

FINAL BASIC ASSESSMENT REPORT

AGRICULTURAL DEVELOPMENT OF PORTION 23 OF FARM 104 AND THE REMAINDER OF FARM 650, SWANEPOELS KRAAL, SUNDAYS RIVER VALLEY MUNICIPALITY (DEDEAT Reference Number: EC06/LN3/M/12-45)

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Abbreviations:

BAR - Basic Assessment Report
CARA - Conservation of Agricultural Resources Act
DBAR - Draft Basic Assessment Report
DEDEAT - Department of Economic Development, Environmental Affairs and Tourism
DEA - Department of Environmental Affairs
DWA – Department of Water Affairs
DME – Department of Mineral Resources
FBAR - Final Basic Assessment Report
I&APs - Interested and Affected Parties
EA - Environmental Authorisation
EMPr – Environmental Management Programme
EMP – Environmental Management Plan
NMBM – Nelson Mandela Bay 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
-----	----

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 Hermanus Potgieter Familie Trust (the applicant) is proposing the agricultural development of Portion 23 of Farm 104 Swanepoels Kraal and the Remainder of Farm 650, Kirkwood, Sundays River Valley Municipality, in order to expand existing citrus cultivation activities on the Miskruier Citrus Farm. The two parcels of land proposed for development represent an area totalling approximately 230ha in extent. It is proposed that approximately 94 ha (41% of the total area) is cleared for the establishment of citrus, predominantly for the export market. The remainder of the site, approximately 136 ha, is currently not proposed for development and will stay zoned as agriculture.

Important Note and Background to this application: *The clearing of vegetation commenced illegally on Portion 23 of Farm 104 and the Remainder of Farm 650, Kirkwood, Sundays River Valley Municipality in approximately April 2012. The area cleared is approximately 20.2 ha and is currently subject to a NEMA Section 24G application process. The applicant has ceased all activities associated with the expansion of agricultural activities on the affected farms and has voluntarily submitted to a Section 24G application process. The cleared areas on Portion 23 of Farm 104 and the Remainder of Farm 650, Swanepoels Kraal are being dealt with through a section 24G application process and do not form part of this Basic Assessment process. Thus this Basic Assessment focuses on the remaining 74 ha.*

As indicated in paragraph one and two above, while the applicant is of the intention to clear a total of 94 ha for the expansion of citrus, the already cleared 20.2 ha area is being dealt with through a section 24G application and this assessment therefore focuses on 74 ha within the total 230 ha. Map 1 below indicates the boundary of the properties under assessment and the area which forms part of the Section 24G application.

Portion 23 of Farm 104 and the Remainder of Farm 650 are surrounded by existing agricultural activities on all sides (pastures and orchards). The Dung Beetle lodge, belonging to the applicant, is located on the eastern boundary of Portion 23 of Farm 104.

The applicant is a member of the Sundays River Citrus Company (SRCC) and during harvesting season, citrus is transported directly from the farm to the SRCC for processing, packaging and export. The project will thus not require any additional infrastructure (e.g. buildings, offices, and sanitation) associated with the processing and packaging of the citrus. The project will however require the installation of drip/ micro irrigation infrastructure as well as a water storage dam with a capacity to store approximately 33 750m³ (125m x 60m and 4.5m deep).



Map 1: Boundary of the properties under assessment, Portion 23 of Farm 104 Swanepoels Kraal, and the Remainder of Farm 650. Cross hatched area indicates the cleared portions of land on the site which are being dealt with by a Section 24 G application

Locality & Town Planning

The site is located on an existing citrus farm known as Miskruier Citrus Farm (Portion 23 of Farm 104 Swanepoels Kraal, and the Remainder of Farm 650, Kirkwood); near the town of Kirkwood, in the Sundays River Valley Municipality. The farm is situated adjacent to the gravel road that extends between the town of Kirkwood and the R335 regional road (Zuurberg Road). The entrance to the site is located directly off the gravel road, approximately 2.8 kilometers west of the intersection of the Kirkwood Road and the Zuurberg Road (R335)

The site is zoned for agricultural use, and has historically been used for the stocking of game for guests at Dung Beetle Lodge. However, due to the expansion of agricultural activities surrounding the site, socio-economic considerations have made the stocking of game on the site unsustainable. That is, the illegal poaching of game has increased on the property, despite appointing a permanent team which removed approximately 40 to 50 snares a week (pers comm. Hermanus Potgieter), the game stock numbers on the property systematically declined.

Surrounding Land-use

Surrounding land uses include commercial agriculture – predominantly orchards on the southern, western and eastern boundary of the farms and pasture on the northern boundary. A farm dam is located on the north eastern boundary of the farm. The site is located immediately south of the Kirkwood Road and the Zuurberg Road (R335).

The area beyond the immediate boundaries of the site is used for commercial farming (poultry west of the site); orchards further east of the site and intact vegetation (approximately 500 meters south east of the site). The Addo Elephant National Park is located, east of the Addo road,

approximately 3km from the site.

Site Overview

The area proposed for development is covered predominantly with indigenous thicket vegetation, which is largely intact. However, portions of the site have levels of degradation and in some areas has been transformed. The thicket is traversed by a variety of vehicle tracks, footpaths, cut-lines and clearings as well as an Eskom Powerline servitude. Some degradation of the vegetation is evident in the southern portion of the site and along the northern boundary.

The site is stocked with a few species of buck as well as giraffe and a variety of avifauna frequents the site. The fauna present on the site currently form part of the Dung Beetle Lodge's facilities; offering guests walks in the natural vegetation.

The site is surrounded by agricultural activities. Thus it is largely isolated from the ecological process and faunal movement corridors in the surrounding areas.

PROJECT OVERVIEW

The project can be divided into the following stages and phases:

- Preconstruction
- Construction
- Operation

It is important to note that a preparation phase (preconstruction and construction) is required prior to harvesting for export. This period varies dependent on the variety of the crop being produced.

Preconstruction

The fruit proposed to be produced on the site is for international export. 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 and includes a financial deposit.

The seed is provided to a certified nursery for a grow-out period, during which the seeds are germinated and the seedlings grown to sapling stage. Meticulous coordination is required between the Citrus Foundation for the purchase of the seed, the nursery for grow-out, and the citrus producer, in order to meet contractual obligations for harvesting and export of the crop. This is an on-going process, which is carefully timed and coordinated to allow the phased development of a site to take place. The preconstruction phase for securing the block seed and growing of the saplings occurs in parallel to site preparation which is outlined below. Site preparation needs to be completed to coincide with the planting of the crop, which occurs annually in the last quarter of the year between ideally November and January. Thus the timing between the purchase of the seedlings, preparation of the site and planting of the crop for harvesting and export is critical.

