



BASIC ASSESSMENT REPORT

**THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND
THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.**

NOVEMBER 2019

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

**PROPOSED AGRICULTURAL AND DAM EXPANSION ON PORTION 12 OF FARM
SCHERPEN HEUVEL NO 481, WORCESTER, WESTERN CAPE**

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.
2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".
3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.
4. All applicable sections of this BAR must be completed.
5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.
6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at <http://www.westerncape.gov.za/eadp> to check for the latest version of this BAR.
7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.
8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.
9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.
10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.
11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.
12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.
13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link

<https://screening.environment.gov.za/screeningtool> to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA'), the submission of the Report must also be made as follows, for-
Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 (Region 1: City of Cape Town, West Coast District) (Region 2: Cape Winelands District & Overberg District)	GEORGE OFFICE: REGION 3 (Central Karoo District & Garden Route District)
<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372</p>	<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530</p> <p>Registry Office 4th Floor, York Park Building 93 York Street George</p> <p>Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650</p>

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	<p>The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. <p>For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken.</p> <p>Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and</p>

	Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	<p>Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following:</p> <ul style="list-style-type: none"> • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development must be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> o Watercourses / Rivers / Wetlands o Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"); o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow <p>A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.</p>
Site photographs	<p>Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as Appendix C. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.</p>
Biodiversity Overlay Map:	<p>A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as Appendix D.</p>
Linear activities or development and multiple properties	<p>GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system.</p> <p>Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix.</p> <p>For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as Appendix A3.</p>

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape

NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ (tick) or a x (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			✓ (Tick) or x (cross)
Appendix A:	Maps		
	Appendix A1:	Locality Map	✓
	Appendix A2:	Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning	X
	Appendix A3:	Map with the GPS co-ordinates for linear activities	X
Appendix B:	Appendix B1:	Site development plan(s)	✓
	Appendix B2	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	✓
Appendix C:	Photographs		✓
Appendix D:	Biodiversity overlay map		✓
Appendix E:	Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.		
	Appendix E1:	Final comment/ROD from HWC (Draft Comment)	✓
	Appendix E2:	Copy of comment from Cape Nature	✓
	Appendix E3:	Final Comment from the DWS (Draft comment from BGCMA)	✓
	Appendix E4:	Comment from the DEA: Oceans and Coast	
	Appendix E5:	Comment from the DAFF	
	Appendix E6:	Comment from WCG: Transport and Public Works	
	Appendix E7:	Comment from WCG: DoA	

	Appendix E8:	Comment from WCG: DHS	
	Appendix E9:	Comment from WCG: DoH	
	Appendix E10:	Comment from DEA&DP: Pollution Management	
	Appendix E11:	Comment from DEA&DP: Waste Management	
	Appendix E12:	Comment from DEA&DP: Biodiversity	
	Appendix E13:	Comment from DEA&DP: Air Quality	
	Appendix E14:	Comment from DEA&DP: Coastal Management	
	Appendix E15:	Comment from the local authority	✓
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	
	Appendix E17:	Comment from the District Municipality	
	Appendix E18:	Copy of an exemption notice	
	Appendix E19	Pre-approval for the reclamation of land	
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	
	Appendix E21:	Proof of land use rights	
	Appendix E22:	Proof of public participation agreement for linear activities	
Appendix F:	Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.		✓
Appendix G:	Specialist Report(s)		✓
Appendix H:	EMPr		✓
Appendix I:	Screening tool report		✓
Appendix J:	The impact and risk assessment for each alternative		✓

Appendix K:	Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline	
Appendix.....	Any other attachments must be included as subsequent appendices	

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:
	REGION 1 (City of Cape Town, West Coast District)	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent: Name of contact person for Applicant/Proponent (if other): Company/ Trading name/State Department/Organ of State: Company Registration Number: Postal address: Telephone: E-mail:	Bass Diii Berries (Pty) Ltd		
	Stephan Badenhorst		
	Bass Diii Berries (Pty) Ltd		
	2019/569479/07		
	Postnet Suite 137		
	Private Bag X3036, Paarl		Postal code: 7620
	()		Cell: 076 242 3111
	Stephan@unitedexports.com.au		Fax: ()
	EnviroAfrica CC		
	Clinton Geyser		
Company of EAP: EAP name: Postal address: Telephone: E-mail: Qualifications: EAPASA registration no:	P.O. Box 5367		
	Helderberg		Postal code: 7135
	021 851 1616		Cell:
	clinton@enviroafrica.co.za		Fax: (086) 512 0154
	Clinton Geyser – MSc: Geography and Environmental Management		
Duplicate this section where there is more than one landowner Name of landowner: Name of contact person for landowner (if other): Postal address: Telephone: E-mail:	Same as Applicant		
	()		Postal code:
	()		Cell:
	()		Fax: ()
Name of Person in control of the land: Name of contact person for person in control of the land: Postal address: Telephone: E-mail:	Same as Applicant		
	()		Postal code:
	()		Cell:
	()		Fax: ()
Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall: Contact person: Postal address: Telephone: E-mail:	Breede Valley Municipality (Ward 18)		
	Dr Julian Kritzinger		
	30 Baring Street		
	Worcester		Postal code:
	023 348 2870		Cell:
	jkritzinger@bvm.gov.za		Fax: ()

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INCLUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New		Expansion	X
2.	Is the proposed site(s) a brownfield or greenfield site? Please explain.				
The proposed development includes the expansion of an existing dam, as well as the expansion of cultivated areas (cultivation of blueberries and/or other fruit on undeveloped land).					
3.	For Linear activities or developments				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
N/A					
3.2.	Development footprint of the proposed development for all alternatives.				m ²
N/A					
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
N/A					
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
N/A					
3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives				
3.6.	Starting point co-ordinates for all alternatives				
	Latitude (S)	°		'	“
	Longitude (E)	°		'	“
	Middle point co-ordinates for all alternatives				
	Latitude (S)	°		'	“
	Longitude (E)	°		'	“
	End point co-ordinates for all alternatives				
	Latitude (S)	°		'	“
	Longitude (E)	°		'	“
Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.					
4.	Other developments				
4.1.	Property size(s) of all proposed site(s):			296.24ha	2 962 400 m ²
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):				m ²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:				121 000m ²
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).				
<p>The proposed activity is located on Portion 12 of Farm Scherpen Heuvel No 48, outside Worcester.</p> <p>The proposed dam will involve the enlargement of the existing dam with an earthfill embankment, and will have a maximum wall height of 18.3m, a gross storage capacity of 300 000m³, and a high-level mark surface area of approximately 3.9ha. The entire dam footprint will be approximately 5.6ha. Approximately 2.7ha of vegetation will be cleared for borrow areas for sand material for the construction of the dam.</p> <p>It is proposed that up to an additional 6.5ha of land be potentially cultivated for additional crop production. The new irrigated areas will be located adjacent to the existing cultivated areas. It is proposed that blueberries be cultivated and will be covered in shade-netting.</p>					

Associated infrastructure includes the following:

- Pipelines. A new 315mm diameter PVC Class 8 pipeline, with a combined length of approximately 2275m will be constructed from the pumphouse on the Bree River bank to the proposed dam, to a new pumpstation located within the existing irrigated areas, and to the new proposed storage tanks. The pipeline will mostly be located within the existing farm roads, or through the cultivated areas.
- Pumphouse and pumpstations. The existing pumphouse on the bank of the Bree River will be expanded by 25m². Three (3) additional pumpstations will be located along the pipeline route.
- Storage tanks. Either 2 x 450 000l or 3 x 300 000l steel reservoirs (combined capacity of 900 cubic meters) will be constructed on the disturbed area (orchard) north-west of the existing residence (50m north of the dam wall).

The existing packing sheds and stores etc. on the farm will be utilised. No new roads are proposed, and existing farms roads will be used.

4.5. Indicate how access to the proposed site(s) will be obtained for all alternatives.

Existing roads and farm roads will be used. No new roads are proposed.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	8	5	0	0	0	0	0	0	0	0	4	8	1	0	0	0	1	2
4.7.	Coordinates of the proposed site(s) for all alternatives:																				
	Latitude (S)							33°				44'				46.50"					
	Longitude (E)							19°				34'				35.30"					

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO
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2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1.	YES	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:QA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.
Dam Safety – Category II Classification

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
N/A

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.
DEADP Guidelines - All guidelines were consulted and adhered to when undertaking this Basic Assessment Report.
Circulars pertaining to the "One Environmental Management System" and the EIA Regulations.

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form
The Assessment protocols identified in the DEA Screening Tool, particularly pertaining to Terrestrial Biodiversity, Palaeontological, Archaeological and Heritage, and Plant Species.
In this regard, a Heritage and Palaeontological Impact Assessments were conducted, as well as a Botanical Impact Assessment and Freshwater Assessment

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1	Describe the portion of the proposed development to which the applicable listed activity relates.
12	<p>The development of;</p> <p>(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres;</p> <p>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs;</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p>	<p>A dam, agricultural development, including associated infrastructure associated with the dam and the agricultural areas, such as pipelines and pumpstations, exceeding 100m² will be constructed within 32m of a watercourse.</p>
19	<p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from;</p> <p>(i) a watercourse;</p> <p>(ii) the seashore; or</p> <p>(iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater but excluding where such infilling, depositing, dredging, excavation, removal or moving;</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</p>	<p>An existing in-stream dam will be expanded, which will include the moving and removal of rock and/or soil and/or sand. Agricultural developments, as well as infrastructure associated with the dam expansion and agricultural developments, such as pipelines, will be constructed across watercourse/s.</p>
27	<p>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for;</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>Approximately 13ha of indigenous vegetation will be cleared, including approximately 6.5ha of new cultivated land to be developed, as well as approximately 3.8ha for the expansion of the existing dam and an additional 2.7ha for borrow material for the dam construction. This will lead to the clearance of more than 1ha, but less than 20ha of indigenous vegetation.</p>

48	<p>The expansion of;</p> <p>(i) canals where the canal is expanded by 100 square metres or more in size;</p> <p>(ii) channels where the channel is expanded by 100 square metres or more in size;</p> <p>(iii) bridges where the bridge is expanded by 100 square metres or more in size;</p> <p>(iv) dams, where the dam, including infrastructure and water surface area, is expanded by 100 square metres or more in size;</p> <p>(v) weirs, where the weir, including infrastructure and water surface area, is expanded by 100 square metres or more in size;</p> <p>(vi) bulk storm water outlet structures where the bulk storm water outlet structure is expanded by 100 square metres or more in size; or</p> <p>(vii) marinas where the marina is expanded by 100 square metres or more in size;</p> <p>where such expansion or expansion and related operation occurs;</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p>	An existing in-stream dam will be expanded.
66	<p>The expansion of a dam where;</p> <p>(i) the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, was originally 5 metres or higher and where the height of the wall is increased by 2,5 metres or more; or</p> <p>(ii) where the high-water mark of the dam will be increased with 10 hectares or more.</p>	An existing in-stream dam will be expanded. The new dam will have a maximum dam wall height of 18.3m. The existing dam has a maximum wall height of 4.8m.
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		
<p>Note:</p> <ul style="list-style-type: none"> The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted. Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority. 		

List the applicable waste management listed activities in terms of the NEM:WA

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Category A	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		

List the applicable listed activities in terms of the NEM:AQA

Activity No(s):	Provide the relevant Listed Activity(ies)	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

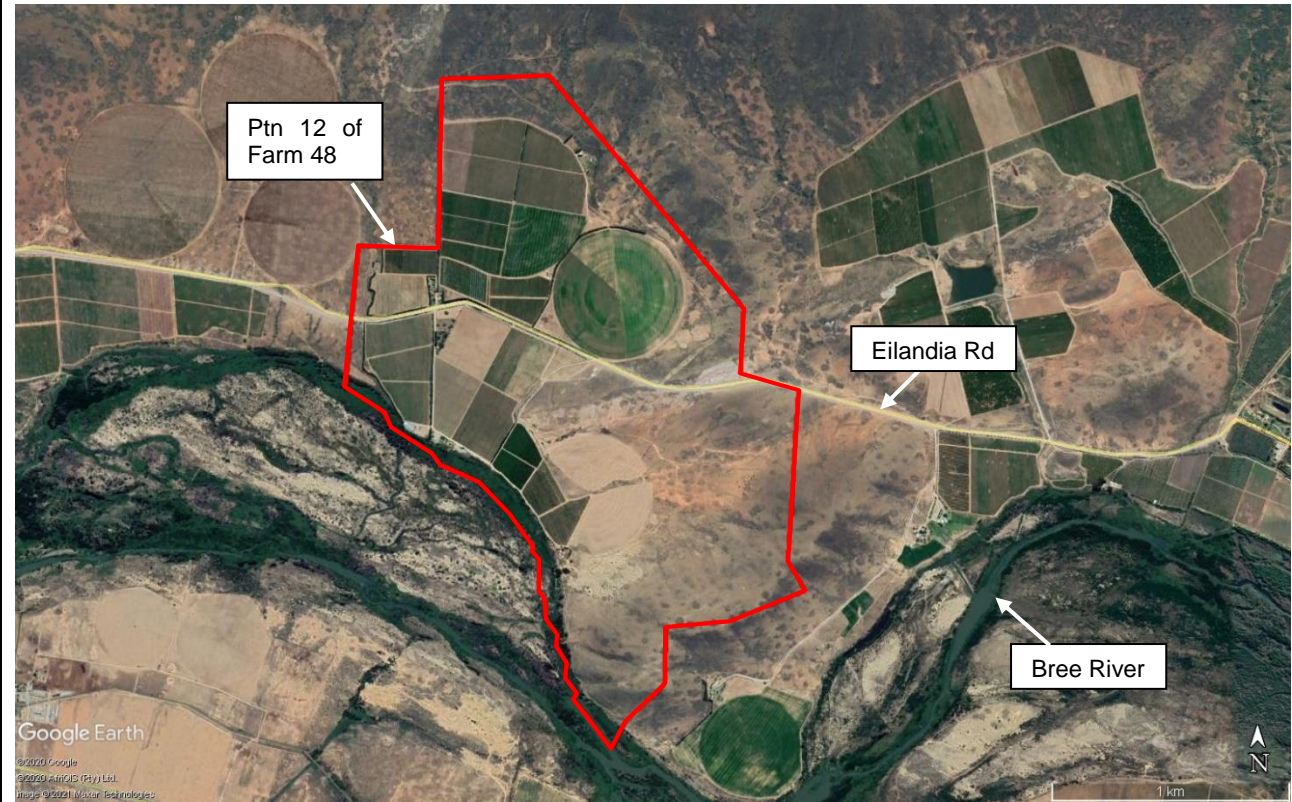
1.	Provide a description of the preferred alternative.
<p>The preferred alternative is the expansion of the existing dam and expansion of cultivated areas for the cultivation of blueberries on Portion 12 of Farm Scherpen Heuvel No 48. The farm is located approximately 16km south-east of Worcester, and 27km west of Robertson, along the Eilandia dirt road between the R43 and the R60.</p>	
	
