Western Cape Government
Environmental Affairs and Development Planning

BETTER TOGETHER.

NEMA SECTION 24G APPLICATION COMPLETENESS CHECKLIST

IMPORTANT: Kindly ensure that this checklist is completed and attached to the NEMA SECTION 24G Application.

Please indicate by ticking the following below to serve as confirmation that the required information has been included in the application.

No.	Application Requirements	Please tick for confirmation
1.	Requirements of Preliminary Advertisement (pre-application public participation requirements including register of all I&APs), in accordance with Annexure A, Section D of the Section 24G Fine Regulations. **(Note: Failure to meet the Regulation 8 will result in rejection of the application)**	x
2.	Application form has been completed and attached, which includes among others:	✓
	2.1. A list of all listed activities and/or waste management activities that was triggered when the development activity was commenced with.	✓
	2.2. A list of all **similarly listed** activities in terms of the current EIA regulations (if applicable).	✓
	2.3. A description of the receiving environment **before** commences of the activity(ies).	✓
	2.4. A description of the receiving environment **after** commences of the activity(ies).	✓
	2.5. All appendices and annexures:	✓
	2.5.1. Locality map	✓
	2.5.2. Site plans or/and Layout plan	✓
	2.5.3. Building plans (if applicable)	✓
	2.5.4. Colour photographs	✓
	2.5.5. Biodiversity overlay map	✓
	2.5.6. Permit(s) / license(s) from any other organ of state including service letters from the municipality	x
	2.5.7. Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements, Land owner consent and any other public participation information	x
	2.5.8. Environmental Management Programme	✓
	2.5.9. Certified copy of Identity Document of Applicant	Will be included in Final
	2.5.10. Certified copy of the title deed (or title deeds in the case of linear activities)	Will be included in Final
	2.6. Signed declaration forms.	✓
3.	Are any specialist assessments required: e.g. Botanical, Hydro-geological, soil, socio-economic?	Y✓ N
	3.1. If yes, has the specialist assessment report been attached to the application?	✓
4.	An assessment of the impacts of the activity or activities in terms of the following categories:	✓
	• Socio-economic	✓
	• Biodiversity	✓
	• Sense of place &/or Heritage/ Cultural	✓
	• Any pollution or environmental degradation which has been, is being, is being or may be caused	✓
5.	A methodology of how the investigation into the impacts associated with the unlawful activity was undertaken.	✓
6.	Completed and attached representations of Annexure A, Section A (Directives) in terms of the S24G Fine Regulations: Information/ Representation submitted in terms of any Directives the Minister/ decision maker may issue in	✓

	terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) s24G(1)(b)(i)-(viii).	
7.	Completed and attached representations in terms of Annexure A, Section B (Deferral) of the S24G Fine Regulations.	✓
8.	Completed and attached representations in terms of Annexure A, Section C, Part 1 (Fine Quantum based on the assessment as specified above (4).	✓
	Confirmation that Annexure A, Section C, Part 1 has been completed by an environmental assessment practitioner (EAP)	✓
9.	Compliance history of the applicant:	✓
	9.1. Completed Annexure A, Section C, Part 2 and 3; namely:	✓
	9.1.1. Whether or not administrative enforcement notices, including pre -notices where appropriate, have previously been issued to the applicant in respect of a contravention of section 24F(1) of the NEMA and/or section 20(b) of the National Environmental Management: Waste Act (Act 59 of 2008) (NEM: WA).	✓
	9.1.2. Whether or not the applicant has previously been convicted in respect of a contravention of section 24F(1) of the Act and /or section 20(b) of the NEM: WA;	✓
	9.1.3. Whether or not the applicant has previously submitted a section 24G application in respect of an activity or activities which commenced prior to the activity or activities that are the subject of the current application; and	✓
	9.1.4. Whether the applicant is a firm or a natural person. (see Section 24G Fine Regulations for definition of "firm")	✓
	9.2. Provided information or whether or not any of the directors of the applicant firm are, or were, at the relevant time, directors of a firm to whom the above (9.1.1. - 9.1.3.) applies;	✓
	9.3. Advise on whether an applicant who is a natural person is, or was, at the relevant time a director of a firm to whom the above (9.1.1.- 9.1.3.) may apply.	✓
10.	Consultation with relevant State departments in terms of section 24O(2) & 24O(3) of the NEMA.	X
	10.1 Proof of Consultation with relevant State departments, including, *inter alia*, notices, adverts etc.	X
	10.2 Copies of comments and responses included in the application.	X
	10.2 Comments and Response report attached to the application.	X
11.	Public Participation Process undertaken in terms of Chapter 6 of the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations, 2014") *(GN No. R.326 of 7 April 2017)* **(if conducted/undertaken)**	X