Construction Phase

The project will entail the clearing of vegetation, levelling of the site, the construction of the farm dam and installation of the drip/ micro irrigation system, prior to the planting of a variety of citrus saplings. The project will thus entail the following activities on the site:

- Clearing of vegetation from portions of the site proposed for agriculture (74 ha)

- Levelling and landscaping the site to provide runoff control
- Establishment of internal roads to provide access to orchards
- Establishment of a storage dam for irrigation water
- Installation of a drip irrigation system
- Establishment of citrus trees
- Establishment of wind breaks

Clearing of vegetation

It is proposed that approximately 74 hectares of vegetation is removed from Portion 23 of Farm 104 Swanepoels Kraal, and the Remainder of Farm 650 to facilitate the development of the site for the cultivation of a variety of citrus crops for the export market. It is proposed that approximately 136 ha on Portion 23 of Farm 104 remains intact and zoned as agriculture for activities associate with the Addo Dung Beetle Lodge, located east on this portion of the site.

Shaping and earthworks

The topography of the site is fairly undulating, thus shaping and earthworks will be necessary in order to manage runoff from the cultivated lands and prepare the site for the establishment of the orchards.

Storage dam

It is proposed that a storage dam with a total capacity of 33 750m³ be constructed on a northern section of Portion 23 of Farm 104. The dam will be 125 m x 60m and 4.5 meters in depth. Water will be pumped from the Lower Sundays River Water Users Association (LSRWUA) canal system adjacent to the site for storage in the dam so as to provide irrigation water for the proposed agricultural development. The proposed location of the dam is indicated on the facility illustration attached in Appendix C and on map 1 above.

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) between orchards to allow access for vehicles and equipment. Access to the area can be provided by connecting the proposed internal roads with the existing internal road network serving the adjacent Miskruier Citrus Farm. As far as possible existing vehicle tracks on the site will be utilised to access the area proposed for expansion.

Irrigation

Irrigation water will be reticulated within the cultivated area via a network of irrigation pipes and valves. Water will be supplied to the orchards 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 micro and/or drip irrigation.

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.

Plant 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 on the adjacent Miskruier Farm. No site preparation 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. 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

Water for the additional agricultural area will be provided from the adjacent canal system belonging to the Lower Sundays River Water Users Association (LSRWUA). Written confirmation of the availability of water to service the area has been received from Harms Du Plessis of the LSRWUA (attached in Appendix G (x)). Water will be pumped from the canal system to an onsite dam, located on a northern section of Portion 23 of Farm 104, with a storage capacity of 33 750m³ from where it will be reticulated via a system of underground PVC pipes to the orchards for micro and/or drip irrigation. The water requirements will be approximately <900mm/year/ha. Therefore, it is estimated that approximately 666 000m³ of water will be required annually to irrigate the 74 hectares.

Employment Creation

Planting and harvesting are done manually and are labour intensive processes. It is estimated that the development will create an additional 8 direct permanent employment opportunities, 2 indirect permanent employment opportunities and an additional 100 seasonal employment opportunities (8 months of the year). Thus an additional income into the local market from permanent employment opportunities is estimated at approximately R300 000 annually and R2 400 000 million annually from seasonal employment. At an average of R125 000 per hectare for site preparation and construction it is estimated the capital investment of the development is R9 250 000 million for 74 ha. Labour will be sourced locally from communities in both the NMBM as well as the Sundays River Valley Municipality.

Chemical use and storage

It is anticipated that the cultivation of crops on the proposed site will require the use of additional agricultural chemicals such as fertilisers, herbicides and pesticides. No agricultural chemicals are proposed for storage on the area proposed for the agricultural expansion. The chemicals associated with the orchards will be stored in the existing storage facilities on the Miskruier Farm administrative area, which is adjacent to the proposed site. The storage and use of agricultural chemicals will be in line with existing legislation¹ governing these practices.

Supporting Infrastructure (potable water, sanitation, administration)

No additional infrastructure is proposed on the area planned for expansion. The existing administrative and technical infrastructure at Miskruier Farm will be utilised to service the expanded agricultural activities (offices, storage areas, and service buildings). The sanitation facilities at the Miskruier Farm will be used during the day to day maintenance of the orchards and associated infrastructure. During harvesting when there is a larger labour force present at the

¹ [(e.g. Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act No. 36 of 1947), Plant Improvement Act (Act No. 53 of 1973), Agricultural Product Standard Act (Act No. 119 of 1990), Agricultural Pests Act (Act No. 36 of 1983), Conservation of Agricultural Resources Act (Act 43 of 1983)]

site, portable sanitation and washing facilities need to be provided.

Project Timeframes

As noted in the section above on the project overview the project timing is determined back from the most suitable period for planting, which is between November and January annually. However, prior to the planting of the crops a period of preparation (construction and installation of infrastructure) is required. Should Environmental Authorisation for the project be issued, it is anticipated that the applicant will secure the necessary permits and authorisations and project implementation and construction is proposed to take place in a phased manner over three periods of 18 months. The first 18 month period however is for the proposed already cleared 20.2 ha portion of the site, should this receive authorisation, which does not form part of this application. The phases for the remainder of site proposed for development area as follows:

Phase 1: 20.2 ha, 2012/2013 (not part of this application)

Phase 2: 37 ha, 2013/14 (November to January)

Phase 3: 37 ha, 2014/2015 (November to January)

Thus including the period for receipt of the permits; project implementation is anticipated to be over a 4 year period.

It is expected that cultivation will commence as soon as the site preparation has been completed, in phases over a period of **four (4) years** after the issuing of the Environmental Authorisation, should one be granted.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“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.

The basic assessment included consideration of two layout alternatives; as well as two technology (windbreak species) alternatives.