<p>Figure 1: Google Earth Image indicating the proposed property, Portion 12 of Farm Scherpen Heuvel No 48, indicated by the red polygon.</p>	
<p>Proposed Dam: The proposed dam will be the enlargement of the existing dam with an earthfill embankment, and will have a maximum wall height of 18.3m, a gross storage capacity of 300 000m³, and a high-level mark surface area of approximately 3.9ha. The entire dam footprint will be approximately 5.6ha. See Figure 2 below.</p> <p>Although part of the dam footprint will be over existing cultivated land, approximately 6ha of indigenous vegetation will need to be cleared for the construction of the dam (including areas to be used for borrow material). An additional area (referred to as the 'waaisand' area) of 0.5ha will be cleared for a borrow area for sand for the filters (see Figure 3 below).</p> <p>In total, the dam will involve the clearance of approximately 6.5ha of indigenous vegetation.</p>	



Figure 2: Google Earth Image indicating the proposed dam. The green area shows the dam wall footprint, and the blue line the high-water mark of the dam.

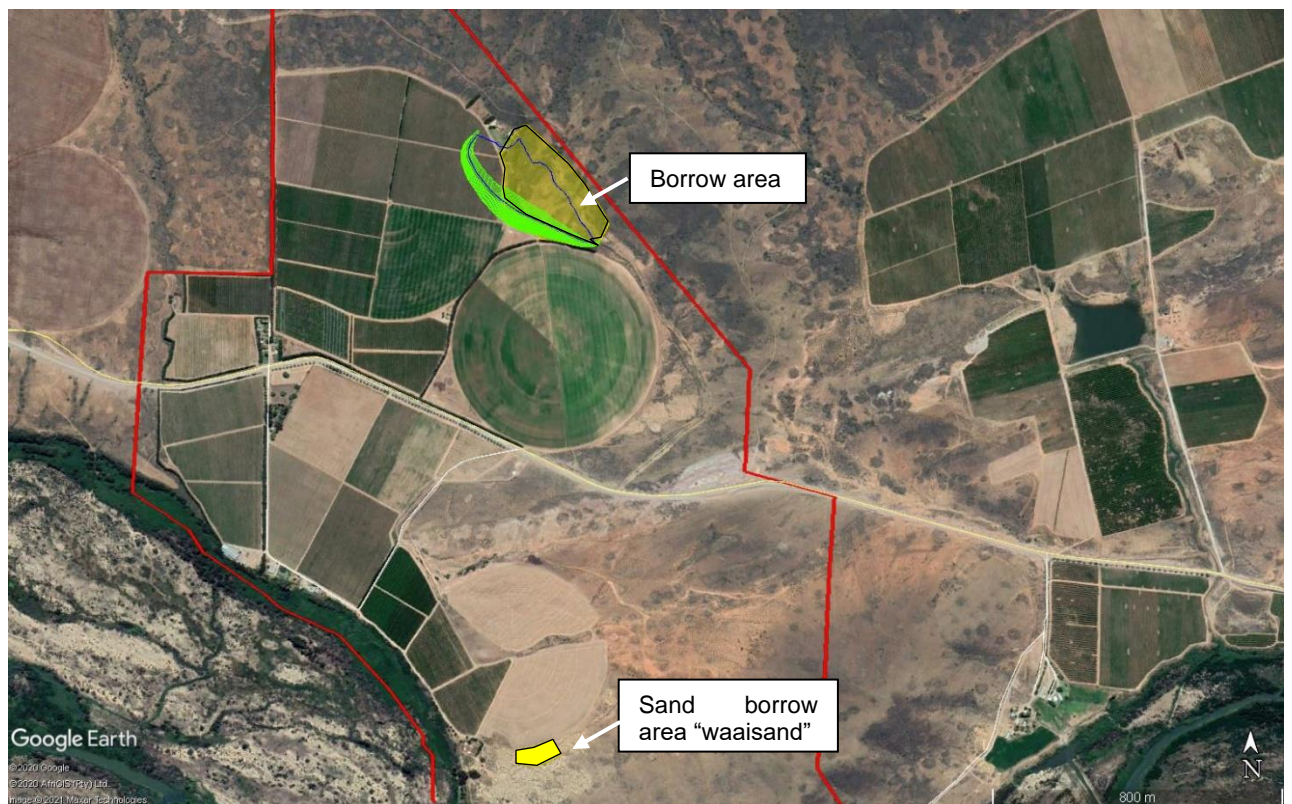


Figure 3: Google Earth Image indicating the proposed dam, and the borrow areas (yellow polygons). The southern borrow area is referred to as the "waaisand" area.

Proposed agricultural development:

An additional 13ha of land was proposed for potential cultivation for additional crop production. The new irrigated areas assessed are located adjacent to the existing cultivated areas. For reference, these will be referred to as Area 1 (Northern section), and Area 2 (Eastern section). However, only about 6.5ha will actually be developed (5.3ha in Area 1, and 1ha in Area 2)(see Figure 5 below).



Figure 4: Google Earth Image indicating the proposed dam, and the areas assessed for the new proposed cultivated areas (dark green polygons).

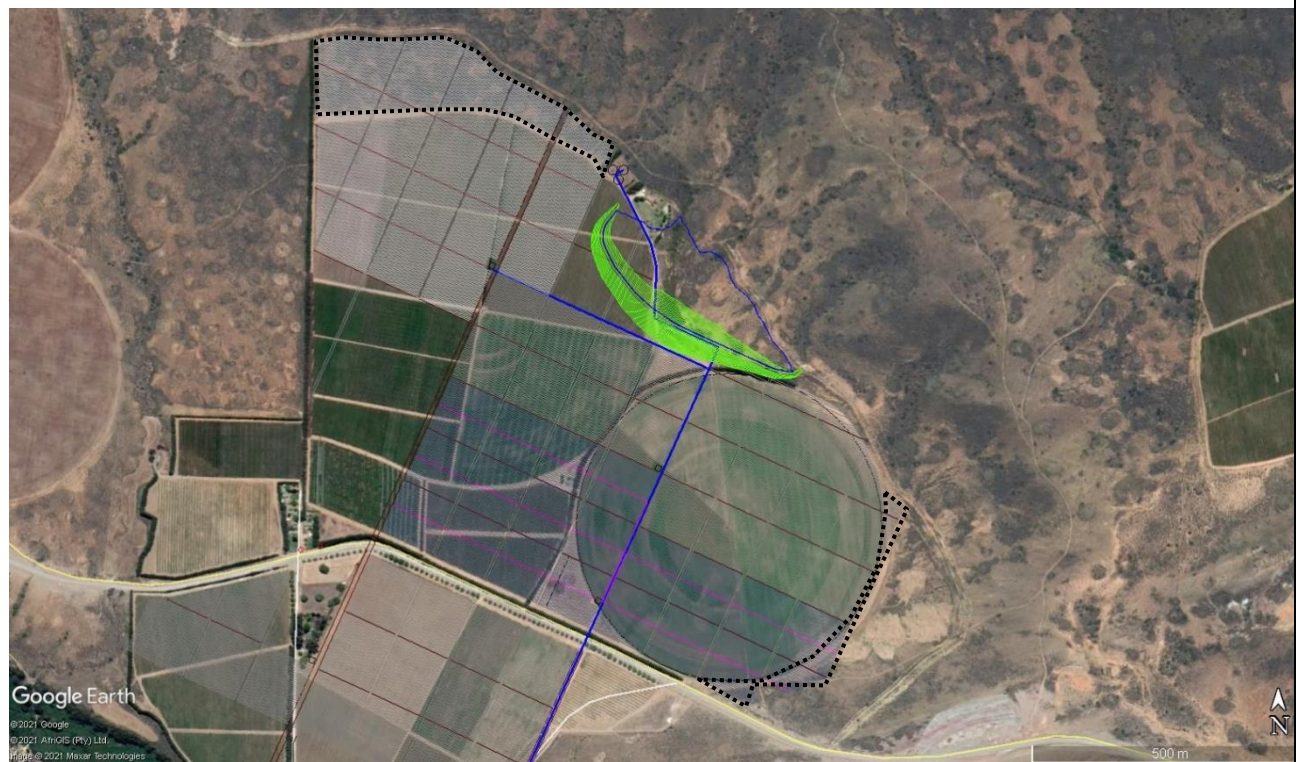


Figure 5: Google Earth Image indicating the proposed dam, and the new proposed blueberry blocks indicated by the dashed polygons.

Associated infrastructure:

Associated infrastructure includes the following:

- Pipelines. A new 315mm diameter PVC Class 8 pipeline, with a combined length of approximately 2275m will be constructed from the pumphouse on the Bree River bank to the proposed dam, to a new pumpstation located within the existing irrigated areas, and to the new proposed storage tanks. The pipeline will mostly be located within the existing farm roads, or through the cultivated areas.
- Pumphouse and pumpstations. The existing pumphouse on the bank of the Bree River will be expanded by 25m². Three (3) additional pumpstations will be located along the pipeline route.
- Storage tanks. Either 2 x 450 000l or 3 x 300 000l steel reservoirs (combined capacity of 900 cubic meters) will be constructed on the disturbed area (orchard) north-west of the existing residence (50m north of the dam wall).

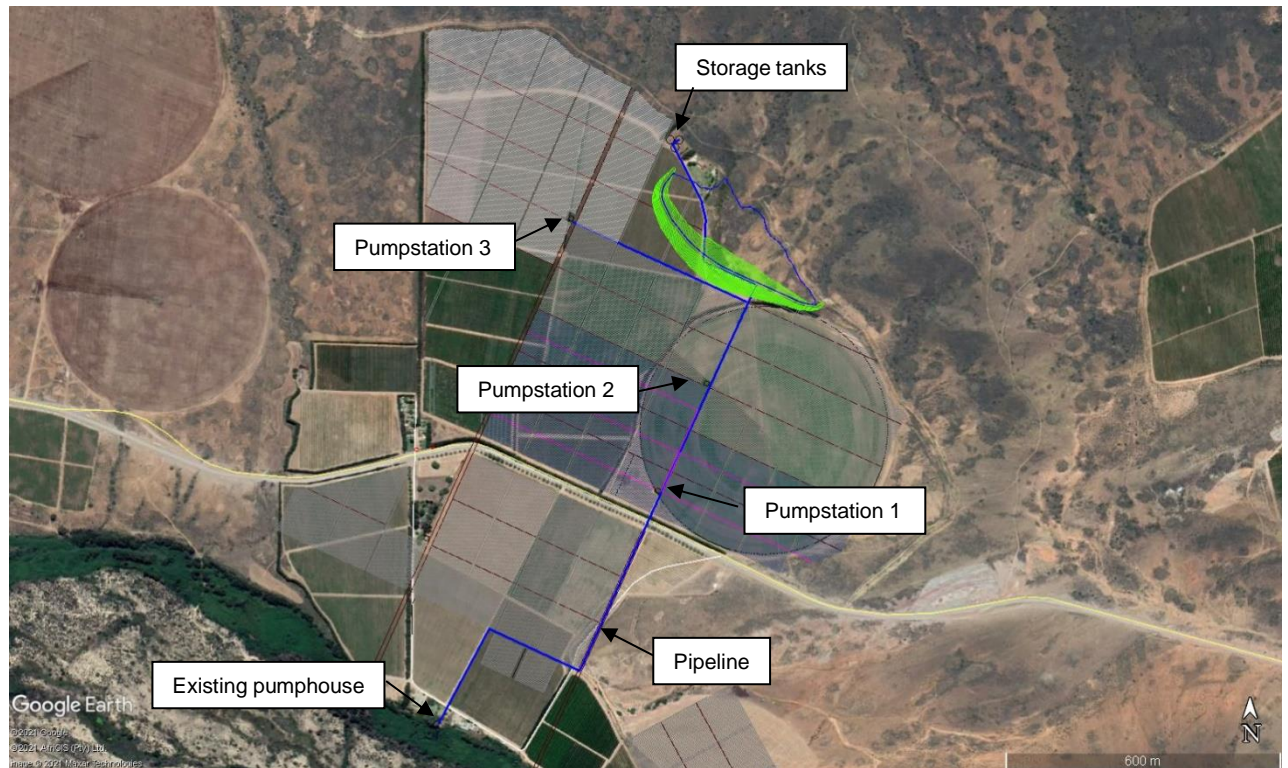


Figure 6: Google Earth Image indicating the proposed associated infrastructure.



Figure 7: Google Earth Image showing the location of the proposed storage tanks (blue circles).

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.
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The proposed development is the expansion of an existing dam, and expansion of crops. The development is the expansion of agricultural activities on a property zoned Agricultural. The surrounding land-uses are also predominantly agricultural in nature.