NEMA SECTION 24G APPLICATION FORM

Section 24G Application Form for the consequences of unlawful commencement of listed activity/ies in terms of the:

- **National Environmental Management Act, 1998 (Act No. 107 of 1998), ("NEMA");**
- **National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM: WA")**

April 2018

Form Number S24GAF/04/2018

Kindly note that:

1. This application must be submitted where a person has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1) of NEMA (i.e. where the person commenced with an activity listed or specified in terms of section 24(2) (a) or (b) of NEMA - the activities contained in the EIA Listing Notices) or has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20 (b) of the NEM:WA.

2. This **Application Form** must be completed for all section 24G applications, by an independent Environmental Assessment Practitioner ("EAP").

3. This Application Form is current as of 01 April 2018. It is the responsibility of the Applicant/EAP to ascertain whether subsequent versions of the Application Form have been published or produced by the competent authority. Note that this Application Form replaces all the previous versions. This updated Application Form must be used for all new applications submitted from 01 April 2018.

4. **<u>The contents of this Application Form includes the following:</u>**

   PART 1 -
   Section A: Background Information
   Section B: Activity Information
   Section C: Description of Receiving Environment
   Section D: Need and Desirability
   Section E: Alternatives
   Section F: Impact Assessment, Management, Mitigation and Monitoring Measures
   Section G: Assessment Methodologies and Criteria, Gaps in Knowledge, underlying Assumptions and Uncertainties
   Section H: Recommendations of the EAP
   Section I: Representations - Response to an Incident or Emergency Situation
   Section J: Public Participation Process

   PART 2 –
   ANNEXURE A of Fine Regulations
   Section A: Directives
   Section B: Deferral of the Application
   Section C: Quantum of the section 24G fine
   Section D: Preliminary advertisement

   PART 3 –
   Appendices and Declarations

   PART 4 –
   ANNEXURE B: Waste Management Activity Supporting Information (if relevant)

5. An independent EAP must be appointed to complete the required sections (in terms of NEMA and its Regulations) of the Application Form on behalf of the applicant; the declaration of independence must be completed by the independent EAP and submitted with this Application Form. If a specialist report is required, the specialist will also be required to complete the declaration of independence.

6. Two hard copies (including the original) and one electronic copy (CD/DVD/Flash drive) of this application form must be submitted.

7. The required information must be typed within the spaces provided. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. The space provided extend as each space is filled with typing. **A legible font type and size must be used when completing the form.** A digital copy of the Application Form is available on the Department's website https://www.westerncape.gov.za/eadp/

8. The use of "not applicable" in the Application Form must be done with circumspection.

9. **No faxed or e-mailed application forms will be accepted.**

10. Unless protected by law, all information contained in and attached to this application will become public information on receipt by the competent authority. Please note that, unless exemption has been granted in terms of the National Exemption Regulations published under GN R994 in GG 38303 of 8 December 2014, any Interested and Affected Party should be provided with the information contained in and attached to this Application Form as well as any subsequent information submitted.