Layout Alternatives

Initial Layout

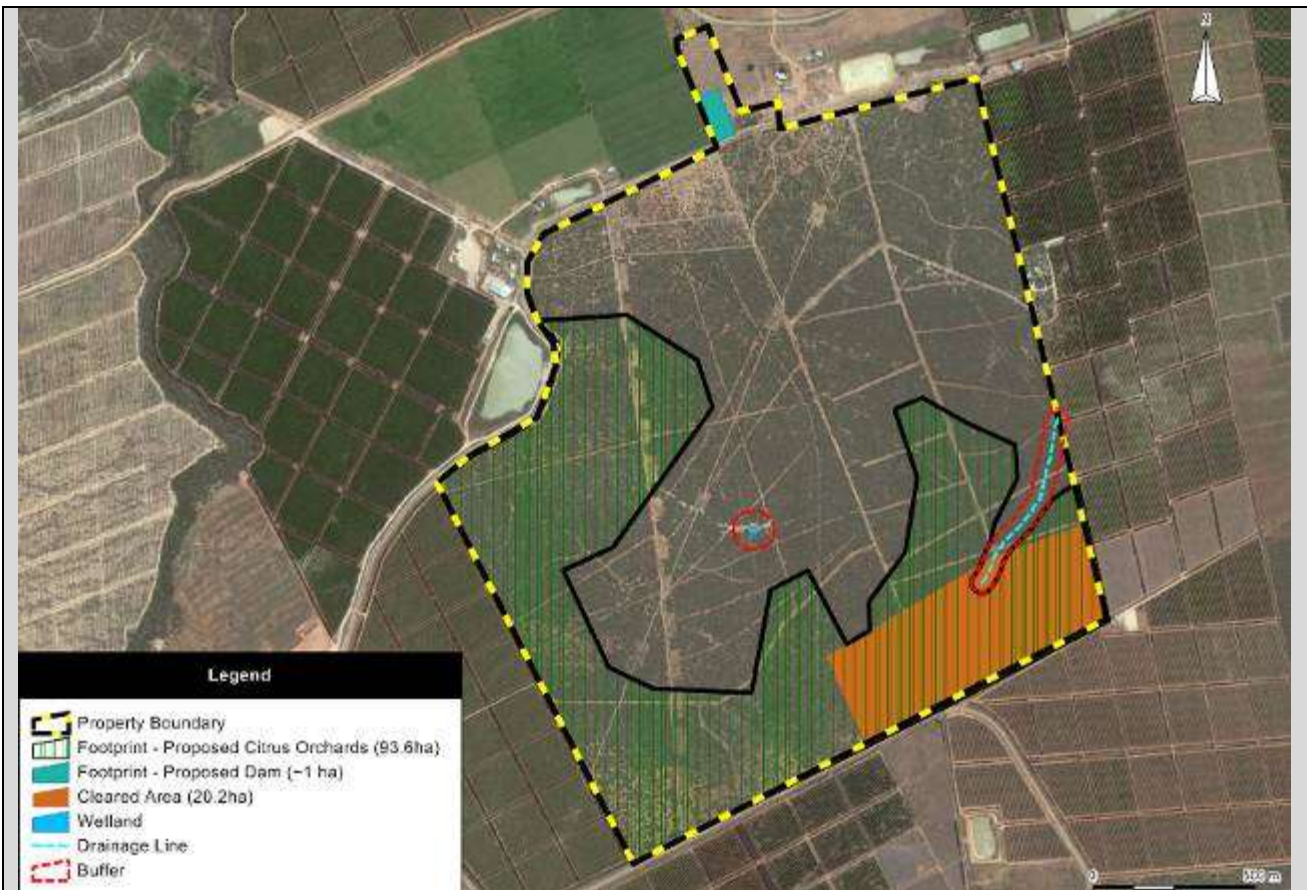
The original development proposal (see Map 2) considered the entire site for development, excluding a portion, adjacent to the Dung Beetle Lodge, which was to remain intact for use by the guests. Subsequently the soil suitability assessment revealed that approximately 100 hectares of the site is suitable for citrus cultivation. Due to the ongoing capital input required for planting crops on soils considered as not suitable or marginally suitable for citrus, this layout was therefore not considered further in this assessment process.



Map 2. The initial layout entailed the development of the entire site.

Preferred Layout

The preferred alternative entails the development of approximately 94 hectares (20.2 hectares of which has already been cleared and does not form part of this assessment process) in the southern and western portion of the site (see Map 3), and the exclusion of an area of approximately 136 ha. It is anticipated plant species of special concern will be transplanted from the areas to be cleared into the remaining vegetation and that the intact vegetation will provide habitat for a few small faunal species.



Map 3. Preferred layout showing the portion of the site proposed for development.

Windbreak Alternatives

Original Windbreak species

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 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* (category 2) and *Grevillea robusta* (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 Silky Oak was not considered further in this assessment as a potential species for use as a windbreak.

Preferred Windbreak species

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.)

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).

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.

	Latitude (S):		Longitude (E):	
Alternative:				
Alternative S1 ² (preferred or only site alternative)	33°	27.119'	25°	40.899'
Alternative S2 (if any)	0	'	0	'
Alternative S3 (if any)	0	'	0	'

In the case of linear activities:

	Latitude (S):		Longitude (E):	
Alternative:				
Alternative S1 (preferred or only route alternative)				
• Starting point of the activity	0	'	0	'
• Middle point of the activity	0	'	0	'
• End point of the activity	0	'	0	'
Alternative S2 (if any)				
• Starting point of the activity	0	'	0	'
• Middle point of the activity	0	'	0	'
• End point of the activity	0	'	0	'
Alternative S3 (if any)				
• Starting point of the activity	0	'	0	'
• Middle point of the activity	0	'	0	'
• End point of the activity	0	'	0	'

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 ³ (preferred activity alternative)	740 000m ²

² "Alternative S.." refer to site alternatives.

Alternative A2 (if any)
Alternative A3 (if any)

m ²
m ²

or, for linear activities:

Alternative:

Length of the activity:

Alternative A1 (preferred activity alternative)
Alternative A2 (if any)
Alternative A3 (if any)

m
m
m

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

Alternative:

Size of the site/servitude:

Alternative A1 (preferred activity alternative)
Alternative A2 (if any)
Alternative A3 (if any)

2 300 000m²
m ²
m ²

5. SITE ACCESS

Does ready access to the site exist?

YES	NO
m	

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

Describe the type of access road planned:

The site can be accessed via two gravel roads: one is from the Dung Beetle Lodge on the eastern boundary and the other is from the adjacent farm to the north of the site. Existing internal vehicle tracks will be used as far as possible within the orchards. No other access roads are planned for the proposed development.

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;

³ "Alternative A.." refer to activity, process, technology or other alternatives.

- 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 site plan has been included in Appendix A of the Basic Assessment Report.

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 taken in all eight compass directions from the centre of the site have been included in Appendix B. Additional photographs showing features that have been referenced in the Report have also been included.

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.

A facility illustration (preliminary planting plan) has been included in Appendix C of the Basic Assessment Report.

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?
- How many permanent new employment opportunities will be created during the operational phase of the activity?
- What is the expected current value of the employment opportunities during the first 10 years?
- What percentage of this will accrue to previously disadvantaged individuals?

R 9.2 Million	
R 15 Million	
YES	NO
YES	NO
25 per annum	
R 750 000	
60%	
10 permanent 100 seasonal	
R28 Million	
70%	

9(b) Need and desirability of the activity

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

The properties under assessment are zoned for Agriculture and are surrounded by agricultural activities (citrus orchards, vegetable production and poultry broiler facilities). The nearest indigenous vegetation is approximately 500 metres to the south east of the site and is intercepted by citrus orchards.

Due to the poaching that is taking place on the properties under assessment it is no longer financially viable to maintain this area for habitation by game. It is anticipated that transformation of this area for agricultural expansion of the existing citrus farming operations on the adjacent farm will ensure the sustainability thereof.

Soil suitability studies conducted on the site have ascertained that approximately 100 hectares of the site is suitable for agriculture, in particular for the establishment of citrus. With an additional approximately 72 hectares that have been marginally recommended, but that would require the application of a number of amelioration measures.

The properties proposed for the expansion of the agricultural activities are located adjacent to the existing Miskruier Citrus farming operation, and can tie into the existing access and administrative infrastructure of the current farming operation, thus maximising the area available for cultivation and reducing the initial capital costs. In addition, the site is adjacent to the LSRWUA canal, from which the applicant intends to abstract water for irrigation purposes.

Once established, it is anticipated that the orchards will produce in excess of 2500 tons of fruit annually. The plantation will ensure sustainability of the current farming operations and the optimal use of already established infrastructure and operations.

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

The project will provide economic stimulation in the NMBM, and the SRVM, through the increased demand for goods and services associated with increased agricultural production. These include, among others: higher demand for packing materials (pallets, cardboard boxes, ink); increased shipping and cargo handling requirements; increased demand in agrichemical, fertiliser and supporting industries; as well as increased transport requirements for goods and labour.