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.
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There are no conflicts with respect to existing approvals.

4.	Explain how the proposed development will be in line with the following?
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4.1	The Provincial Spatial Development Framework.
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The proposed development is for the expansion of agricultural activities, in an agricultural area.

4.2	The Integrated Development Plan of the local municipality.
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According to the Cape Winelands District Municipality IDP (2020 – 2021), the Cape Winelands District Municipality's agricultural sector will be adversely affected by climate change. Blueberries are a more resilient crop, and therefore the sustainability of the farm (and job security) will be better ensured. One of the sub-projects identified in the IDP is to "Optimise climate resilient land-uses of existing agricultural areas".

4.3.	The Spatial Development Framework of the local municipality.
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The proposed development is for the expansion of agricultural activities, in an agricultural area.

The activity is supported by the Breede Valley Municipality, as the "proposed development is of a bona fide agricultural nature and therefore in accordance with the municipal scheme regulations and spatial planning guidelines for the area and the property in question." (see **Appendix E15**).

4.4.	The Environmental Management Framework applicable to the area.
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No EMF was identified.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.
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Authorities are yet to comment on the Basic Assessment Report and the Specialists reports.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
The Western Cape Biodiversity Spatial Plan has been considered, and has been assessed in the Botanical Impact Assessment (Appendix G3).	
7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
N/A	
8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.
The Screening Report has not changed.	
9.	Explain how the proposed development will optimise vacant land available within an urban area.
N/A	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
<p>The proposed development will expand the existing dam and therefore improve the storage capacity. According to the Dam Engineering Report (Appendix G1), this storage would provide balancing storage capacity for the Applicant's already existing enlistment.</p> <p>The proposed agricultural development will also include the removal of approximately 60ha of vineyards, and be replaced with blueberries. Blueberries are a more resilient crop, demanding less water per hectare than vineyards.</p>	
11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).
No additional services will be required from the local authority	
12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.
<p>While the concept of need and desirability relates to the <i>type</i> of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which <i>need</i> refers to <i>time</i> and <i>desirability</i> to <i>place</i> – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to <i>wise use of land</i> – i.e. the question of what is the most sustainable use of land.</p> <p>- NEED</p> <p>The Applicant, Bass Diii Berries (Pty) Ltd recently purchased Portion 12 of Farm Scherpen Heuvel No 48, with residents which have previously lacked financial and social upliftment.</p> <p>The intention is to grow Blueberries on the farm, and to maximise the potential crop yield on the farm, with the existing water enlistment.</p> <p>The proposed development will expand the existing dam and therefore improve the storage capacity. According to the Dam Engineering Report (Appendix G1), this storage would provide balancing storage capacity for their already existing enlistment.</p> <p>According to the Dam Engineering Report (Appendix G1), the recent drought in the Western Cape, the uncertainties of the impact of climate change and job creation by means of expansion to fully utilise existing water rights are the major drivers for this project.</p> <p>The development would also allow for agricultural areas to be expanded on the farm, since blueberries have a lower water demand per hectare than viticulture.</p>	

- DESIRABILITY

The following factors determine the desirability of the area for the proposed development.

Location and Accessibility:

The dam site is located at the existing earth dam on the property, and will be an expansion of the existing dam.

Geotechnical tests showed that the proposed site was ideal for the location of the proposed dam. Since most material would also be sourced from within the dam footprint, this also made it the most economical alternative.

The site is easily accessible from the Eilandia road between the R43 and R60.

Compatibility with the Surrounding Area:

The proposed dam and agricultural site is directly adjacent to the existing vineyards and cultivated areas on the farm.

The surrounding area is also generally agricultural in nature, with other farms adjacent to, and in close proximity to the property (see Figure 8 below). The proposed dam and agricultural development will therefore not be considered inappropriate for the area, and is compatible with the existing land-uses in the area.

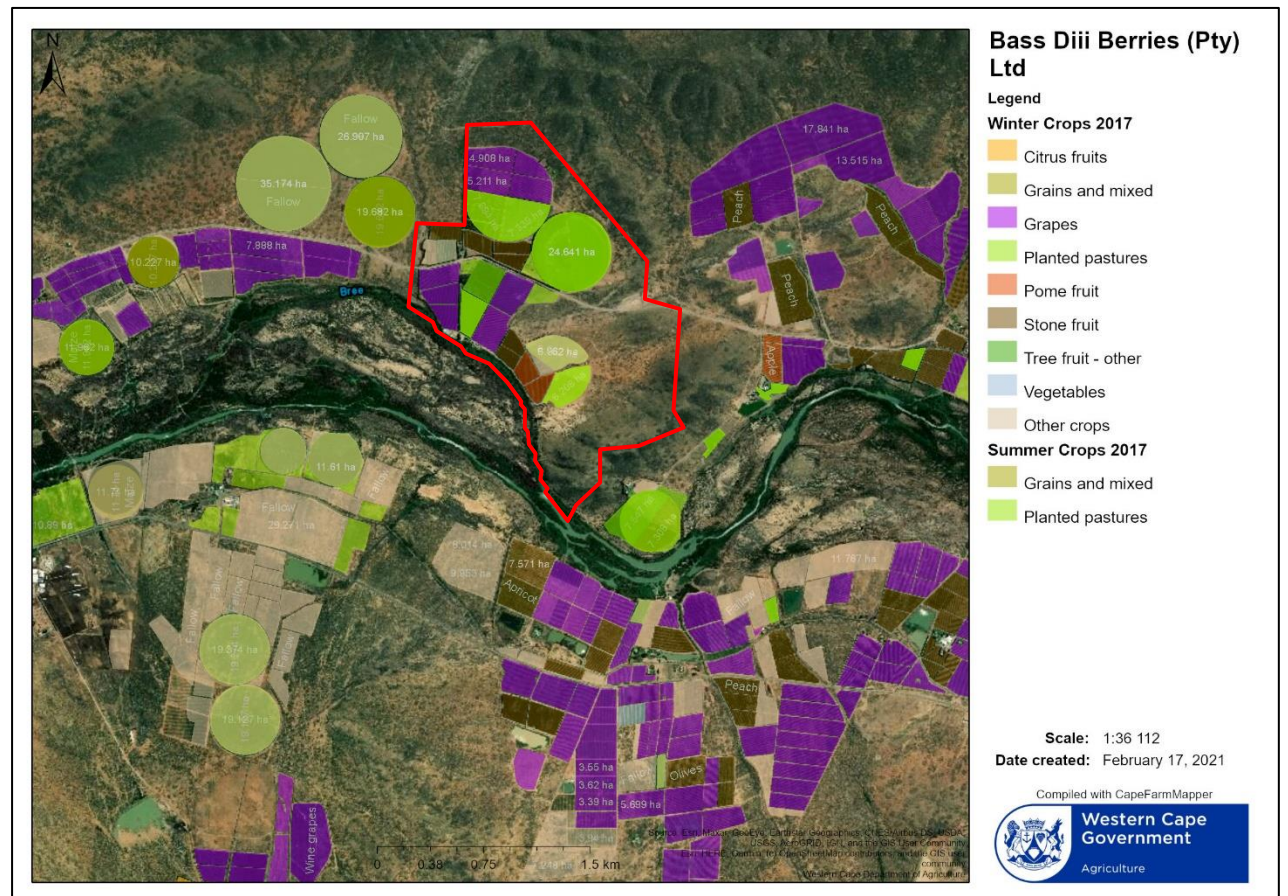


Figure 8: CapeFarmMapper image (Crop Census 2017) shows the surrounding area is mostly agricultural. Portion 12 of Farm Scherpen Heuvel No 48 is indicated by the red polygon.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

Yes, all PPP has been complied with.

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

Public Participation will be conducted for the proposed development in accordance with the requirements outlined in Regulation 41 of the NEMA EIA Regulations 2014. The issues and concerns raised during the scoping phase will be dealt with in the EIA phase of this application.

As such each subsection of Regulation 41 contained in Chapter 6 of the NEMA EIA Regulations 2014 will be addressed separately to thereby demonstrate that all potential Interested and Affected Parties (I&AP's) were notified of the proposed development.

R41 (2) (a):

R41 (2) (a) (i): Two site notices (A2) were placed at the entrance to the farm from the Eilandia road (one at the main entrance, and one at the entrance to the agricultural area), and an A3 posters was placed at the KaapAgri in Worcester.

The posters contained all details as prescribed by R41(3) (a) & (b) and the size of the on-site poster was at least 60cm by 42cm as prescribed by section R41 (4) (a).

R41 (2) (a) (ii): N/A. There is no alternative site.

R41 (2) b):

R41 (2) (b) (i): **N/A. The Applicant is the landowner**

R41 (2) (b) (ii): Initial notification letters was circulated to neighbouring landowners.

R41 (2) (b) (iii): An initial notification letter was sent to the municipal Ward councillor at the Breede Valley Municipality and the Cape Winelands District Municipality.

R41 (2) (b) (iv): An initial notification letter was sent to the Breede Valley Local Municipality and Cape Winelands District Municipality.

R54 (2) (b) (v): Initial notification letter (please refer to **Appendix F** for proof of notification letters sent) will be sent to the following organs of state having jurisdiction in respect of any aspect of the activity:

- Department of Agriculture
- Breede Gouritz Catchment Management Agency
- Heritage Western Cape
- CapeNature
- Breede Valley Municipality
- Cape Winelands District Municipality

R41 (2) (c) (i): An advertisement was placed in the local newspaper, Worcester Standard, on 22 October 2020 (please refer to **Appendix F** for proof of advertisement).

R41 (2) (d): N/A

R41 (6):

R41 (6) (a): All relevant facts in respect of the application were made available to potential I&AP's.

R41 (6) (b): I&AP's were given more than a 30-day registration and comment period on the proposed application during the first round of public participation.

R42 (a), (b), (c) and R43(2): A register of interested and affected parties was opened, maintained and is available to any person requesting access to the register in writing (please refer to **Appendix F** for the list of Interested and Affected Parties).

Please find attached in **Appendix F**:

- Proof of Notice boards, advertisements and notices that were sent out
- List of potential interested and affected parties
- Summary of issues raised by interested and affected parties

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

Department of Agriculture
Breede Gouritz Catchment Management Agency
Heritage Western Cape
CapeNature
Breede Valley Municipality
Cape Winelands District Municipality

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

None

5. If any of the State Departments and Organs of State did not respond, indicate which.

No comment has been received from DWS, Department of Agriculture, Breede Valley Local Municipality and Cape Winelands District Municipality.

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

The Breede-Gouritz Catchment Management Agency (BGCMA) provided comment on 03 December 2020. No specific comments or concerns were raised at this point.

Heritage Western Cape provided a response to the Notice of Intent to Develop (NID) on 06 November 2020, requesting both a Heritage Assessment and a Palaeontological Assessment. These have been conducted (see Appendix G4 and G5).

CapeNature provided initial comments on 30 October 2020. Their comments are as follows:

- *"the site supports Robertson Karoo, which is not currently listed as a threatened ecosystem. Consideration must still be given to the potential for any special microhabitats or species occurring on site. Erosion control measure must also be considered".*

This has been addressed in the Botanical Impact Assessment.

- *"In general, they do not support new instream dams or enlargement of existing instream dams unless it can be shown that the condition of the catchment, particularly downstream of the dam, will not worsen and that other compensation measures are put in place. In this case we*

acknowledge that the dam site is in a nonperennial watercourse and that much of the immediate surrounding area has been degraded and even transformed. However, we would still like to request that the freshwater specialist terms of reference include determination of whether an Ecological Flow Reserve is required. Please also indicate if the additional storage capacity is within the existing lawful user amount allocated".

According to the Dam Engineering Report (Appendix G1), due to the existing drainage channel on the left abutment of the catchment area, only 50 % of the catchment runoff will reach the dam basin. Therefore, the proposed, with a catchment size of 0.2 km² and a Mean Annual Precipitation of 347 mm, the estimated Mean Annual Runoff was calculated as 10 000 m³/a, thus only 5 000 m³/a will flow into the dam basin which is < 2 % of the total proposed dam capacity and negligible. It is therefore logical that no additional EWR releases from the dam basin be made.

- *"the Environmental Management Programme (EMPr) needs to include requirements for monitoring post-construction success of rehabilitation, alien clearing and erosion control".*

This is noted, and is addressed in the EMPr.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that *"Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority."*

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
 - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
 - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
 - if a facsimile was sent, a copy of the facsimile Report;
 - if an electronic mail was sent, a copy of the electronic mail sent; and
 - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES	NO
1.2.	Provide the name and or company who conducted the specialist study.		
N/A			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
<p>According to CapeFarmMapper, an underlying aquifer, classified as minor with a moderate vulnerability is located below the property.</p> <p>The proposed development is not expected to have any substantial impact on this aquifer.</p>			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		
According to CapeFarmMapper, the groundwater depth is 17.48mbgl.			