11. This Application Form must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department.

PROCESS TO BE FOLLOWED:

a) **Prior to submission of an Application Form,** the applicant is required to undertake a pre-application public participation process in terms of Regulation 8 of the Regulations relating to the procedure to be followed and criteria to be considered when determining an appropriate fine in terms of section 24G published in the Government Gazette on 20 July 2017, Gazette No 40994, No. R. 698 ("Section 24G Fine Regulations").

b) Together with the submission of a section 24G Application Form, the form **must include Proof of compliance of with Regulation 8** of the Section 24G Fine Regulations, including, but not limited to, proof of the pre-application advertisement in a local newspaper and register of I&APs.

c) The Department will acknowledge receipt of the application (within 14 days) and provide the Applicant / EAP with the relevant application reference number to be used in all future correspondence and the application public participation processes.

d) Upon receipt of the application, the MEC/Competent Authority may direct the applicant in terms of section 24G(1)(i-viii) of the NEMA.

e) In terms of the provisions of section 24G of NEMA, the applicant must pay an administrative fine up to a maximum of R5 million before the MEC/Competent Authority decides on the application.

f) The applicant **must within 14 days** of receipt of the determination of the quantum of the fine, ensure that all registered interested and affected parties are notified of the determination of the quantum of the fine, including the reasons and provided with access to the determination.

g) The administrative fine **must be paid within the time period stipulated** in the determination. Failure to pay the fine within the specified period, will result in the lapse of the application and any partial amounts paid in will not be refunded.

h) **Proof of payment of the fine must be submitted to the Department**. Upon payment of the administrative fine, the MEC/Competent Authority may-

- refuse to issue an environmental authorisation; or
- issue an environmental authorisation to such person to continue, conduct or undertake the activity subject to such conditions as may be deemed necessary, which environmental authorisation shall only take effect from the date on which it has been issued; or
- direct the applicant to provide further information or take further steps prior to making a decision provided for above;
- together with the above decision the MEC/Competent Authority may direct a person to rehabilitate the environment within such time and subject to such conditions as may deem necessary or take any other steps necessary under the circumstances.

PLEASE NOTE THE FOLLOWING:

1. Failure to comply with a directive may result in the institution of appropriate legal action as is deemed necessary and as provided for in the legislation.

2. The submission of an application or the granting of an environmental authorisation shall in no way derogate from—

(a) the environmental management inspector's or the South African Police Services' authority to investigate any transgression in terms of NEMA or any specific environmental management Act;
(b) the National Prosecuting Authority's legal authority to institute any criminal prosecution.

3. If, at any stage after the submission of an application it comes to the attention of the Minister, Minister for mineral resources or MEC that the applicant is under criminal investigation for the contravention of or failure to comply with section 24F(1) or section 20(b) of the *National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)*, the Minister, Minister for mineral resources or MEC may defer a decision to issue an environmental authorisation until such time that the investigation is concluded and—
   (a) the National Prosecuting Authority has decided not to institute prosecution in respect of such contravention or failure;
   (b) the applicant concerned is acquitted or found not guilty after prosecution in respect of such contravention or failure has been instituted; or
   (c) the applicant concerned has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant has in respect of the conviction exhausted all the recognised legal proceedings pertaining to appeal or review.

4. A person is guilty of an offence if that person:

   - Prior to submission of a section 24G application:
     - fails, in terms of Regulation 8(1), to place a preliminary advertisement in a local newspaper in circulation in the area in which the activity was, or activities were, commenced and on the applicant's website, if any or
     - fails, in terms of Regulation 8(2), to comply with the advertisement requirements set out in Annexure A, section D or
     - fails, in terms of Regulation 8(3), to open and maintain a register of interested and affected parties)); or
     - fails, in terms of Regulation 8(4), to attach to the application form the register of interested and affected parties, which must be included in the report, or form part of the information submitted in terms of section 24G(1) of NEMA.

   - Provides incorrect, false or misleading information in any form, including in any document submitted to a competent authority in terms of the Section 24G Fine Regulations or omits information that may have an influence on the outcome of a recommendation of the fine committee or determination of the competent authority.

5. A person convicted of an offence in terms of these Regulations is liable to a fine not exceeding R5 million or to imprisonment for a period not exceeding 5 years, and in the case of a second or subsequent conviction to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, and in both instances to both such fine and such imprisonment.