The development will also make a substantial contribution to the NMBM and SRVM rates base; improving the capacity for service delivery to residents in the respective municipality.

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%, while that of the NMBM is estimated at 35% (Draft NMBM IDP, 2011). The proposed development will create an additional approximately 10 permanent and 100 temporary (seasonal) employment opportunities and will assist in skills development of 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	Date:
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	<u>authority:</u>	
<p>GN 546</p> <p>2. The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</p> <p>(a) In Eastern Cape,</p> <p>iii. Outside urban areas, in:</p> <p>(dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(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;</p> <p>GN R546</p> <p>"13. The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation,</p> <p>(a) Critical Biodiversity areas and ecological support areas as identified in systematic biodiversity plans adopted by the competent authority.</p> <p>(c) In Eastern Cape...</p> <p>ii. Outside urban areas, the following:</p> <p>(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;"</p> <p>"4. The construction of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p>(a) In Eastern Cape...:</p> <p>ii. Outside urban areas, the following:</p> <p>(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 biosphere reserve;"</p> <p>"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:</p> <p>(a) In Eastern Cape...:</p> <p>i. All areas outside urban areas."</p>	<p>Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)</p> <p>-</p>	<p>2010</p>
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	1983

	Fisheries	
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
-----	----

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

1.5 m ³

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. Addo Waste Disposal Site.

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

Addo Waste Disposal Site

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

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

10 m ³

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 in the orchards 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 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?

m ³	
Yes	NO

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

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
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 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. As the site is surrounded by agricultural land it is unlikely that the proposed agricultural development will have any noise impacts that will adversely affect adjacent landowners. 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
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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.

A modified wetland was identified on the site during the site visit. Any activity which occurs within 500m of a wetland will likely trigger the need for a Water Use Licence in terms of Section 21 (c) and (i) of the National Water Act (Act 36 of 1998). If environmental authorization is obtained for the proposed development an application for a Water Use Licence will be submitted to the Department of Water Affairs.

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:

- 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):

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

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

YES	NO
-----	----

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	–	1:20 1:15	–	1:15 – 1:10	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
------	--------------	---	--------------	---	-------------	---------------	---	-------------	---------------------

Alternative S2 (if any):

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

Alternative S3 (if any):

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

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

The area surrounding the wetland (modified pan) exhibited some erosion scars. This may be as a result of heavy rainfalls and associated high flow velocities overland towards the pan. While no development is proposed for this area, care must be taken to ensure that the proposed development does not indirectly contribute to the erosion at this point.

In addition, the channel of the watercourse in the south eastern corner of the site is relatively deep at some points. The banks thereof might therefore be susceptible to erosion.

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).

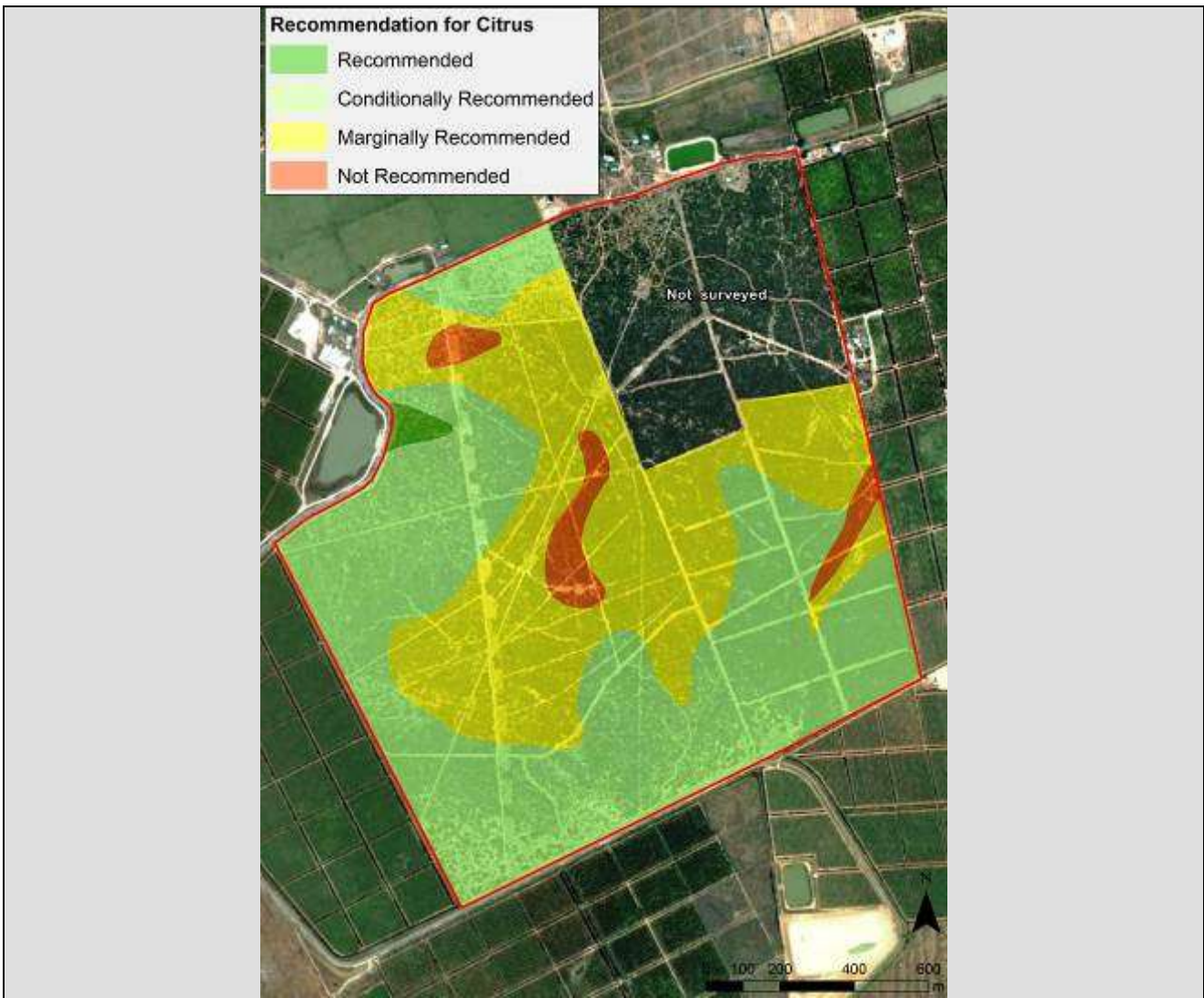
A reconnaissance soil survey was undertaken by Dr Ellis of the University of Stellenbosch on Portion 23 of the Farm 104 and the Remainder of Farm 650 in order to assess the suitability of the soil for the commercial cultivation of citrus. A total of 12 different soil types were found on the site.

According to the reconnaissance survey, the Ad 1, Ad 2, Ag 1, Ag 2, Pr 1, Va 1 and Va 2 soil types with a total area of 97.52 ha are conditionally recommended for annual watermelon, cabbage and citrus production under irrigation, while Oa 1 (1.38 ha) is recommended. Br 1 and Km 1 (total area 72.73 ha) soil types can only be marginally recommended while Br 2 and Va 3 (total area 7.52 ha) soil types cannot be recommended for these crops.