2. Surface water

2.1.	Was a specialist study conducted?	YES	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Dr. Dirk van Driel – Watsan Africa			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
<p>According to the Freshwater Assessment (Appendix G2), the existing dam is indicated as a wetland on the NFEPA overlay (see Figure 9 below). This wetland was created by the berm and is entirely artificial.</p> <p>Although there are no other watercourses indicated on the NFEPA overlay, there are a number of ephemeral streams crossing the property (see Figure 10 below).</p> <p>Only two of these ephemeral streams will be impacted by the development. According to the Freshwater Assessment (Appendix G2), the two faint drainage lines out of the hills into Sub-Catchment No.3 (including that of Sub-Catchment No.4) are near-pristine in the upper catchment, with perhaps the occasional farm animal the only impact, apart from the two-track farm roads. The drainage lines are interrupted by the cut-off trench. Further down the sub-catchment, the drainage lines are non-existent and have been entirely replaced by cultivated farm land.</p> <p>According to the Freshwater Assessment (Appendix G2), the cut-off trench was constructed to divert storm water out of the upper sub-catchments away from the agricultural areas. This seems like standard practice in the district, where many kilometres of these cut-off berms have been constructed. This effectively diverts any runoff away from the proposed new dam as well.</p> <p>According to the dam technical report (Appendix G1), the existing farm dam and the cut-off trench are indicated in historical imagery (see also Figure 11 below), and were developed prior to 1997 (see figure 4.4 of Appendix G1) by previous owners.</p> <p>The existing bypass channel (cut-off trench) upstream of the dam to be relocated to above the proposed borrow area.</p> <p>The Bree River is located on the southern edge of the property, and is located approximately 650m from Agricultural Area 2, and 1.1km from the dam. The existing pumphouse located on the bank of the Bree River will be expanded by approximately 25m².</p>			

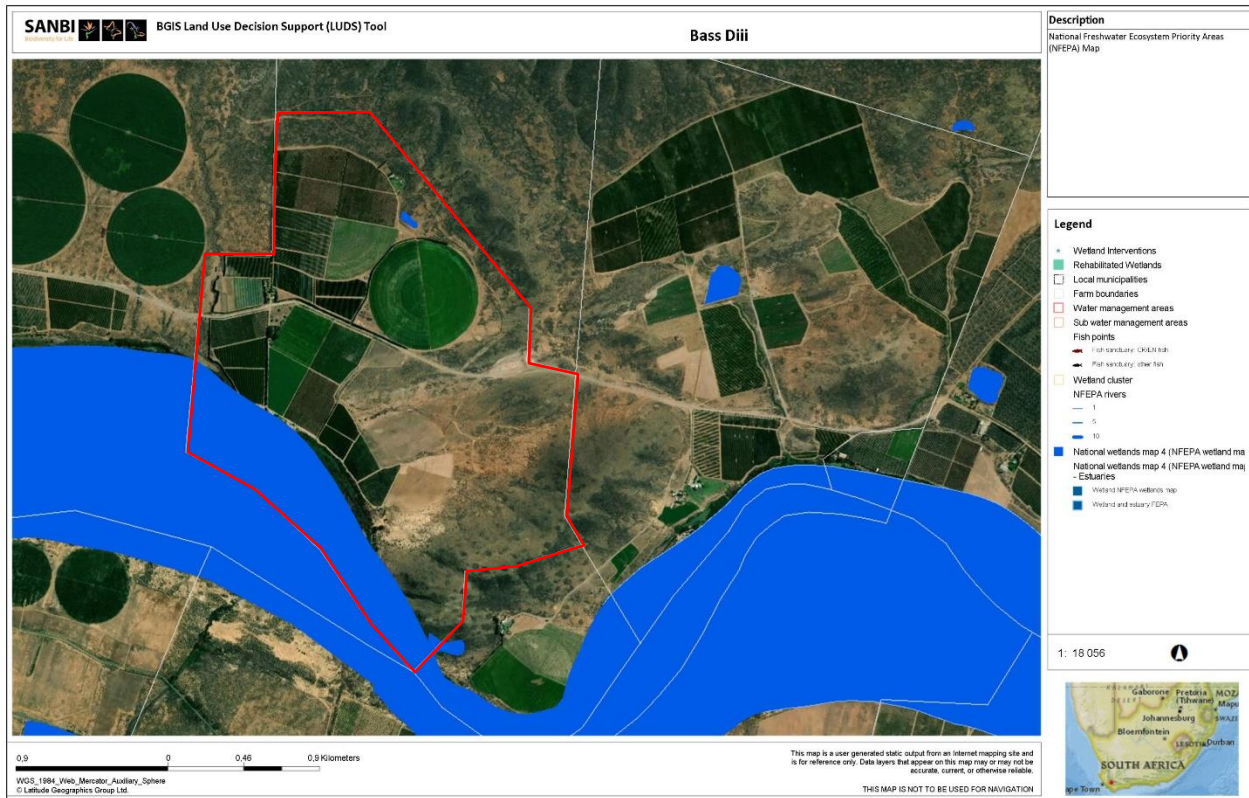


Figure 9: SANBI BGIS NFEPA overlay. The only watercourses indicated on the NFEPA overlay on or adjacent to the property (red polygon) are the Bree River and the existing dam.

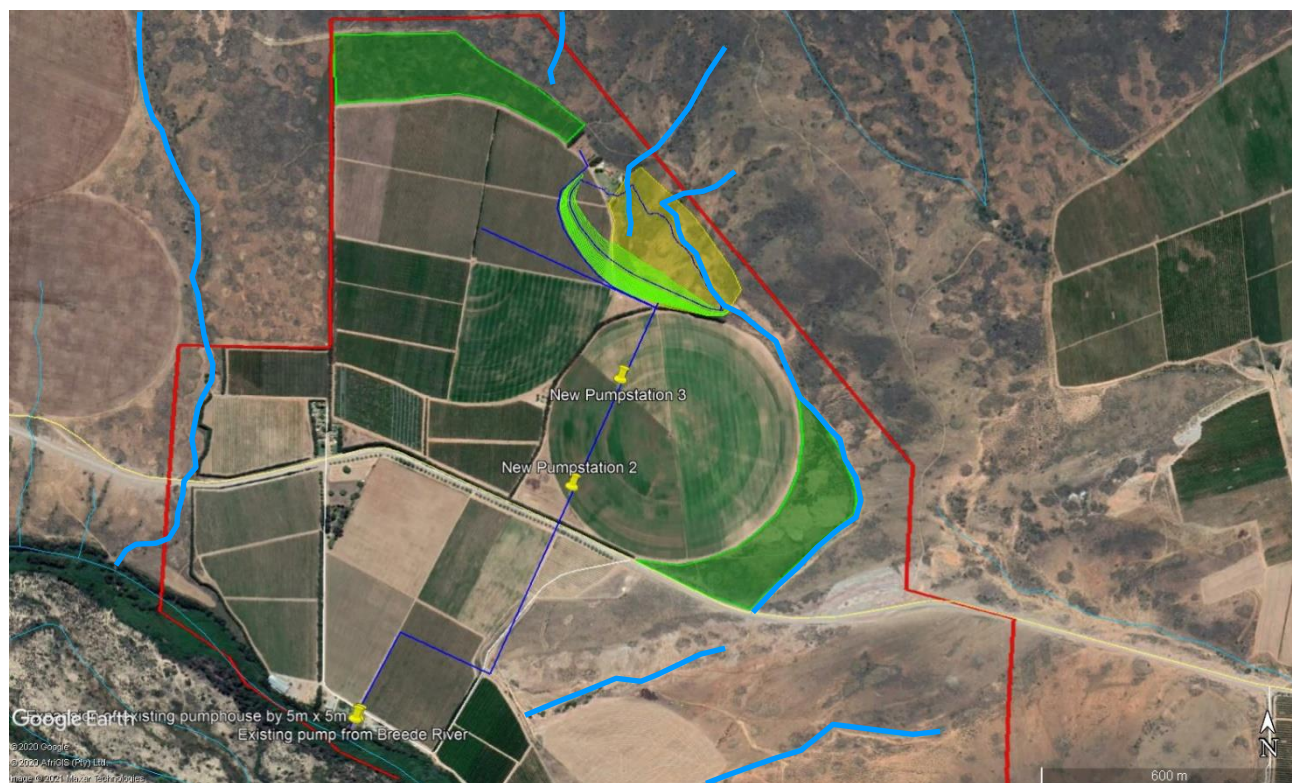


Figure 10: Google Earth Image indicating the watercourses on the property, indicated by the light blue lines.



Figure 11: Historical Google Earth Image (2006) showing the existence of the dam and cut-off trench

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO
3.2.	Provide the name and/or company who conducted the specialist study.		
	N/A		
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
	N/A		
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
	N/A		
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.		
	N/A		

4. Biodiversity

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
	Peet Botes – PB Consult		

4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.
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According to the Botanical Impact Assessment (**Appendix G3**), in accordance with the 2018 Vegetation map of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006), the proposed footprint(s) will only impact on one broad vegetation type, namely **Robertson Karoo**, a vegetation type classified as “Least Threatened” in terms of the NEM: BA “*national list of ecosystems that are threatened and in need of protection*” (GN 1002, December 2011)(see Figure 12 below).

More recently the 2018 National Biodiversity Assessment (NBA) was published and although the findings of the 2018 NBA it is not yet formally adopted by NEM: BA in terms of regulations, it is important to consider these findings. However, Robertson Karoo vegetation remains classified as “Least Threatened” in terms of the 2018 NBA.

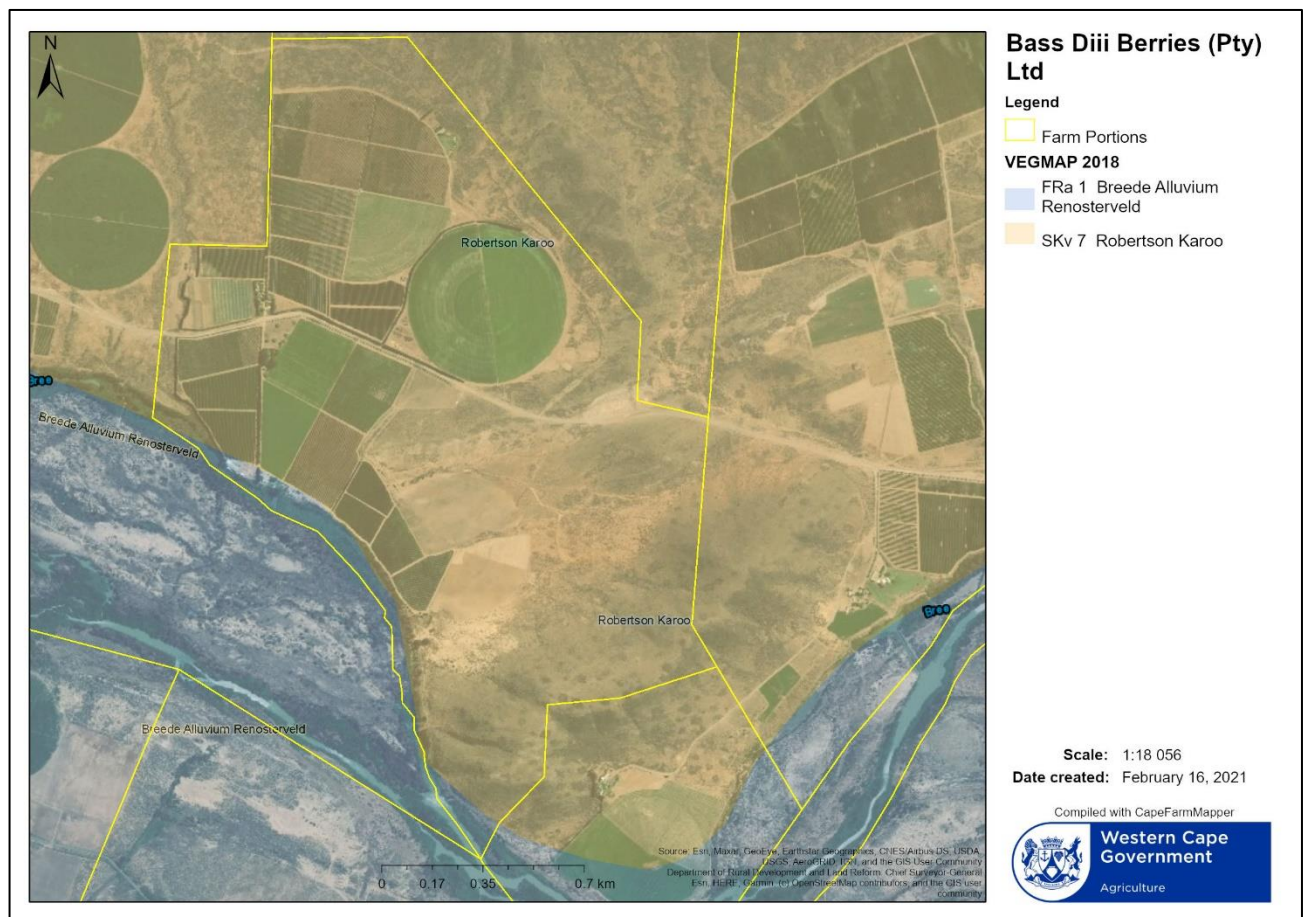


Figure 12. Vegetation Map (2018)(CapeFarmMapper)

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.
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According to the Botanical Impact Assessment (**Appendix G3**), according to the Western Cape Biodiversity Spatial Plan, the “Waaissand” area falls within a terrestrial CBA, while the rest of the property is considered an Ecological Support Area.

According to the Botanical Impact Assessment (**Appendix G3**), the “waaissand” borrow area overlaps an already disturbed area.

ESA's are areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas or Critical Biodiversity Areas, and are often vital for delivering ecosystem services. The objective is to maintain the area in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised. It is not expected that the ecological functioning of the remaining natural vegetation will be significantly compromised or impacted.

