/collect such material.

Significance & Status with mitigation: Neutral

A number of temporary employment and skills development opportunities will be created during the site clearing and preparation phase.

Extent: Local

Duration: Temporary

Probability: Probable

Intensity: High

Degree of Confidence: High

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- Source local labour as far as possible.

Significance & Status with mitigation: High Positive (+)

Indirect impacts:

Alteration of ecosystem functioning associated with the ecological corridors represented by the valleys and watercourse on the site.

The large valley traversing the property, as well as the small valleys near the area proposed for cultivation; represent ecological corridors which link upland and low-lying areas. Disturbance to these valleys may impact on the effectiveness of these corridors in sustain ecological processes in the landscape. The valleys have been excluded from the proposed development footprint for the orchards and are unlikely to be significantly affected by the proposed development; however the proposed access road will cross two small valleys on the eastern portion of the property.

Extent: Site/Local

Duration: Permanent

Probability: Improbable

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- The valleys on the site have been excluded from the development footprint. These areas should be demarcated as No-Go areas during construction

- Strictly confine disturbance to the demarcated area.
- No cleared plant material, or excavated rock and soil may be deposited in the valleys.
- Implement erosion protection measures at the two areas where the valleys are traversed by the access road.
- Limit speeds on the proposed new access road.
- Rehabilitate the disturbed areas associated with the road crossing the valleys immediately after construction.

Significance & Status with mitigation: Medium Positive (+)

Risk to human health and safety due to open excavations and earth moving machinery.

Extent: Site/Local

Duration: Temporary

Probability: Probable

Intensity: High

Degree of Confidence: High

Significance & Status without mitigation: High Negative (-)

Mitigation:

- Footprints, including site offices, excavations, storage areas, materials lay-down areas, stockpile area, and workers rest areas should be clearly demarcated or fenced off before site preparation and vegetation clearing commences.
- All activities should be limited to the demarcated area.
- Open excavations must be kept free of water.
- Access to the site must be controlled.
- Entry points and access routes to the site must be clearly marked and traffic limited to those areas as far as possible.
- Speed travelled by vehicles must be kept to a minimum and speed limits enforced.
- Ensure that there is a first aid facility and trained first aiders permanently on site.
- Residents of affected area must be notified timeously (two weeks minimum) prior to site preparation and vegetation clearing commencing.

Significance & Status with mitigation: Low Negative (-)

Cumulative impacts:

- None anticipated.

Operational Phase

Alternative (preferred alternative)

Direct impacts

Alien plant invasion in disturbed portions of the site.

Once an area has been disturbed and the natural vegetation cover reduced, these areas may be prone to the establishment of exotic weeds and invasive plants, until such time as the indigenous vegetation has recovered.

Extent: Site Specific / Local

Duration: Permanent

Probability: Probable

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Footprints, including site offices, excavations, storage areas, materials lay-down areas, stockpile area, and workers rest areas should be clearly demarcated or fenced off before site preparation and vegetation clearing commences.
- All activities should be limited to the demarcated area.
- The area should be monitored regularly and follow-up clearing done before problem plants can become established.

Significance & Status with mitigation: Low Negative (-)

Increased stormwater runoff due to the removal of the vegetation.

The removal of vegetative cover and litter, as well as the alteration of the topography, may reduce

rainwater infiltration and result in increased runoff volumes and velocities.

Extent: Local

Duration: Permanent

Probability: Highly Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Implement suitable storm-water management measures within the orchards (E.g.: cut-off berms, diversion canals and appropriate planting configurations)
- Retain as much vegetation cover within the planted areas as possible (e.g. grass and small shrubs).
- Demarcate the valleys and steep portions of the site as No-Go areas.
- Re-vegetate denuded areas and disturbed vegetation near the proposed orchards and access road with indigenous vegetation, e.g. *Cynodon dactylon* or *Portulacaria afra*.

Significance & Status with mitigation: Very Low Negative (-)

Increased pressure on the water supply of the LSRWUA.

Irrigation water will be obtained through existing legal water entitlements from the Lower Sundays River Water Users Association (LSRWUA). It is anticipated that, in line with the requirements of the National Water Act, the long term sustainability and equitable allocation of water is considered by the LSRWUA in issuing such entitlements.