The most common limitations of the soils on the properties under assessment are high topsoil clay content, dense subsoil clay layers, dense subsoil hardpan carbonate layers, presence of free lime at various depths through the profile and localised wetness.

The soils that have been only marginally recommended could also be developed provided that the specified amelioration measures (drainage, ridging and deep soil tillage) are followed and high pH resistant citrus rootstocks are selected.

The full soil survey as written by Dr Ellis is attached in Appendix D.



Map 4.: Soil suitability map indicating which portions of the area under assessment would be most suitable for citrus production.

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	Natural veld with heavy	Veld dominated by	Gardens
--	-----------------------------	-------------------------	-------------------	---------

	aliens^E	infestation ^E	alien species ^E	
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.

A specialist was not required to assist in the completion of this section because the EAP has the necessary expertise.

Conservation Planning Frameworks

According to the NSBA and VegMap the majority of the vegetation on the site has been mapped as Sundays Thicket which is *Least Threatened* and Poorly Protected. In the STEP mapping however, this vegetation type is classified as Sundays Spekboom Thicket which is considered *Vulnerable* in the STEP report. Two small portions in the south western and the north western corners of the site are indicated as Albany Alluvial Vegetation (NSBA and VegMap: *Endangered*), and Sundays Doringveld (STEP: *Vulnerable*) respectively.



Map 5. Vegetation mapping of the site under assessment according to the VegMap and NSBA mapping resources.



Map 6. Vegetation mapping of the site under assessment according to the STEP mapping resources.

Critical Biodiversity Areas

According to the ECBCP (Eastern Cape Biodiversity Conservation Plan) the majority of the Remainder of Farm 650 is classed as “*Functional Landscape*” has been assigned the Biodiversity Land Management Class of *BLMC3*. A triangular portion in the south western corner is designated as “*Cultivated Land*” (*BLMC 4*). A small strip along the eastern boundary of the Remainder of Farm 650 as well the whole of Portion 23 of Farm 104 have been classed as *BLMC2* (CBA 2: corridor). The northern and eastern boundary of this portion is shown to be degraded.



Map 7. Extract from the ECBCP indicating the portions of the site that are considered CBA2 (*BLMC2*) and Functional Landscape (*BLMC3*).

The portions to the east and northwest of the site that are indicated as CBA 2 (BLMC2) have been transformed into orchards. Thus the area designated as CBA2 on the site under assessment has been completely isolated from the surrounding indigenous vegetation. As such it is unable to function as it is intended to –as an ecological process corridor. The site does however still provide important faunal and floral habitat for indigenous species. The applicant has indicated however that most of the land that he intends to develop will fall outside of the area that is designated as CBA. It is anticipated that approximately 50% of the area that has been designated as a CBA 2 will not be developed / transformed for agriculture.

Present Vegetation Communities

Sundays Thicket

The overall vegetation type present at the site was Sundays Spekboom Thicket. Species diversity within the Thicket vegetation is not exceptionally high. In addition, portions of the vegetation has been degraded and transformed (by cutlines, vehicle tracks and footpaths) and, to a small degree, invaded by weed species, however, overall it is still relatively intact. There is also a lack of connectivity between the Thicket vegetation on site and the nearest indigenous vegetation due to the established agricultural lands that surround the site.

Typical Sundays Spekboom Thicket species were identified within this vegetation including *Schotia afra* var. *afra*, *Euclea undulata* and *Pappea capensis* as well as a number of small succulent species for example *Euphorbia ledienii* and a few *Crassula* and *Mesembryanthemaceae* species. *Portulacaria afra* was ubiquitous throughout the entire site.



Photo 1: Vegetation at the site is predominantly intact Sundays Spekboom Thicket.



Photo 2: Cutlines, vehicle tracks and the Eskom powerline servitude have left portions of the site degraded or transformed.

Cleared Area

A portion (approximately 20 hectares) in the south eastern corner of the site has been cleared by the applicant. It would seem from aerial imagery of the site, as well as inspection of the piles that have been left on site that this portion of the site would have had Sundays Spekboom Thicket prior to being cleared. One can infer from examining aerial imagery of the site that the vegetation in this portion would have been relatively intact. However, there was a portion approximately 2 hectares in extent which seems to have been degraded, perhaps due to historical agricultural activities, as well as a few vehicle tracks and cutlines which ran through this portion of the site. The cleared 20.2 ha is being dealt with through a Section 24 G application.

Degraded Area

The vegetation encountered in the portions of the site which have been mapped in the relevant planning frameworks as Albany Alluvial Vegetation (VegMap) and Sundays Doringveld (STEP) does not fit the description given in those frameworks.

The northern portion is clearly degraded with a high presence of grasses and a few low shrubs. This portion of the site is located close to an old kraal. Thus it is likely that this area was transformed by historical land use practices (grazing/firewood collection).

The southern portion has higher species diversity than the northern portion, however, the number of species present in this portion is relatively low when compared to the rest of the site. A slight change in species composition is also evident. Species such as *Cynodon dactylon*, *Acacia karoo* and *Azima tetracantha* which are indicators of disturbance and bush encroachment were found in abundance in this portion of the site. The high presence of succulents, in particular rare endemics like *Haworthia sordida*, which is associated with this vegetation type, is not evident in these portions. These factors may indicate that the changes evident in this portion of the site are as a result of disturbance or degradation caused by overgrazing or some other historical landuse practice. This theory is supported by the fact that the ECBCP indicates this southern portion as cultivated land (*BLMC4*) and functional landscape (*BLMC3*).



Photo 3: The vegetation in the southern degraded portion is species poor and has a high presence of *Acacia karoo*.



Photo 4: The vegetation in the northern degraded portion is mostly grassy with a few low growing shrubs.

Modified Pan and Drainage Line

A natural wetland feature was encountered on the site during the initial site visit. It had no standing water at the time of the site visit and only two plant species (*Schoenoplectus decipiens* and *Marsilea* sp.) were identified in the pan that would suggest the occasional presence of standing water. It is anticipated that this feature would contain water only after heavy rainfall events. It would seem that the pan has been highly modified and its function is thus likely to have been compromised to some extent. It would however still provide habitat for faunal and floral species which improves its conservation value. In line with the guidelines as stated in the Eastern Cape Biodiversity Conservation Plan (ECBCP) it is recommended that a buffer of 50 metres be applied from the boundary of this feature so as to maintain the ecological functioning of the pan. Any activity which occurs within 500m of a wetland triggers the need for a Water Use Licence in terms of Section 21 (c) and (i) of the National Water Act

(Act 36 of 1998). An application to this effect will most likely have to be submitted to the Department of Water Affairs if the proposed development receives Environmental Authorisation.

A drainage line was also encountered on the site. It flows from the eastern boundary towards the southern boundary and dissipates in the area that has recently been cleared. No riparian vegetation was encountered in this drainage line, although pug marks and cracking of the surface was evident which suggests the occasional presence of water. It is anticipated that water only flows in the drainage line after heavy rainfall events. From aerial imagery of the site it is not clear where the drainage line would have eventuated historically. It is possible that the water seeps underground or is dissipated over the flat low-lying area in the southern portion of the site. In line with the guidelines as stated in the Eastern Cape Biodiversity Conservation Plan (ECBCP) it is recommended that a 32 metre buffer be applied around this drainage line so as to maintain the ecological functioning of the drainage line. Because the vegetation surrounding the southernmost extent of the drainage line has already been cleared it is recommended that that which has been allowed to remain be excluded from any further developments.