DEPARTMENTAL DETAILS

Department of Environmental Affairs and Development Planning,
Directorate: Environmental Governance
Attention: Sub-directorate: Rectification
Private Bag X9086
Cape Town, 8000

Registry Office
1st Floor Utilitas Building
1 Dorp Street, Cape Town

Queries should be directed to the Sub-directorate: Rectification at:
Tel: (021) 483-5827 Fax: (021) 483-4033

DEPARTMENTAL REFERENCE NUMBER(S) (for official use)

File Reference number (S24G)	
Administrative Fine Reference	

DEPARTMENTAL REFERENCE NUMBER(S) (to be completed by the EAP)

File Reference number (Enforcement), if applicable	14/1/1/E3/5/10/3/L1212/22
File reference number (EIA), if applicable:	
File reference number (Waste), if applicable:	
File reference number (Other (specify)):	

View the Department's website on http://www.westerncape.gov.za/eadp for the latest version of the documents

PART 1

PROJECT TITLE

Rectification of Two Unlawful dams on Portion 42 and Portion 34 of Farm 46 Buffelsrivier, George, Western Cape

RELEVANT REGION IN WHICH THE ACTIVITY COMMENCED

Cross out the appropriate box "☒" in which region the unlawful activity/ies has commenced.

~~REGION 1~~ ~~City of Cape Town and West Coast District~~	~~REGION 2~~ ~~Cape Winelands District and Overberg District~~	REGION 3 Central Karoo District and Eden District
		✓

SECTION A: BACKGROUND INFORMATION

1. APPLICANT PROFILE INDEX

Cross out the appropriate box "☒".

1.1	The applicant is a Natural Person (individual)					✓
1.2	The applicant is a Firm (i.e. any body incorporated by, or established in terms of, any law as well as any partnership, trust, parastatal or organ of state)					x
1.2.1	If a firm, please tick the relevant box below:					
	Body Corporate	Partnership	Trust	Parastatal	Organ of State	
	Directors of a Company	Members of a Board	Other, please specify			

Applicant's details (duplicate this section where there is more than one	

applicant)			
Applicant Name:	Jakobus Christo Janse van Rensburg and Ella Doretia Janse van Rensburg		
RSA Identity Number/ Passport Number of Applicant, if natural person:	5606225054088 5904040072082		
Name of Firm (if applicable):	JVR BOERDERY		
Firm Registration Number:	2016/160221/07		
Contact Person at the Firm:	JC Janse van Rensburg (0829223889/0798405881)		
List of all (as applicable at the relevant time):	Please insert the names and RSA ID numbers of the relevant persons below –		
● Directors of a company; or	Name: Jakobus Christo Janse van Rensburg RSA ID No. 5606225054088 Name: JC Janse van Rensburg RSA ID No. 8601095260086		
Postal address:	PO Box 125		
	Uniondale	Postal code:	6460
Telephone:	(044) 023 0102	Cell:	079 481 9488
E-mail:	otterswem@hilbert.co.za	Fax:	( )
Project Consultant	Ecosense Consulting Environmentalists		
Contact person:	Mark Sassman		
Postal address:	21 Fraser Street, Hunters Home		
	Knysna	Postal code:	6570
Telephone:	(044) 384 0849	Cell:	072 432 4646
E-mail:	michelle@ecosense.co.za	Fax:	( )
Name of the Environmental Assessment Practitioner ("EAP") responsible for the application:	Janet Ebersohn		
Company name (if any):	Eco Route		
Postal address:	PO Box 1252		
	Sedgefield	Postal code:	6573
Telephone:	( )	Cell:	082 557 7122
E-mail:	janet@ecoroute.co.za	Fax:	( )
EAP Qualifications	Bsc.Hons Environmental Management		
EAP Registrations/Associations	EAPASA:2019/1286		
Name of the Landowner:	Portion 34: Jakobus Christo Janse van Rensburg (snr) and Ella Doretia Janse van Rensburg Portion 42: JVR Boerdery (Pty) Ltd (Directors are Jakobus Christo Janse van Rensburg (Snr) and Jakobus Christo Janse van Rensburg (Jnr))		
Name of the contact person for the land owner (if other):	JC Janse van Rensburg		
Postal address:	PO Box 125		
	Uniondale	Postal code:	6460
Telephone:	082 922 3889	Cell:	079 840 5881
E-mail:	otterswem@hilbert.co.za	Fax:	( )
Person in control of land:	Same as above		
Contact person:			
Postal address:			
		Postal code:	
Telephone:	( )	Cell:	
E-mail:		Fax:	( )

Please note:

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

A certified copy of the applicant's (if natural person), alternatively a director's (as defined), Identity Document must be attached to the application.