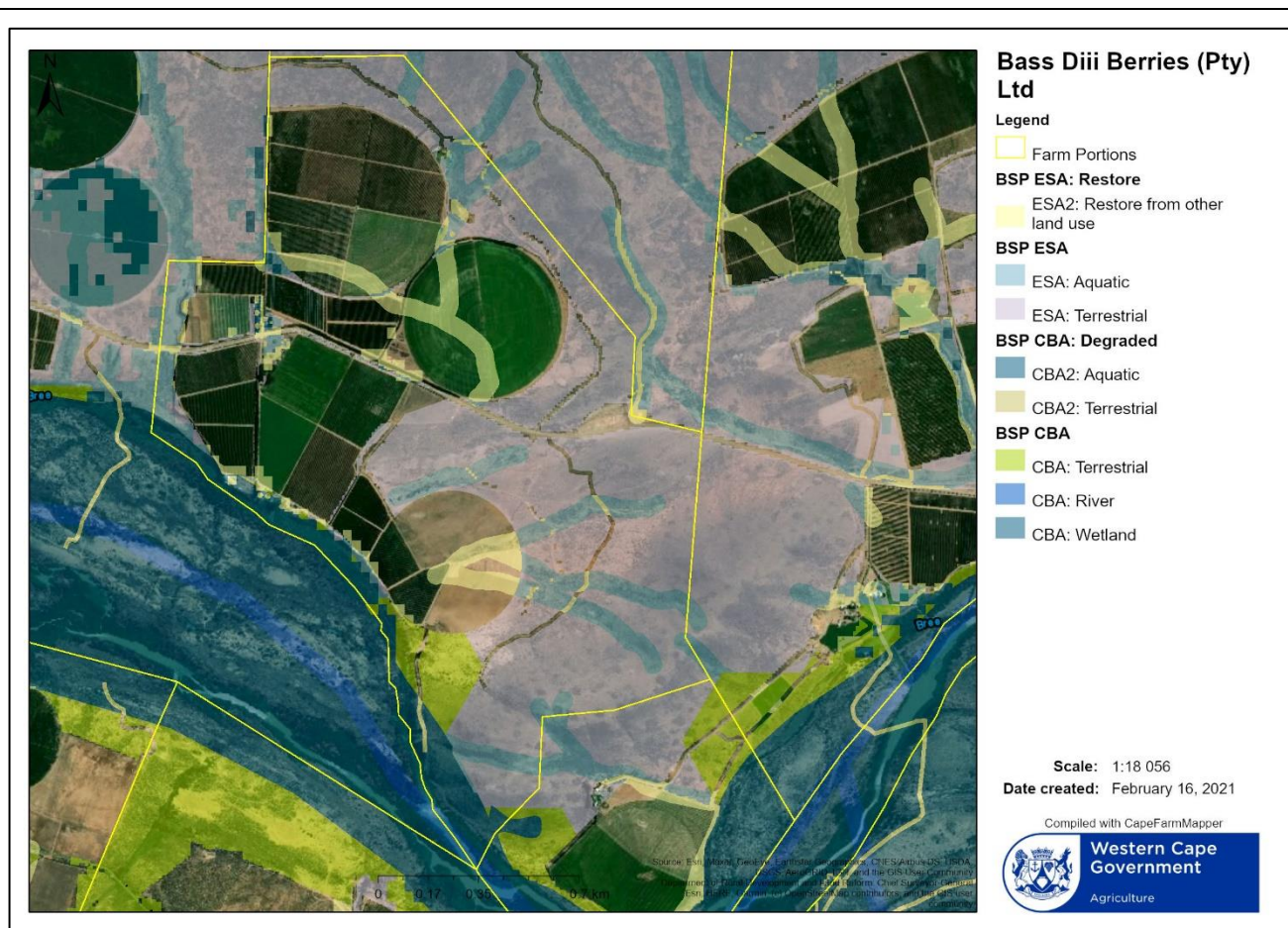


Figure 13: Western Cape Biodiversity Spatial Plan (CapeFarmMapper).

4.5. Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

According to the Botanical Impact Assessment (**Appendix G3**), at least three plant communities were observed. On deeper loamy to clayey soils, with few surface rocks visible (Agricultural Area 1, the dam site and portions of Agricultural Area 2) a higher denser succulent dominated vegetation was encountered with *Tylecodon paniculatus* and *Euphorbia mauritanica* & *E. burmannii* prominent. On shallower soils dominated by scattered rocks (portions of Agricultural Area 2) a lower succulent dominated vegetation was encountered dominated by *Euphorbia burmannii*, *Osteospermum sinuatum*, *Galenia africana* in combination with other succulents like *Drosanthemum*-, *Lampranthus*- and *Tetragonia* species. On the deep sandy “waaisand” areas a very sparse vegetation cover was encountered dominated by the weedy pioneer *Galenia africana*, with *Cotula microglossa* (another weedy species) also common, while *Hermannia trifurca* was also observed.

The findings of the Botanical Impact Assessment (**Appendix G3**), and the impacts and mitigation measures proposed for each area are described below.

Agricultural Area 1:

The site is located on the lower slopes of a small series of hills. It rises from the south and south-west the north and north-east with altitudes varying from about 245 m in the south-west to 260 m in the north-east. The only physical disturbance on the site was a cut-off trench through its northern portion, probably for protection of the agricultural area lower down (it must be noted that no development will take place north of this trench).

This was also the only area where heuweltjies (circular zoogenic soil mounds) was observed, two of which was observed in the western corner of the property. The vegetation on these mounds usually differs slightly from the surrounding vegetation and in Robertson Karoo is characterised by *Lycium cinereum*, with *Euphorbia mauritanica*, *Galenia africana* and *Pteronia incana* as dominants. Other species that are commonly encountered on these mounds are the succulents *Tylecodon paniculatus*, *Aloe microstigma*, *Crassula subaphylla* and *Drosanthemum delicatulum*.

The vegetation on the site was fairly uniform and can be described as a dense medium-low succulent shrubland on deeper loamy to clayey soils (with almost no rocky content). Two strata were normally present. The bottom stratum was the most prominent stratum with a vegetation cover of between 70-80%, reaching up to 0.5 m in height and dominated by succulents in combination with various Asteraceae species (e.g. *Pteronia incana*). The top stratum consisted of larger shrubs and small trees scattered throughout the landscape (sometimes forming bush-clumps), which could reach up to 1.5 m in height, dominated by *Euphorbia burmannii*, *E. mauritanica* and *Tylecodon paniculatus* (Botterboom). On the edges of the site, next to drainage lines a third stratum was encountered in the form of Gwarrie trees (*Euclea undulata*) bush clumps that could reach a height of up to 2.5 m, most often in combination with *Searsia undulata* & *S. glauca*, *Asparagus suaveolens* and *Lycium ferocissimum*. The Gwarrie trees are especially conservation worthy and potentially one of the most significant aspects of this veld (together with the presence of the heuweltjies).

Other species observed within Area 1 includes: the large geophyte, *Albuca setosa* (Diktamarak), *Asparagus suaveolens*, *Aspalathus spinosa*, *Atriplex lindleyi* & *A. semibaccata* (both naturalised weeds), *Ballota africana*, the small geophyte *Colchicum volutare*, *Cotula microglossa*, *Cotyledon orbiculata*, *Crassula subaphylla*, *Crotalaria cf. lebeckioides*, the striking *Drosanthemum cf. ambiguum*, *D. cf. delicatulum*, *D. cf. nitidum*, *D. micans*, *Eriocephalus africanus* & *E. brevifolius*, the medium sized tree *Euclea undulata*, *Euphorbia burmannii* & *E. mauritanica*, *Felicia filifolia* subsp. *filifolia*, *Freesia refracta*, *Helichrysum splendidum*, *Indigofera cf. heterophylla*, *Lampranthus coralliflorus*, *Lycium ferocissimum*, *Mesembryanthemum junceum*, *Mesembryanthemum splendens*, *Oedera squarrosa*, *Pentzia incana*, *Pteronia paniculata*, *Pteronia glauca*, *Pteronia incana*, *Roepera foetida*, *Ruschia cf. caroli*, *Ruschia cf. multiflora*, *Ruschia* species, *Salsola aphylla*, *Searsia tomentosa*, *Senecio junceus*, *Tetragonia fruticosa*, the parasitic *Viscum capense* and *Wahlenbergia nodosa*.

If portions of this site are to be developed, it is recommended that the development footprint remains south of the existing cut-off trench and even here the development should aim at minimum footprint. Portions of Area 2 should be the first option for development. This will allow for the protection of at least a portion of this vegetation and will also ensure that a remaining natural corridor linkage to the west, east and north of the site. In addition, the slope also increases significantly above the trench line, which might lead to future erosion (as is evident in the dam site).

Of all the sites investigated this was the best preserved site in terms of natural vegetation and was still covered by succulent dominated natural vegetation in excellent condition, although the number presence of such a number of Kraalbos (*Galenia africana*) suggests that it have been subject to past disturbances (grazing).

With regards to this site the following impact minimisation recommendations must be considered:

- Area 2 should be the first choice for further agricultural development (before considering Area 1);
- If development in Area 1 is required, it should stay below the existing cut-off trench, which will allow for the protection of more than 50% of the remaining natural veld in this and adjacent areas (on the same property);
- *Euclea undulata* (Gwarrie) trees must be protected. By staying beneath the cut-off trench all of these trees will remain well outside of the development footprint;
- Ideally the area where the 2 heuweltjies were observed should also be protected, but since the fall within the most logical expansion area in this site, they were not excluded. It was taken into account

that these heuweltjies are quite common just north of the site, as well as along the lower foothills in the eastern portion of this property.

- A number of Botterboom (*Tylecodon paniculatus*) and *Cotyledon* plants were observed within the footprint. As many as possible of these plants (but all small plants) should be transplanted to adjacent disturbed areas (or could be used for rehabilitation of the dam wall or even be used in the gardens of the proposed office site).
- Topsoil from this site could be used for the rehabilitation of the dam wall.

Agricultural Area 2:

The site itself can easily be divided into two vegetation communities (resulting from soil differences). It is important to note that in the Karoo shrub species change with different soils, soil conditions and aspect. The top or northern section has deeper sandy soils with vegetation similar to that in Area 1 and the Dam site. The southern section (undisturbed area) is located on a rocky intrusion with shallow shale soils with a very high stone component, supporting a much lower vegetation community.

The vegetation encountered in the northern section on deeper sandy soils (portions even suggesting windblown sands) supported a disturbed version of the vegetation found in Area 1 and was again dominated by *Galenia africana* in combination with a number of other Aizoaceae (mostly disturbance indicator species). The reason for the disturbance was hard to pinpoint, but it might be that the wind-blown sandy soils were historically skimmed of the top to be used on other sections of the farm (e.g. erosion management), for it does not seem as if the area was previously ploughed.

The lower almost mono-stratum succulent dominated vegetation encountered on the rocky shale soils is precisely the same vegetation encountered at the proposed office site, both of which are located on the same rocky intrusion. This plant community shares many species with that of the vegetation encountered on the deeper soils of Area 1, but succulent elements were also encountered.

This community was not dominated by single species but rather by a combination of Asteraceae species like *Osteospermum sinuatum*, *Berkheya angustifolia*, *Felicia filifolia* and *Pteronia paniculata* in combination with both *Euphorbia mauritanica* and *E. burmannii* and a variation of succulent like *Drosanthemum micans* and *Lampranthus coralliflorus*. *Tylecodon paniculatus* was much less prominent and usually smaller. In between these slightly larger shrubs, *Crassula muscosa*, *Haworthia arachnoidea*, *Quaqua mammillaris* (*Oedera squarrosa*), was observed for the first time, while *Crassula subaphylla* was quite common. The striking *Drosanthemum micans* was still present as was *Drosanthemum* cf. *delicatulum*, *Viscum capense*, *Wahlenbergia nodosa* and *Cotula microglossa*. Another interesting plant observed for the first time (although mostly along the road verges) was the kankerbossie, *Lessertia frutescens*.

In conclusion, the northern section of this veld is mostly disturbed, while the southern section (on shallower rocky soils) is almost pristine. Any further development should aim to utilise the northern section and minimise the impact on the southern portion. Fortunately, the slope and rockiness of the shallower rocky soils should discourage development to some degree.

The northern section of this veld is mostly disturbed, while the southern section (on shallower rocky soils) is almost pristine.

With regards to this site the following impact minimisation recommendations must be considered:

- The development footprint should aim to stay in the already disturbed northern section of this area or in the very least to the north of the small track running almost between these two areas;
- Some of the Botterboom (*Tylecodon paniculatus*), but all of the *Cotyledon* and *Haworthia* individuals must be transplanted to surrounding disturbed areas, where they must be nursed for the time it takes for them to settle. It is important that the *Haworthia* individuals are replanted in similar areas from where they were taken and protected by larger plants;
- Since the topsoil is already mostly disturbed (with the dominant plant now being *Galenia africana*), topsoil re-use for rehabilitation of other areas is not required;

Dam Site:

The proposed dam site is located to the south-east of Area 1, along the northern boundary of the property. The dam basin and borrow areas will potentially impact on approximately 6 ha of remaining natural veld. Just like Area 1, the site sits along the lower slopes of a small series of hills, benefiting from at least two drainage lines running into the existing dam (as well as the cut-off trenches east and west of the dam site).

Large portions of this site are already disturbed probably resulting from the historic construction activities (cut-off trenches and the small dam) in combination with sheet erosion, which might have resulted from the past activities. The remaining natural veld also reflects this disturbance through a much lower vegetation cover and the presence and dominance of various disturbance indicator plant species. However, along the edges of the water courses patches of thick dense vegetation could still be found, as well as patches of remaining veld on undisturbed soils.

The vegetation was expected to be similar to that of Area 1 (and does share a lot of species), because of the similar soils. However, large portions of this site had been degraded to such an extent that these areas are now often dominated by hardy pioneer species such *Galenia africana* or *Mesembryanthemum junceum*. *Mesembryanthemum splendens* was also common while *Cotula microglossa* and both *Atriplex* species could usually be seen within and along the edges of disturbed areas.

Near the drainage lines, *Lycium ferocissimum* and *Euphorbia mauritanica* were most often the larger shrubs, but still dominated by *Galenia africana*, but species like *Pteronia incana*, *Ballota africana*, *Roepera foetida* were also sometimes observed.

In areas less disturbed, vegetation similar to that observed in Area 1 was encountered, but with *Tylecodon paniculatus* often more dominant higher up on the slopes. *Euphorbia burmannii* was common together with a number of the same succulents as observed in Area 1, including the striking *Drosanthemum micans*, while species like *Berkheya angustifolia*, *B. cruciata*, *Gazania rigida*, *Otholobium* cf. *spicatum* and the interesting climber *Cysticapnos vesicaria* were observed for the first time.