Photo 5: Modified pan (wetland) encountered in the central portion of the site.

Photo 6: The drainage line encountered at the site where it enters the cleared portion of the site.

Plant Species of Special Concern

A number of plant species of special concern were found to occur on site during the site visit. It is recommended that a floral and faunal search and rescue operation be conducted prior to commencement of vegetation clearing and that all species of special concern be translocated into the intact thicket vegetation which will not be cleared from the site. Permits for the removal of species listed as Protected in terms of the Cape Nature and Environment Conservation Ordinance (19 of 1974) require a permit be obtained from DEDEAT prior to the removal, transportation or destruction thereof. The plant species of special concern identified at the site during the site visit are listed in table 1.1 below.

Table 1.1 Species of Special Concern recorded at the site during the site visit.

<u>Family Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Legislation</u>
Amaryllidaceae	<i>Brunsvigia gregaria</i>	Protected Family	CNECO
Apocynaceae	<i>Sarcostemma viminale</i>	Protected Former Family	CNECO
Apocynaceae	<i>Duvalia</i> sp.	Possibly Rare / Protected Former Family	Red List / CNECO
Asphodelaceae	<i>Aloe africana</i>	Protected Genus	CNECO

Asteraceae	<i>Cineraria lobata</i>	Near Threatened	Red List
Iridaceae	<i>Tritonia dubia</i>	Protected Family	CNECO
Mesembryanthemaceae	<i>Malephora</i> sp.	Protected Family	CNECO
Mesembryanthemaceae	<i>Mesembryanthemum aitonis</i>	Protected Family	CNECO
Mesembryanthemaceae	<i>Drosantherum hispidum</i>	Protected Family	CNECO
Mesembryanthemaceae	<i>Delosperma echinatum</i>	Protected Family	CNECO
Mesembryanthemaceae	<i>Mestoklema tuberosum</i>	Protected Family	CNECO
Mesembryanthemaceae	<i>Ruschia rigens</i>	Protected Family	CNECO
Orchidaceae	Geophyte	Protected Family	CNECO

Only one Declared Weed (in terms of the Conservation of Agricultural Resources Act 43 of 1983) was found at the site during the site visit. Category 1 invaders must be removed from the site and follow-up clearing in intact vegetation should be conducted. A few species found at the site are declared indicators of Bush Encroachment in terms of CARA. See table 1.2 below for the list of CARA listed species recorded at the site.

Table 1.2 CARA listed species recorded at the site during the site visit.

<u>Family Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Legislation</u>
Cactaceae	<i>Opuntia ficus-indica</i>	Category 1	CARA
Ebenaceae	<i>Euclea undulata</i>	Bush Encroacher	CARA
Fabaceae	<i>Acacia karoo</i>	Bush Encroacher	CARA
Salvadoraceae	<i>Azima tetraacantha</i>	Bush Encroacher	CARA

A complete species list of all the plant species found occurring on the site during the site visit has been included as Appendix G (ix).

Conservation Targets

The Subtropical Thicket Ecosystem Programme (STEP) has set conservation targets for all of the vegetation types assessed in the programme. The conservation target for Sundays Spekboom Thicket was set at 18 % of the original extent of the vegetation type.

In order for this target to be met on the affected properties approximately 40 ha of intact Sundays Spekboom Thicket would have to be conserved. It is proposed that approximately 136ha (60%) be conserved on the affected properties. Therefore it is anticipated that the STEP conservation target will be met on the affected properties.

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

YES	NO
-----	----

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.

Briefly explain the findings of the specialist:

It was difficult to locate archaeological sites/materials because most of the area is covered by dense/ impenetrable thicket vegetation, low bushes and grass. Also areas cleared recently along the access tracks are covered by dense grass with little archaeological visibility. Therefore the investigation concentrated mainly on the large area recently cleared of the thicket vegetation. This area comprised of soft reddish loams and silts heavily disturbed and turned-over by the bulldozer when the vegetation was removed. Surprisingly, only a few Middle Stone Age stone flakes (older than 30 000 years) were observed, but it is possible that the tools were buried under the soil during the removal of the vegetation. Nevertheless, these stone tools were in disturbed context and not associated with any other archaeological material.

Similar stone tools were also observed exposed in the tracks which were cleared through the dense thicket vegetation. These quartzite Middle Stone Age stone tools display typical faceted striking platforms and were found randomly without any recognised distribution patterns. Most of the tools were thick, small 'informal' flakes and chunks and were also in secondary context. The stone tools were not associated with any other archaeological material. Few cores, points and blades were observed.

The development is near the Coerney River and freshwater shell middens may be exposed during the clearing of the dense vegetation. In general the proposed property for development appeared to be of low archaeological sensitivity.

Dr Binneman has advised that the development may proceed as planned and has made the following recommendations with regards to the proposed development:

1. If freshwater shell middens or any other concentrations of other archaeological material are uncovered during the development it should be reported immediately to the nearest archaeologist, museum and/or the South African Heritage Resources Agency.
2. 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.
3. It is suggested that an archaeologist should conduct a walkthrough when the remainder of the area for development is cleared of vegetation.

The full Archaeological Specialist Assessment Report has been included in Appendix D.

Will any building or structure older than 60 years be affected in any way?
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO
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 landowner is the applicant and thus didn't need to be notified of the basic assessment process.

- (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 31 day period within which to raise issues of concern. The comment period extended from the 24 July 2012 to the 23 August 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 **18 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 assessment process was advertised in a local newspaper (The Herald), and a notice board was placed at the entrance to the site on 24 July 2012. At the time of the preparation of the Draft Basic Assessment Report **20 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 provided with written notification of the release of the Draft Basic Assessment Report for a 30 day review period which extended from 17 October 2012 to 15 November 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 is 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 Bukelwa Snoek, SRVM ward 8 Councillor was included on the I&AP database and provided with copies of all the relevant correspondence. 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 Snoek (Ward 8 Councillor) 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
- Gcinile Dumse of the National Department of Agriculture: LUSM

The authorities listed above were included on the project database and notified of the commencement of the Basic Assessment Process as well as the review of the Draft Basic Assessment Report.

We were notified by SAHRA in correspondence received on 2 August 2012 that all APM (Archaeology, Palaeontology and Meteorite) functions in the province would be the responsibility of the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) as of 1 August 2012. Mr Sello Mokhanya of the ECPHRA was therefore subsequently included on the database and provided with notification of the basic assessment process during the Draft Basic Assessment Report Review period.

At the start of the Basic Assessment process no watercourses or wetlands were expected to occur on the site. However, upon undertaking the site visit it was ascertained that there are water resources on the site that may be affected by the proposed development. Marisa Bloem and Lizna Fourie of the Department of Water Affairs were therefore included on the project database and provided with notification of the basic assessment process during the Draft Basic Assessment Report Review period.