Extent: Local

Duration: Long term

Probability: Definite

Intensity: Low

Degree of Confidence: High

Significance & Status without mitigation: Neutral

Mitigation:

- None proposed

Significance & Status with mitigation: Neutral

Increased employment opportunities.

It is anticipated that the agricultural activities proposed to take place on the site will create a minimum of 100 temporary jobs associated with planting and harvesting on the additional agricultural lands, as well as an additional 20 permanent employment opportunities.

Extent: Local

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- Use local labour as far as possible.

Significance & Status with mitigation: High Positive (+)

Indirect impacts:

The additional employment and income generation will stimulate the local economy.

The increased number of local individuals that will have employment will result in their having improved buying power. This will in turn result in a strengthening of the local economy.

Extent: Local

Duration: Long term

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- Employ local labour as far as possible.

Significance & Status with mitigation: High Positive (+)

Cumulative impacts:

- None anticipated.



Alternative (No-Go Option)

Direct impacts:

Continued invasion of natural vegetation by exotics.

Extent: Local
Duration: Permanent
Probability: Definite
Intensity: Medium
Degree of Confidence: High
Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- None proposed.
- Significance & Status with mitigation: Medium Negative (-)

Indirect impacts:

A number of potential employment opportunities will not be realised.

Extent: Local
Duration: Permanent
Probability: Definite
Intensity: Medium
Degree of Confidence: High
Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- None proposed.
- Significance & Status with mitigation: Medium Negative (-)

The local economy will not benefit from the increased buying power of the local people (due to their being employed).

Extent: Local
Duration: Permanent
Probability: Definite
Intensity: Medium
Degree of Confidence: High
Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- None proposed.
- Significance & Status with mitigation: Medium Negative (-)

Cumulative impacts:

- None anticipated.

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

Construction Phase

- Impacts associated with vegetation removal and potential impacts on fauna are considered Medium Negative and can be mitigated to Low or Very Low negative with appropriate mitigation.
- The removal of invasive weeds can be considered a Medium Positive impact which can be enhanced to High Positive impact if managed in line with the recommendations of the report.
- Potential impacts on ecosystem function, particularly that associated with the valleys near the site are considered Medium Negative, however the implementation of an alien plant control programme and fencing off the sensitive area can result in a net positive impact on ecosystem function.
- Potential impacts associated with accidental fires, erosion and storm-water may be Medium Negative if not managed, but can be mitigated to Low or Very Low Negative with the implementation of the recommended mitigation measures.
- Dust and noise generation during construction are rated as Medium and Low Negative respectively, and can both be reduced to Very Low negative by implementing the construction Best Practice measures outlined in the report.
- Generation of waste, and potential pollution of water resources are considered a Medium and Low Negative impacts, which can be further reduced to Very Low Negative with the implementation of appropriate mitigation.
- Impacts on potential archaeological or palaeontological material are unlikely, and can be reduced to Very Low or Neutral with the implementation of the recommendations outlined in this report.
- A number of temporary employment and skills development opportunities will be created during the site clearing and preparation phase. These employment opportunities are considered a Positive impact which can be enhanced to High Positive by preferentially sourcing local labour and service providers in the development of the site.

Operational Phase

- Potential operational phase impacts associated with the project include alien plant invasion, and increased stormwater runoff due to the removal of the vegetation. These are considered Medium Negative and can be further mitigated to Very Low Negative.
- Increased irrigation water demand is considered Neutral since the LSRWUA system was planned and designed to provide irrigation water, and water allocations are carefully managed by the LSRWUA.
- Increased direct permanent and seasonal employment opportunities during the operational phase, as well as the indirect employment and economic spinoffs, are considered Medium Positive and can be enhanced to High Positive by preferentially sourcing local labour and service providers.

No-go alternative (compulsory)

- Continued invasion of natural vegetation by exotics such a Jointed Cactus and Prickly Pear is considered Medium Negative impacts.
- The loss of potential direct and indirect employment opportunities, as well as the non-realization of associated stimulation in the local economy, is considered a Medium Negative impact.

SECTION E. RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	NO
YES	NO

Is an EMPr attached?

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

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If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

All the recommended mitigation measures outlined in this report should be considered for inclusion in the Environmental Authorisation.
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