In general the proposed dam site was much less pristine than Area 1 and the dam enlargement footprint will impact mostly on already disturbed areas

With regards to this site the following impact minimisation recommendations must be considered:

- A great number of Botterboom (*Tylecodon paniculatus*) plants were observed within the footprint. As many as possible of these plants (but all small plants) should be transplanted to adjacent disturbed areas (or could be used for rehabilitation of the dam itself or could even be used in the gardens of the proposed office site).
- Topsoil from the less disturbed areas must be removed to be used for the rehabilitation of the excavations and the dam wall itself.

Borrow Area ('waaisand'):

At the foothills of a series of larger hills to the south-east of the property a relative large (approximately 5.1 ha) area of wind-blown sand or "waaisand" had accumulated over the years. For construction purposes of the dam, the engineers proposed to excavate sandy material from already disturbed portions of this site (the excavations will have a footprint of about 0.5 ha in size). The site rises from the west to the east with altitudes varying from about 200 m in the west to 21 m in the east. The proposed footprint mostly overlaps an area that has already been disturbed over time.

The area evaluated was for the most part already subject to sand extraction activities in the past, the physical footprints of which are still very much evident. As a result the vegetation had been impacted to some degree, but on the other hand the vegetation cover over most of this area consists mostly of hardy and pioneer species. The landscape was dominated by hardy *Galenia africana* (kraalbos) shrubs forming tussocks of stabilised sand and also probably acting as nursing plants for other species to establish itself.

Although the vegetation cover can only be described as open, it was slightly better covered (25-40%) than expected. Apart from kraalbos, almost the only other plant species observed were, *Hermannia trifurca* (occasionally) and the common *Cotula microglossa* showing its yellow flowers in between the kraalbos or along

the edges of the disturbed areas. A few *Lycium oxycarpum* in flower was also observed, but much lower and away from the site.

The proposed 'waaisand' borrow area overlaps an already disturbed area and it should not add significantly to the existing impact on the area. It would however, be wise to remove the top layer of bushes and afterwards place it on top of the excavated area (it needs not be replanted, just mixed in with the top layer of sand in order to help with sand binding and to replace some seeds back in the soil).

The proposed sand extraction site was chosen to overlap an area already disturbed as a result of sand extraction. With regards to this site the following impact minimisation recommendations must be considered:

- The sand extraction must stay within the existing disturbance footprint;
- The top layer of bushes with some topsoil (15 – 20 cm deep) should be stripped and protected and use for rehabilitation of the site after excavations are completed (the plant parts should be mulched into or slightly buried within the top layer of soil during rehabilitation);

4.6. If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

N/A. The proposed development is not located within a Protected Area.

4.7. Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

To ensure the viability of the farm, the cultivated areas will need to be expanded. As far as possible, existing disturbed or previously cultivated areas will be used, but this will not be sufficient, and the proposed agricultural developments will need to be expanded into the adjacent natural indigenous vegetation.

Area 1 is the most ideal area to expand into, as it is adjacent to existing vineyards and in close proximity to the proposed dam. Vegetation will only be cleared up to the cut-off trench, and not north of it.

Area 2 is also a potential area to expand into, although less ideal due to the topography and the rocky nature of the area, especially towards the southern end of Area 2.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

No geographical aspects are expected to be significantly impacted by the proposed development.

6. Heritage Resources

6.1. Was a specialist study conducted? YES NO

6.2. Provide the name and/or company who conducted the specialist study.

The Heritage Impact Assessment (**Appendix G4**) was undertaken by Jonathan Kaplan (ACRM).

The palaeontological study (**Appendix G5**) was undertaken by Dr John Almond (Natura Viva).

6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.
<p><u>Archaeology:</u></p> <p>According to the Heritage Impact Assessment (Appendix G4), a small number of Middle Stone Age (MSA) tools were recorded during the field study. The remains were all encountered on a large patch of sheet washed and eroded gravels, alongside a deep donga surrounded by extensive fields of Lucerne. The lithics comprised a few unmodified flakes, chunks and one worked out core. All the remains are in locally available quartzite. No formal tools such as points or scrapers, or any organic remains such as pottery or ostrich eggshell was found. The area in which they were found (Area C) has since been screened out of the development proposal.</p> <p>No archaeological resources were recorded in the newly proposed agricultural areas or in the footprint of the abandoned in-stream dam.</p> <p>The small number of isolated tools are considered Not Conservation Worthy (NCW).</p> <p>According to the Heritage Impact Assessment (Appendix G4), five or six farm labourer graves were recorded on the edge of Agricultural Area 2, on north west facing slopes overlooking large fields of Lucerne. The graves comprise mounds of packed earth (shale rock) some of which have been decorated with fake plastic flowers. The burial 'site' is unfenced. Indications are that at least some of the graves are fairly frequently visited and looked after. When informed of their presence, the farmer Mr Basie Smit (pers. comm.), indicated that the applicant is aware of the graves, and that all measures will be taken to protect and safeguard them, if the development is approved.</p> <p>Graves are graded as having high (3A) local significance.</p> <p><u>Palaeontology:</u></p> <p>According to the Palaeontological Assessment (Appendix G5), the area is underlain by Permian basinal mudrocks of the lower Eccu Group (Karoo Supergroup). Potential palaeontological heritage impacts of the proposed agricultural developments here are anticipated to LOW. This is because:</p> <ul style="list-style-type: none"> - the development footprint is small (< 20 ha); - Deep, voluminous excavations are not anticipated, so major disturbance of fresh (unweathered) bedrocks is unlikely; - The Eccu Group bedrocks in this region are not known to be highly fossiliferous, apart from the Whitehill Formation which will <i>not</i> be directly impacted here (<i>N.B.</i> The Scherpenheuvel quarry just <i>outside</i> the project area is a well-known Whitehill fossil site); - Older alluvial sediments of the Breede River are not mapped in this area. <p>There are therefore no objections on palaeontological heritage grounds to authorisation of the project, and no specialist palaeontological monitoring or mitigation measures are proposed here, pending the potential discovery of new fossil finds during the construction phase.</p>	

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.
See findings of the Heritage Impact Assessment and Palaeontological Assessment above.

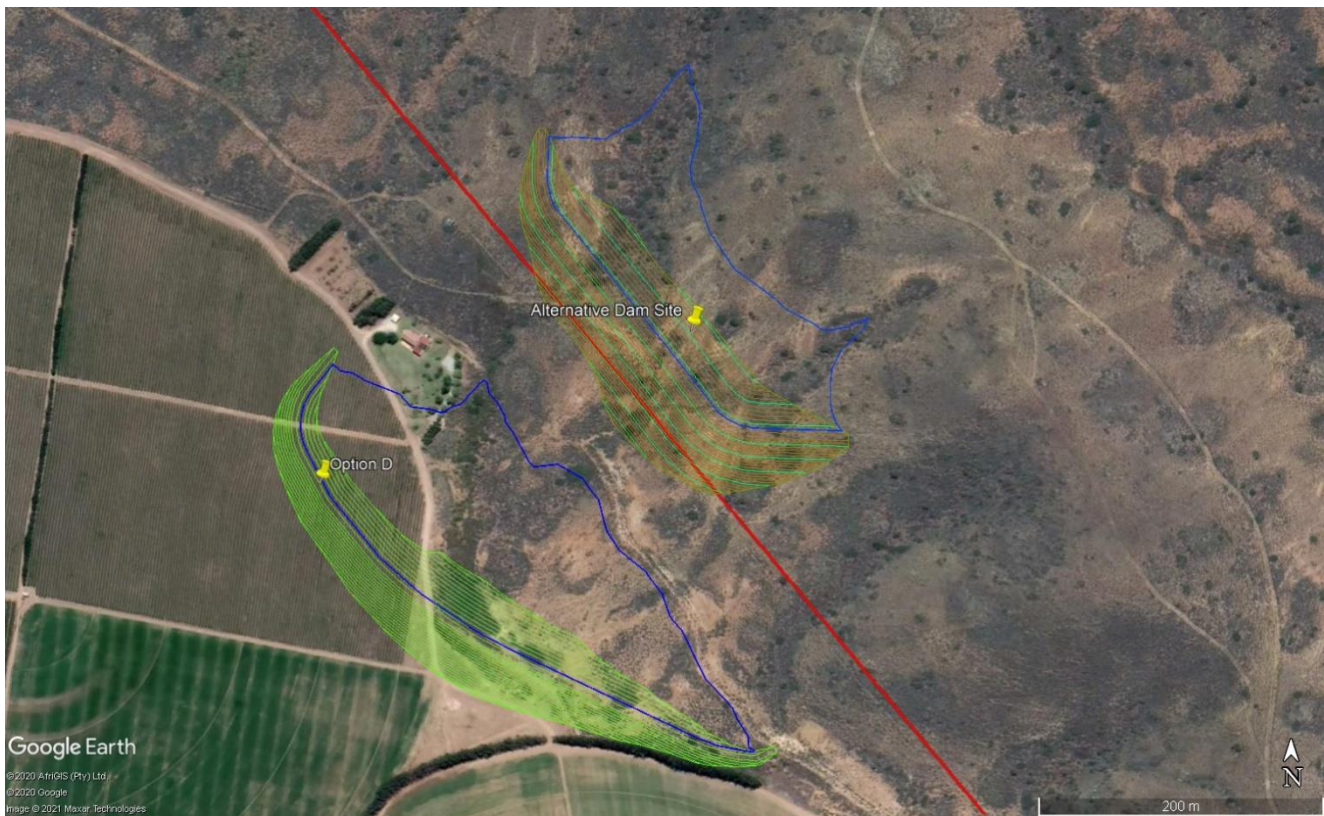
8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.
The surrounding area is generally agricultural in nature, especially along the Bree River, east, west and south of the property.	

8.2.	Explain the socio-economic value/contribution of the proposed development.
<p>The proposed development will secure the viability of the existing farm, and thereby securing the present farm workers, and associated jobs along the supply chain.</p> <p>The proposed development will also provide job opportunities during the construction phase, and additional job opportunities during the operational phase.</p> <p>According to the Heritage Impact Assessment (Appendix G4), clearing of new land for agricultural development will increase employment opportunities in the surrounding area/towns. The bulk of employment opportunities will be generated during the harvesting/picking season, which is a highly, labour intensive activity.</p> <p>According to the Applicant, not only will farm residents benefit from employment and training (BEE skills development), but the local community will also have access to a further 65-75 permanent jobs across blueberries and stonefruit. An additional 300-500 of seasonal picking labour will be required for stonefruit and blueberries during the months of January-March and September-December. Local suppliers will be engaged wherever possible for the construction and operation phases for further upliftment of the community.</p> <p>The construction phases for stonefruit and blueberries taking place between 2021 and 2023 will employ a further 75-100 contractors for land preparation, building constructions, security and orchard/netting installation.</p>	
8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.
<p>According to the Applicant, Bass Diii residents' housing is being upgraded to ensure residents Health and Safety in addition to access to all basic living amenities.</p> <p>The Applicant is also engaging with the local pre- and primary school to understand their needs and provide a sustainable education to the farm residents children in addition to the children of the local community.</p> <p>An onsite Covid-screening nurse is also currently providing primary health care to all employees and contractors on site.</p> <p>Once the farm is established by 2023 a full socio-economic needs assessment will be reviewed by our Sustainability team for further farm and community upliftment in addition to potential enterprise developments.</p>	
8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.
<p>The proposed development is not expected to have any additional significant negative impacts on people's health and well-being. There are no additional noise or odour impacts expected.</p> <p>The sense of place is also not expected to be significantly impacted on, as the development is an agricultural development in an agricultural area.</p> <p>The proposed development is expected to have a Low visual impact. The blueberries crops will be covered in shade netting. Although the nets do create a visual impact, they are necessary for the following reasons, amongst others:</p> <ul style="list-style-type: none"> - The netting creates a more controllable micro-climate for the blueberries to grow - Ensures less water usage per hectare - Prevents crops loss from pests and birds - Netting protects the blueberries from the wind, thus decreasing the percentage of blemished fruit and fruit wastage - The controlled environment netting provides decreases the requirement for agro-chemicals <p>The Visual impact is expected to be Low, since the surrounding land-uses are agricultural in nature. The site is also only visible for a short distance (approximately 400m) along the dirt road, due to the topography and since most of the property boundary on the road is tree lined. The road is also a minor road with very little traffic.</p>	

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred property and site alternative.	
The site is located on Portion 12 of Farm Scherpen Heuvel No 48, Worcester.	
Provide a description of any other property and site alternatives investigated.	
<p>No other site or property alternative has been investigated that would be feasible. The property was purchased by the Applicant in 2020, with the intention of developing additional blueberry crops. The property was seen as ideal, as there was already existing crops and infrastructure on the property, with existing water rights.</p> <p>An alternative dam site was considered by the dam engineers. However, this site was located on the adjacent property (Farm 801)(see Figure 14 below). This site was not feasible as the property is not owned by the Applicant. The topography is also steeper, and the construction estimate was significantly more expensive. The dam would have a similar footprint as the Preferred dam, but the entire footprint would be on undeveloped land, meaning more indigenous vegetation would be cleared, and therefore have a larger negative impact.</p>	
	
Figure 14: Google Earth Image showing the Alternative dam site	
Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.	
The property is owned by the Applicant, and therefore no other site or property alternative has been investigated.	
Provide a full description of the process followed to reach the preferred alternative within the site.	
No other site or property alternative has been investigated.	
Provide a detailed motivation if no property and site alternatives were considered.	
<p>No other site or property alternative has been investigated. The property was purchased by the Applicant in 2020, with the intention of developing additional blueberry crops. The property was seen as ideal, as there was already existing crops and infrastructure on the property, with existing water rights.</p>	
List the positive and negative impacts that the property and site alternatives will have on the environment.	