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 24 July 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

It is not anticipated that the proposed development will 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
 - (iv) the manner in which and the person to whom representations in respect of the application may be made.
- (v)

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 24 July 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", 24 July 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 Councillor – SRVM Ward 8 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.
- **Database maintenance** – the project database has been updated as and when information is received from or sent to I&APs. At the outset of the process 18 I&APs were included on the database and at the time of review of the Draft Basic Assessment the database included 20 I&APs. While not required by the regulations, all I&APs remained on the database for the duration of public consultation process and are only removed from the database upon request.

Copies of all correspondence sent 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 **20 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; while one I&AP requested to be removed from the database. SAHRA sent correspondence on 2 August 2012 to inform all Stakeholders that the ECPHRA will be dealing with all new applications from 1 August 2012. The database was thus updated to include a representative from the ECPHRA. Two representatives of the Department of Water Affairs were also included on the project database after it was discovered that there are naturally occurring water resources on the site that may be affected by the proposed development.

All correspondence from I&APs has been included in Appendix G(iv). No comments were received from I&APs during the initial Notification phase of the assessment process. .

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

NOTIFICATION TO I&APS

- All I&APs on the project database received written notification of the 30 day review period (17 October 2012 to 15 November 2012) which included an Executive Summary of the Draft BAR as well as a comment form.
- The following authorities were provided with copies of the Draft Basic Assessment Report: Department of Economic Development, Environmental Affairs and Tourism, SA Heritage Resources Agency, Department of Water Affairs, Department of Agriculture, Sundays River Valley Municipality.
- The Draft Basic Assessment Report was placed on the website www.publprocess.co.za for downloading.

Copies of correspondence received from I&APs have been included in Appendix G (iv). One I&AP made a comment with regards to the preferred windbreak alternative. The ECPHRA requested that a formal letter of exemption be submitted if the proposed development is to be considered for exemption from the requirement to undertake a full Palaeontological Specialist assessment.

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. No comments were received prior to the release of the DBAR. Therefore the comments and responses report only shows interaction with I&APs during the DBAR 30 day review period.

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	Ms Lizna Fourie – DWA (Eastern Cape)
5	Ms Marisa Bloem – DWA (Port Elizabeth)
6	Mr Gcinile Dumse – Department of Agriculture Forestry and Fisheries: LUSM
7	Mr Lonwabo Ngoqo – SRVM Municipal Manager
8	Mr Sello Mokhanya – Eastern Cape Provincial Heritage Resources Authority

List of authorities from whom comments have been received:

Mr Sello Mokhanya – Eastern Cape Provincial Heritage Resources Authority

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
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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.

1. Issues with regards to windbreak species.
2. Request for formal document to request for an exemption from undertaking a full Palaeontological Specialist Assessment

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):

1. The applicant is advised to consider the use of indigenous species such as Yellowwood as a windbreak.
2. The ECPHRA was provided with correspondence from Dr Almond, a Palaeontological Specialist, who advised Public Process Consultants, that in his professional opinion the proposed development is unlikely to have a significant impact on local palaeontological heritage, and a specialist palaeontological assessment would thus not be necessary. The client has been advised of the ECPHRA's request. Such a document will be prepared by a relevant specialist if environmental authorisation is granted.

An Archaeological Specialist Assessment has been undertaken,

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 13 protected species were recorded on site. These may have to be removed or may be destroyed during site preparation.

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 to the portion of the properties that will remain intact.
- 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.
- 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 and the fauna 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 74ha of Sundays Spekboom Thicket. The loss of 74ha of this vegetation type as a result of the proposed agricultural development would represent approximately 0.14% of the remaining regional extent (as of 2003). The Sundays Spekboom Thicket conservation target is 18% of the original extent (Pierce 2003). Approximately 59% of the site is not proposed to be cleared.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Thicket vegetation and associated topsoil which needs to be cleared from the site should be used to rehabilitate degraded portions of the site that are not proposed for development.
- Species of special concern that are removed from the vegetation prior to vegetation clearing must be transplanted into the portions of the site where thicket vegetation is to remain.
- 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.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- 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: High Positive(+)

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

It is anticipated that much of the game that currently inhabits the site will be transported to another site prior to site preparation commencing. Those smaller faunal species that may remain behind within the vegetation may suffer injury during the site preparation and vegetation clearing phase.

Extent: Site Specific

Duration: Permanent

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- A faunal search and rescue operation should be undertaken prior to commencement of vegetation clearing on site.
- Site clearing must be done in a phased manner to allow fauna the chance to move off the site.
- 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.
- All open excavations must be securely fenced or barricaded.
- 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 and the cultivated lands surrounding the site.

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 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.
- Cigarettes buttes must be disposed of in one of the litter bins provided.
- Exotic vegetation on the site must be eradicated.

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.

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
- 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:

- Vegetation 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, although, given the agricultural nature of the area, 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.

Extent: Site Specific

Duration: Temporary
Probability: Highly Probable
Intensity: Medium
Degree of Confidence: High
Significance & Status without mitigation: Medium 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 site preparation 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 vegetation clearing and site preparation phase.

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

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

It is unlikely that this impact will occur.

Extent: Site Specific
Duration: Temporary
Probability: Improbable
Intensity: Medium
Degree of Confidence: High
Significance & Status without mitigation: Low Negative (-)

Mitigation:

- Fuel supply needed during the site preparation 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, pollutes 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.

In the unlikely event that archaeological material or artefacts may be uncovered during vegetation clearing and site preparation the following mitigation measures should be implemented.

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 EC Provincial Heritage Resources Authority (ECPHRA) 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, ECPHRA and an accredited professional archaeologist or palaeontologist must be alerted immediately.
- 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.

It is unlikely that such material will be found on 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 EC Provincial Heritage Resources Authority (ECPHRA) 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, ECPHRA and an accredited professional archaeologist or palaeontologist must be alerted immediately.
- The palaeontologist will need to apply beforehand for a collecting permit from ECPHRA 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:

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 labourers 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:

It is understood that the Section 24G application being conducted for the illegal clearing of 20.2 hectares of vegetation for the purpose of establishing citrus orchards, is not guaranteed to receive environmental authorisation and that the applicant may be required to rehabilitate the cleared area. However, should authorisation for this activity be granted the cumulative impacts of the clearing of the total 94 hectares would need to have been assessed. Thus, below, please find the anticipated cumulative positive and negative impacts that are anticipated to occur for the clearing of 94ha in total.

Loss of a total of 94 hectares of Sundays Spekboom Thicket

The loss of a total of 94 hectares of Sundays Spekboom Thicket would represent a loss of approximately 0.18% of the remaining regional extent (as of 2003), as opposed to the loss of approximately 0.14% for the 74 hectares.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Thicket vegetation and associated topsoil which needs to be cleared from the site should be used to rehabilitate degraded portions of the site that are not proposed for development.
- Species of special concern that are removed from the vegetation prior to vegetation clearing must be transplanted into the portions of the site where thicket vegetation is to remain.
- 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 (-)

Loss of additional Species of Special Concern

A total of 13 protected species were recorded on site. The species of special concern that may have occurred within the cleared area would have been destroyed during vegetation clearing.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Before site clearing commences on the rest of the site, it 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 to the portion of the properties that will remain intact.
- 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: 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. The area that has already been cleared is likely currently prone to wind erosion and dust generation

Extent: Site Specific / Local

Duration: Temporary

Probability: Probable

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Vegetation on the rest of the site 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, although, given the agricultural nature of the area, it is unlikely that this impact will be significant. In addition, because the 20.2 hectares has already been cleared of vegetation it is anticipated that the noise and disturbance created with the continued development of this portion will not contribute significantly to the overall impact.

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 (-)

Increased stormwater runoff due to the removal of the vegetation.

The clearing of vegetation from an additional 20.2 hectares will result in increased stormwater runoff. However, if managed effectively the cumulative impact of stormwater runoff should not be significant.

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 (-)

Destruction and removal of exotic plants.

From the condition of the rest of the site it is inferred that there would have been some Category 1 weeds in terms of CARA (Conservation of Agricultural Resources Act 43 of 1983) within the cleared area. The additional removal of CARA listed species is a positive impact.

Extent: Site Specific

Duration: Permanent

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- 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: High Positive(+)

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

It is anticipated that much of the game that currently inhabits the site will be transported to another site prior to site preparation commencing. Those smaller faunal species that may remain behind within the

vegetation may suffer injury during the site preparation and vegetation clearing phase. The loss of an additional 20.2 hectares would mean an additional habitat loss for those species and it is possible that some faunal species may have suffered injury during the clearing.

Extent: Site Specific

Duration: Permanent

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- A faunal search and rescue operation should be undertaken prior to commencement of vegetation clearing on site.
- Site clearing must be done in a phased manner to allow fauna the chance to move off the site.
- 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.
- All open excavations must be securely fenced or barricaded.
- 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 (-)

Additional Permanent and Temporary employment and skills development opportunities.

The additional clearing may create a few additional employment and skills development opportunities, however, these are anticipated to be minimal.

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 (+)

Additional positive capital investment required to establish orchards on the entire 94 hectares.

The capital that will be invested into the establishment of orchards on the entire 94 hectares would be approximately R11 750 000, as opposed to the R9 250 000 for the 74 hectares alone.

Extent: Regional

Duration: Permanent

Probability: Definite

Intensity: High

Degree of Confidence: High

Significance & Status without mitigation: High Positive (+)

Mitigation:

- None proposed

Significance & Status with mitigation: High Positive (+)

Operational Phase

Alternative (preferred alternative)

Direct impacts

Alien plant invasion of remaining intact vegetation, particularly along the periphery.

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:

- 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: 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).

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

Increased soil erosion by wind and water due to the removal of the vegetation.

Extent: Local

Duration: Permanent

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Retain vegetative cover of the soil surface for as long as possible between tilling / planting operations.
- Should erosion scars begin to form on the landscape, erosion counter measures should be implemented immediately.
- Landscaping and erosion control measures should be implemented on steep portions of the site that may be sensitive to erosion.

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

Increased pressure on the water supply of the LSRWUA.

Irrigation water will be obtained through 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. The total water quantities required for irrigation of 74 hectares is anticipated to be approximately 296 000m³ annually.

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 10 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 (+)

Reduced poaching of wild fauna.

Currently the numbers of fauna on the site are declining due to poaching.

Extent: Local
Duration: Permanent
Probability: Definite
Intensity: Medium
Degree of Confidence: Medium
Significance & Status without mitigation: Medium Positive (+)

Mitigation:

- None proposed.
- Significance & Status with mitigation: Medium 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:

Additional Permanent and Temporary employment and skills development opportunities.

The establishment of citrus orchards on the total 94 hectares will create a few additional employment and skills development opportunities. 2 new direct and 1 new indirect permanent jobs and 10 additional seasonal employment opportunities are anticipated to be created from the additional 20.2 hectares..

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 (+)

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. These volumes and velocities would be greater for the whole 94 hectares as opposed to the 74 hectares.

Extent: Local
Duration: Permanent
Probability: 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).

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

Increased soil erosion by wind and water due to the removal of the vegetation.

The erosion anticipated would be greater for the whole 94 hectares than for the 74 hectares assessed in this assessment.

Extent: Local

Duration: Permanent

Probability: Probable

Intensity: Medium

Degree of Confidence: Medium

Significance & Status without mitigation: Medium Negative (-)

Mitigation:

- Retain vegetative cover of the soil surface for as long as possible between tilling / planting operations.
- Should erosion scars begin to form on the landscape, erosion counter measures should be implemented immediately.
- Landscaping and erosion control measures should be implemented on steep portions of the site that may be sensitive to erosion.

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

Increased pressure on the water supply of the LSRWUA.

Irrigation water will be obtained through water entitlements from the Lower Sundays River Water Users Association (LSRWUA). The total water quantities required for irrigation of 94 hectares is anticipated to be approximately 846 000m³ annually, whereas that required for 74 hectares is anticipated to be 666 000m³ per year.

Extent: Local

Duration: Long term

Probability: Definite

Intensity: Medium

Degree of Confidence: High

Significance & Status without mitigation: Neutral

Mitigation:

None proposed

Significance & Status with mitigation: Neutral

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 (-)

Continued poaching of wild fauna.

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.

Construction Phase

- Construction phase impacts on the biophysical environment (e.g. removal of indigenous vegetation and plant species of special concern, injury to fauna, erosion) can all be mitigated to **Low** or **Very Low Negative**, while the removal of exotic plants in construction footprints is considered a **Medium to High Positive** impact.
- The impacts of the dust, noise, waste, pollution, erosion and storm water runoff are *Medium Negative* and *Low Negative* but can all be mitigated to **Low** and **Very Low Negative**.
- Negative socio-economic impacts (i.e. health & safety issues) can be mitigated to **Low Negative**.
- The impact on undiscovered archaeological and palaeontological material can be mitigated to **Neutral** or **Very Low Negative**.
- All of the *Negative Cumulative* impacts can be mitigated to **Low and Very Low Negative**, although it is not anticipated that the cumulative impacts will be significantly more than those predicted for the development of the 74 ha area.
- The *Positive Cumulative* impacts can all be enhanced to **High Positive** impacts.

Operational Phase

- Operational phase impacts associated with potential long term employment opportunities and economic improvements are all considered **High Positive** impacts.
- Negative operational phase impacts associated with water including increased storm water runoff, and soil erosion can be mitigated to **Very Low Negative** significance.
- The invasion of alien plants into the indigenous vegetation that will remain on site can be mitigated to **Low Negative**.
- The reduced poaching of wild fauna is considered to be a **Medium Positive**.
- All of the *Negative Cumulative* impacts can be mitigated to **Very Low Negative**, and

Neutral although it is not anticipated that the cumulative impacts will be significantly more than those predicted for the development of the 74 ha area.

- The *Positive Cumulative* impacts can all be enhanced to **High Positive** impacts.

No-Go Option (compulsory)

- Continued and increased invasion by exotic plants and the poaching of fauna on the site are considered **Medium Negative** impacts which will persist or possibly escalate at the site in the no-go alternative.
- The unrealised potential increase in the employment opportunities and other economic improvements should the development not proceed 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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