No other site or property alternative has been investigated.	
1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred activity alternative.	
No other activity alternative has been investigated.	
Provide a description of any other activity alternatives investigated.	
No other activity alternative has been investigated, as the expansion of the dam and agricultural areas is the only way to ensure viability of the farm.	
Provide a motivation for the preferred activity alternative.	
The referred activity is to expand the agricultural potential of the farm, ensuring the viability of the farm	
Provide a detailed motivation if no activity alternatives exist.	
<p>The property is an existing farm with existing agricultural activities. The property is zoned Agricultural. Therefore, only additional agricultural activities are seen as a viable alternative. To ensure the viability of the farm, the agricultural activities needed to be expanded and the storage of water for irrigation increased on the farm. Therefore, the proposed activity is the only viable activity alternative.</p>	
List the positive and negative impacts that the activity alternatives will have on the environment.	
<p>Positive Impacts:</p> <ul style="list-style-type: none"> - Job creation during the construction and operational phases of the development - Ensuring viability of the farm by expanding the cultivated areas and planting blueberry crops, as well as expanding the water storage capacity on the farm <p>Negative impacts:</p> <ul style="list-style-type: none"> - The loss of up to 13ha of indigenous vegetation <p>For a more detailed description of impacts, please refer to Appendix J.</p>	
1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts
Provide a description of the preferred design or layout alternative.	
<p>Layout alternatives have investigated.</p> <p>Agricultural areas:</p> <p>The intention of the Applicant is to expand the cultivated areas on the property, to make the farm more viable and profitable. Currently, the property has approximately 122ha of cultivated land under irrigation, with the intention to increase this to up to about 134ha. Only Areas 1 and 2 have been identified as viable areas of expansion</p> <p>Dam:</p> <p>The intention is to expand the existing storage capacity on the property (5 000m³) to a gross storage capacity of 300 000 m³ to store a portion of the existing lawful enlistment of 1 125 076 m³ (130.48 ha) regulated by the Central Breede River Water Users Association (CBWUA).</p> <p>Various dam layout/design alternatives were investigated, and are described below:</p> <p><u>Option B.</u></p> <p>This option was also modelled on expanding the existing embankment, and would also provide the required 300 000m³ storage capacity required.</p> <p>According to the dam technical report (Appendix G1), the water/wall ratio represents the volume of water gained per volume of fill required to construct the dam embankment. This is a good indication for selecting the most economical dam centreline. Option D (Preferred Alternative) indicates a much more economical dam centreline with a water/wall ratio of 1.62 vs 0.93 and a unit cost of R35.30 vs R60.08 compared to Option B. The significant variation is the material availability in the dam basin as the material available for borrowing in and above the dam basin of Option D (90% material obtained from the dam basin below FSL) is much more than the material available in and around Option B (20% material obtained from the dam basin below FSL) not passing the applicants existing property boundary. Option D (Preferred Alternative) was therefore further listed as the preferred option, as it will</p>	

result in the loss of 2 ha of existing irrigation land, but less natural vegetation above the dam basin. Option B would require additional borrow areas.

Please see Figure 15 below indicating the layout of Option B, and Figure 16 for the additional borrow areas that may be required to provide sufficient material for Option B.

Option D (Preferred Dam layout)

As stated above, Option D was the preferred alternative from an engineering and economical aspect. From an environmental aspect, Option D would obtain most of its material from within the development footprint, whereas Option B would require additional borrow areas (see Figure 13), leading to more natural vegetation loss.

Option D is therefore the preferred option, as it is more viable, provides the required volume at a cheaper rate, and would lead to the loss of up to 4ha less vegetation.



Figure 15: Google Earth Image showing the Alternative dam layout options. The preferred dam layout (Option D) is indicated by the green dam wall and dark blue dam surface area. Option B is indicated by the pruple dam wall footprint and light blue dam surface area.



Figure 16: Google Earth Image showing the additional borrow areas (brown polygons) that may be required for Option B.

Provide a description of any other design or layout alternatives investigated.

Only Design Alternative B and D were considered viable options (see above)

Provide a motivation for the preferred design or layout alternative.

The Preferred Dam Design (Option D) provides the necessary storage volume required. It also utilises the existing dam and dam footprint.

Option D will obtain most of it's material (approximately 90%) from the dam basin. This would mean that less material be sourced from elsewhere on the farm. This will save approximately 4ha of vegetation that would need to be removed to source material if other (Option B) designs were built.

It is therefore also a more economical design compared to the other options.

Provide a detailed motivation if no design or layout alternatives exist.

N/A

List the positive and negative impacts that the design alternatives will have on the environment.

Preferred Design:

Positives:

- More economical
- 90% of fill material obtained from the dam basin, therefore requiring less material to be sourced from other areas on the farm.
- This would also prevent the loss of up to 4ha of vegetation.

Negatives:

- Loss of up to 2ha of cultivated land

Option B:

Positives:

- Less Cultivated areas will be impacted/removed)

Negatives:	
<ul style="list-style-type: none"> - Additional borrow material will be required, requiring more vegetation (approximately 4ha) to be impacted to source the additional material required. - Less economical to build 	
1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred technology alternative:	
<p>No viable technology alternatives were assessed. The proposed blueberry crops are going to be covered in shade netting which will reduce resource demand. The netting is necessary for the following reasons:</p> <ul style="list-style-type: none"> - The netting creates a more controllable micro-climate for the blueberries to grow - Ensures less water usage per hectare - Prevents crops loss from pests and birds - Netting protects the blueberries from the wind, thus decreasing the percentage of blemished fruit and fruit wastage - The controlled environment netting provides decreases the requirement for agro-chemicals <p>Not using nets is therefore not viable, and cannot be seen as a viable alternative.</p>	
Provide a description of any other technology alternatives investigated.	
No viable technology alternatives were assessed.	
Provide a motivation for the preferred technology alternative.	
<p>The shade netting is necessary for the following reasons:</p> <ul style="list-style-type: none"> - The netting creates a more controllable micro-climate for the blueberries to grow - Ensures less water usage per hectare - Prevents crops loss from pests and birds - Netting protects the blueberries from the wind, thus decreasing the percentage of blemished fruit and fruit wastage. - The controlled environment netting provides decreases the requirement for agro-chemicals 	
Provide a detailed motivation if no alternatives exist.	
If no shade netting is used, the demand for resources such as water for irrigation, and agro-chemicals will be increased. There would also be a possible increase in waste from blemished fruit.	
List the positive and negative impacts that the technology alternatives will have on the environment.	
See above	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
No viable operational alternatives were assessed.	
Provide a description of any other operational alternatives investigated.	
No viable operational alternatives were assessed.	
Provide a motivation for the preferred operational alternative.	
No viable operational alternatives were assessed.	
Provide a detailed motivation if no alternatives exist.	
No viable operational alternatives were assessed.	
List the positive and negative impacts that the operational alternatives will have on the environment.	
N/A	

1.6.	The option of not implementing the activity (the 'No-Go' Option).
Provide an explanation as to why the 'No-Go' Option is not preferred.	
<p>This is the option of not developing and expanding the storage dam and the agricultural areas for Blueberry production. The demand for expanded production will therefore not be met.</p> <p>This would mean that no-development would take place and the proposed site will remain as is.</p> <p>Although this option would result in no potential negative environmental impacts, the socio-economic benefits from implementing the activity would not be achieved, and the viability of the farm and the job security for the farm workers cannot be met. It would also mean that no new jobs (temporary jobs during the construction phase, and permanent and seasonal jobs during the operational phase) would be created.</p> <p>The no-go option would only have been recommended if it were found that the expansion of the dam, the development of crops and removal of vegetation on this site or in this area might potentially cause substantial detrimental harm to the environment.</p> <p>According to the Botanical Impact Assessment (Appendix G3), no development will result in no immediate disturbance. However, the vegetation type is not considered threatened, although portions have been included in CBA (already disturbed area). Erosion may still impact some of these areas, while the absence of grazing by livestock will have a positive impact on the natural vegetation.</p> <p>According to the Botanical Impact Assessment (Appendix G3), the No-Go option is not likely to result in a "no-impact" scenario, for it will have a negative socio-economic impact (and slow degradation may still continue). The blueberry industry is very worker intensive and requires a large work force per hectare produce. Bass Diii will export its blueberries which mean that they will have to comply with a large number of agricultural audits (e.g. Global GAP, SIZA Environmental etc.) all of which aims at sustainable development and work force education.</p>	
1.7.	Provide an explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.
No other feasible alternatives, besides those described above, have been assessed.	
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.
<p>The preferred alternative is the expansion of cultivated areas, as well as the development of blueberry crops. This increased production, with a higher yield and profitable crop, will make the farm more viable.</p> <p>The expansion of the dam will also increase the storage capacity on the farm for irrigation purposes. A number of dam designs/locations were investigated, but the preferred dam design ensured less borrow material would be required, and therefore have a smaller construction footprint, and therefore ensuring less natural vegetation is removed.</p>	

2. "No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).
<p>No "no-go" areas were identified from a botanical perspective. The Botanical Assessment recommended that the <i>Euclea undulata</i> trees be protected. These were only identified north of the cut-off trench in Area 1, and is therefore outside the proposed development area. The area north of the cut-off trench should therefore be considered a "no-go" area.</p> <p>The graves identified in the Heritage Impact Assessment to the south of Agricultural Area 2 will be regarded as "no-go" areas. According to the Heritage Impact Assessment, the graves must be fenced off, with gated access for family members. A 20m buffer around the informal cemetery is proposed. The graves are located at: S33°45' 23.17" E19°34' 56.79" (see Figure 17 below).</p>

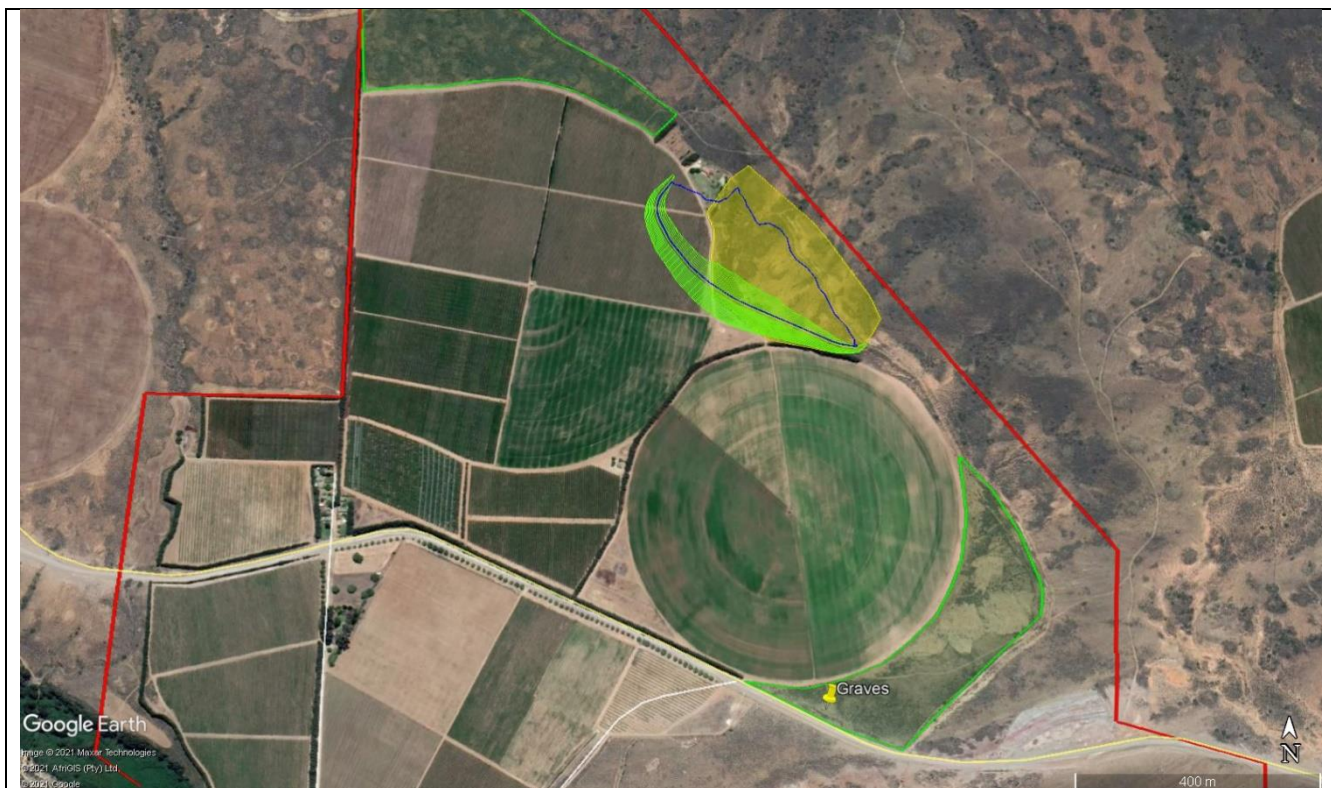


Figure 17: Google Earth Image showing the location of the graves, which are to be considered “no-go” areas.

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

Please refer to Appendix J.

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Alternative:	
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	
Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	

Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
OPERATIONAL PHASE	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	
Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	
Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.
2.	<p>List the impact management measures that were identified by all Specialist that will be included in the EMPr</p> <p><u>Heritage and Palaeontology:</u> No specific mitigation required.</p> <p>No specialist palaeontological monitoring or mitigation measures are required.</p> <p>The Fossil Find Procedure must be implemented, should any fossil material be discovered during construction, this must be safeguarded (preferably <i>in situ</i>) and the Environmental Control Officer (ECO) should alert Heritage Western Cape so that appropriate mitigation (e. g. recording, sampling, or collection) can be taken by a professional palaeontologist.</p> <p><u>Graves:</u></p> <ul style="list-style-type: none"> - The applicant <i>must</i> consult with family members regarding the protection of graves in Area A, prior to the development commencing. Graves are graded as having high (3A) local significance and must be protected throughout the Operational Phase of the project. - The graves must be fenced off, with gated access for family members. A 20m buffer around the informal cemetery is proposed. - The above recommendations must be included in the Environmental Management Plan (EMP) for the proposed development. <p><u>Botanical:</u></p> <p><u>Area 1:</u></p> <ul style="list-style-type: none"> - Area 2 should be the first choice for further agricultural development (before considering Area 1); - If development in Area 1 is required, it should stay below the existing cut-off trench, which will allow for the protection of more than 50% of the remaining natural veld in this and adjacent areas (on the same property) - <i>Euclea undulata</i> (Gwarrie) trees must be protected. By staying beneath the cut-off trench all of these trees will remain well outside of the development footprint; - Ideally the area where the 2 heuweltjies were observed should also be protected, but since the fall within the most logical expansion area in this site, they were not excluded. It was taken into account that these heuweltjies are quite common just north of the site, as well as along the lower foothills in the eastern portion of this property. - A number of Botterboom (<i>Tylecodon paniculatus</i>) and <i>Cotyledon</i> plants where observed within the footprint. As many as possible of these plants (but all small plants) should be transplanted to adjacent disturbed areas (or could be used for rehabilitation of the dam wall). - Topsoil from this site could be used for the rehabilitation of the dam wall. <p><u>Area 2:</u></p> <ul style="list-style-type: none"> - The development footprint should aim to stay in the already disturbed northern section of this area or in the very least to the north of the small track running almost between these two areas; - Some of the Botterboom (<i>Tylecodon paniculatus</i>), but all of the <i>Cotyledon</i> and <i>Haworthia</i> individuals must be transplanted to surrounding disturbed areas, where they must be nursed for the time it take for them to settle. It is important that the <i>Haworthia</i> individuals are replanted in similar areas from where they were taken and protected by larger plants; - Since the topsoil is already mostly disturbed (with the dominant plant now being <i>Galenia africana</i>, topsoil re-use for rehabilitation of other areas is not required; <p><u>Dam Site:</u></p> <ul style="list-style-type: none"> - A great number of Botterboom (<i>Tylecodon paniculatus</i>) plants where observed within the footprint. As many as possible of these plants (but all small plants) should be transplanted to adjacent disturbed areas (or could be used for rehabilitation of the dam itself).

- Topsoil from the less disturbed areas must be removed to be used for the rehabilitation of the excavations and the dam wall itself.

Borrow Area ("waaisand" area):

With regards to this site the following impact minimisation recommendations must be considered:

- The sand extraction must stay within the existing disturbance footprint;
- The top layer of bushes with some topsoil (15 – 20 cm deep) should be stripped and protected and use for rehabilitation of the site after excavations are completed (the plant parts should be mulched into or slightly buried within the top layer of soil during rehabilitation);

General

- All construction must be done in accordance with an approved construction and operational phase Environmental Management Plan (EMP), which must include the recommendations made in this report.
- A suitably qualified Environmental Control Officer must be appointed to monitor the construction phase in terms of the EMP and any other conditions pertaining to specialist studies.
- The layout of the development footprint should take the sensitivity map into account.
- However, if for viable reasons, the layout could not be placed outside of the above-mentioned green areas, the developments must aim at minimum disturbance of the remaining natural veld;
- Search & rescue as described in the site-specific recommendation above, must be done before construction may commence in each area;
- Lay-down areas or construction sites must be located within already disturbed areas on the farm;
- No unnecessary clearing of any area outside of the construction footprint may be allowed.
- An integrated waste management approach must be implemented during construction.
 - Construction related general and hazardous waste may only be disposed of at suitably approved waste disposal sites.

Freshwater

- Keep vehicles and activities out the upper sub-catchment
- Limit the construction footprint
- Strictly stay within the License allocation
- Control invasive trees
- Embark on a program to remove blue gum trees from Breede River banks
- Prevent over-irrigation
- Prevent agricultural return flow
- Keep return flow out of Breede River

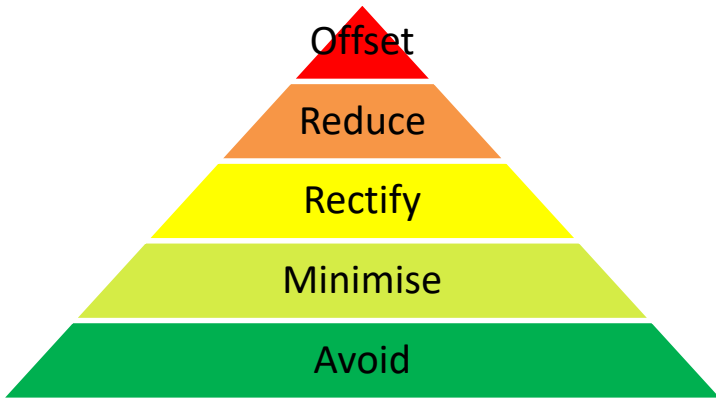
- | | |
|----|--|
| 3. | List the specialist investigations and the impact management measures that will not be implemented and provide an explanation as to why these measures will not be implemented. |
|----|--|

No impact measurement measures recommended by the specialists will not be implemented.

Although the botanical specialist recommended that Area 2 be the first choice to be developed, instead of Area 1, this area is less viable for the Applicant, due to the topography limiting the amount of Area 2 that could be viably developed. The graves located in Area 2, which are to be regarded as a "no-go area" by the heritage specialist, would also limit development in Area 2.

- | | |
|----|---|
| 4. | Explain how the proposed development will impact the surrounding communities. |
|----|---|

The proposed development will provide additional job opportunities, especially during the operational phases. According to the Applicant, not only will farm residents benefit from employment and training (BEE skills development), but the local community will also have access to a further 65-75 permanent jobs across blueberries and stonefruit. An additional 300-500 of seasonal picking labour will be required for stonefruit and blueberries during the months of January-March and September-December.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.
The removal of vineyards (grapes) and replacement with Blueberries has taken climate change into consideration. Blueberries are a more resilient crop, requiring less water per hectare of irrigation, and are more heat resistant, and therefore the sustainability of the farm (and job security) will be better ensured.	
6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.
No conflicting recommendations between the specialists.	
7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.
All mitigation measures recommended by the Specialists can be implemented, and therefore all have been included in the Environmental Management Programme.	
8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.
<p>The mitigation hierarchy is as follows:</p>  <p>The proposed development avoids the following impacts:</p> <ul style="list-style-type: none"> - The graves located on the edge of Area 2 will be regarded as “no-go areas”. <p>The proposed development minimises the following potential impacts:</p> <ul style="list-style-type: none"> - Dam design Option D (Preferred Alternative) minimises the removal of vegetation (up to 4ha of vegetation) for the sourcing of material for the dam construction. - A plant Search and Rescue will help minimise the loss of important plant species, as identified by the Botanical Specialist. <p>The proposed development reduces the following potential impacts:</p> <ul style="list-style-type: none"> - The growing of blueberry crops, and the use of shade netting, reduces the amount of resources required, including using less water per hectare for irrigation, and using less agri-chemicals. 	

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.
	<p>The proposed development is needed to secure the viability of the farm, by expanding the cultivated areas, and growing a more profitable and resilient crop (blueberries).</p> <p>According to the Botanical Impact Assessment (Appendix G3), the proposed development will result in the transformation of less than 20 ha natural veld located in Robertson Karoo vegetation, which is not considered vulnerable. However, it will impact on a small area within a CBA (which is already disturbed) and other areas within an ESA (some of which are also disturbed).</p> <p>The development (without mitigation) is expected to result in a Medium impact, mainly as a result of the potential impact on CBA and ESA's, but can be reduced to Low through simple and very viable mitigation options. With the correct mitigation it is unlikely that the development will contribute significantly to any of the following:</p> <ul style="list-style-type: none"> - Significant loss of vegetation type and associated habitat. - Loss of ecological processes (e.g. migration patterns, pollinators, river function etc.) due to construction and operational activities. - Loss of local biodiversity and threatened plant species. - Loss of ecosystem connectivity. <p>According to the Heritage Impact Assessment (Appendix G4), the impact significance of the proposed development on local archaeological resources is, assessed as low. Significant impacts on fossil heritage resources are not anticipated. Pending the potential discovery of new fossil finds during the construction phase, there are no objections on palaeontological heritage grounds to authorisation of the project.</p> <p>Farm labourer graves may be negatively impacted by the proposed development. This will be prevented by demarcating the graves as "no-go areas".</p> <p>According to the Freshwater Report (Appendix G2), the Impact Assessment indicates that some impacts, such as the destruction of the upper catchment, can be entirely prevented. It shows that impacts such as pollution of the Breede River because of agricultural return flow, can be minimised and even prevented. The proliferation of invasive vegetation can be addressed, if only eradication efforts are supported.</p> <p>The proposed dam should be allowed. The impact assessment has not shown up any fatal flaws.</p> <p>Due to the nature of the development, the site and the surrounding land-uses, the proposed development is expected to have a low negative impact on the visual character of the area.</p> <p>The proposed development is expected to not only ensure the employment of the current farm residents, but the local community will also have access to a further 65-75 permanent jobs. An additional 300-500 of seasonal picking labour will be required for stonefruit and blueberries during the months of January-March and September-December. Local suppliers will be engaged wherever possible for the construction and operation phases for further upliftment of the community.</p> <p>The construction phases will employ a further 75-100 contractors for land preparation, building constructions, security and orchard/netting installation.</p> <p>Considering all the information, it is not envisaged that this proposed development will have a significant negative impact on the environment, besides the removal of 13ha of Robertson Karoo vegetation, which is acceptable if mitigation measures are applied. The socio-economic benefits of the project are expected to outweigh the negative environmental impacts.</p>
1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.
<p>Preferred Alternative:</p> <p>Positive Impacts:</p> <ul style="list-style-type: none"> - Securing the viability and future of the farm, and securing the employment of the current farm residents - Providing an additional 65-75 permanent job opportunities for the community - Providing an additional 300 – 500 seasonal job opportunities - Providing 75 – 100 job opportunities during the construction phase, using mostly local suppliers. <p>Negative Impacts:</p> <ul style="list-style-type: none"> - The loss of up to 13ha of natural vegetation (Robertson Karoo vegetation) <p>Alternative (dam Option B):</p> <p>This option will have similar positive and negative impacts as the Preferred Dam option as described above. However, it will also have the following additional negative impacts:</p> <ul style="list-style-type: none"> - And additional 4ha of natural vegetation will need to be cleared to obtain fill material for the dam; - The dam will be more costly to build 	

2. Recommendation of the Environmental Assessment Practitioner (“EAP”)

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMP
<ul style="list-style-type: none"> - Loss of natural vegetation is limited to only the construction footprint, and must be minimised. The construction site must be clearly demarcated. - A botanical Search & rescue must be done before construction may commence in each area. - Access to “no-go areas” are prevented - All staff must be provided with environmental training before the commencement of construction and operational phases. - Undertake responsible water usage to prevent unnecessary loss of water. - Undertake responsible waste management - Undertake proper site rehabilitation after construction activities - Ensure safe storage, handling and use of any agri-chemicals (fertilizers and/or pesticides) and ensure appropriate disposal of any associated waste products. - Ensure management and conservation of the remaining natural areas. 	
2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.
<p>The graves identified on site must be considered “no-go areas” and must be fenced off, while still providing gated access to family members. A minimum 20m buffer must be created around the grave site.</p>	
2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.
<p>Considering all the information, it is not envisaged that this proposed development will have a significant negative impact on the environment. Although the development will involve the removal of approximately 13ha of natural vegetation, the vegetation is not considered vulnerable.</p> <p>Impacts on heritage and palaeontological impacts are considered negligible, and although there are graves on the potential site, these will be considered “no-go areas”, and will be protected from any impacts from the development.</p> <p>The potential impact on freshwater resources are also expected to be low.</p> <p>The overall impact on the environment is expected to be Medium-Low (Negative). However, with the mitigation measures proposed above, and their implementation and compliance in the Environmental Management</p>	

Programme during the construction and operational phases of the development, the expected overall impact is expected to be Low (Negative).

The potential socio-economic benefits, including providing job opportunities during the construction and operational phase, and ensuring the viability of the farm in the future, is expected to outweigh the potential negative environmental impacts.

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
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The following assumptions are made:

- The information on which the report is based (i.e. project information) is correct.
- The construction and management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of detailed Environmental Management Programme. Much of the long-term success lies in the effective implementation of the measures prescribed in the Environmental Management Programme.

There are no significant gaps of knowledge that have been identified.

There are no uncertainties that we are aware of at present.

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.
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It is recommended that the EA be made valid for 5 years in which construction must commence. Construction is expected to take 1 – 2 years to complete.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

All water used will be from the registered allocation to the farm. The water will be stored in the proposed dam and the proposed storage tanks.

The change from vineyards to blueberries is expected to save significant amounts of water, since blueberries require less water per hectare for irrigation. The use of shade netting to cover the crops will also significantly reduce the amount of water used.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.

The only significant waste that will be produced during construction and operations is organic waste.

The vineyards that will be removed for the construction of the dam and the blueberry crops will be used as firewood by the farm residents.

Vegetation removed will be chipped and used as mulch in the land preparation.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
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No specific measures to be implemented

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I....., ID numberin my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;
- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;
- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
 - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
 - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;
- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;
- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
 - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
 - Legitimate costs in respect of specialist(s) reviews; and
 - the provision of security to ensure compliance with applicable management and mitigation measures;
- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant:

Date:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I, EAPASA Registration number as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

Signature of the EAP:

Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I, EAPASA Registration number as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP:

Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP:

Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

I, as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP:

Date:

Name of company (if applicable):