A certified copy of the title deed of the property/s on which the unlawful listed activity/ies has commenced must be attached to the application.

Municipality in whose area of jurisdiction the activity falls:	George Local Municipality		
Contact person, if known:	Priscilla Burgoyne		
Postal address:	P.O. Box 19		
	George	Postal code:	6530
Telephone	(044) 801 9156	Cell:	
E-mail:	pburgoyne@george.gov.za	Fax:	( )

Please note:

In instances where there is more than one Municipality involved, please attach a list of Municipalities with their respective contact details to the form.

Property location(s):	Buffels Rivier, Ward 25 (Uniondale), George Municipality, Western Cape
Farm/Erf name(s) & number(s) including portion(s)	Portion 42 and Portion 34 of Farm 46 Buffels Rivier
Property size(s) (m^2)	290.98 ha (portion 42) and 209.68 ha (portion 34)
Development footprint size(s) (m^2)	1.90 ha (enlarged dam on portion 42) 0.68 ha (offstream dam on portion 34)
SG21 Digit code(s)	C02700000000004600042 C02700000000004600034

Property boundary (Portion 42):

Point	Latitude (S)	Longitude (E)
1. Northern Boundary	33° 42' 40.33" South	22° 45' 52.09" East
2. Southern Boundary	33° 43' 54.99" South	22° 46' 8.25" East
3. Eastern Boundary	33° 43' 37.78" South	22° 46' 48.13 " East
4. Western Boundary	33° 43' 12.78" South	22° 45' 11.81" East

Property boundary (Portion 34):

Point	Latitude (S)	Longitude (E)
1. Northern Boundary	33° 41' 4.27" South	22° 44' 54.41" East
2. Southern Boundary	33° 43' 25.88" South	22° 46' 24.49" East
3. Eastern Boundary	33° 43' 5.29" South	22° 46' 40.18" East
4. Western Boundary	33° 42' 30.56" South	22° 45' 3.72" East

The co-ordinates for the site boundary are (Portion 42):

Point	Latitude (S)	Longitude (E)
1. Northern Boundary	33° 43' 30.29"South	22° 46' 40.79"East
2. Southern Boundary	33° 43' 35.80"South	22° 46' 42.81"East
3. Eastern Boundary	33° 43' 34.33"South	22° 46' 45.85"East

4.	Western Boundary	33°	43'	32.73"South	22°	46'	38.57"East

The co-ordinates for the site boundary are (Portion 34):

Point		Latitude (S)			Longitude (E)		
1.	Northern Boundary	33°	42'	56.98"South	22°	46'	25.33"East
2.	Southern Boundary	33°	43'	0.21" South	22°	46'	25.83"East
3.	Eastern Boundary	33°	42'	58.48"South	22°	46'	27.12"East
4.	Western Boundary	33°	42'	59.21"South	22°	46'	23.99"East

Please note:

Where numerous properties/sites are involved (e.g. linear activities), attach a list of property descriptions and street addresses to the consultation form.

Street address:	Portion 42 and Portion 34 of Farm 46 Buffelsrivier, Ward 25 (Uniondale), George Municipality, Western Cape		
Magisterial District or Town:	George		
Closest City/Town:	Uniondale	Distance	30 (km)
Zoning of Property:	Agriculture 1		

Please note:

In instances where there is more than one zoning applicable, please attach a list or map of the properties indicating their respective zoning to the Application Form.

Was the property rezoned after commencement of activities?		~~YES~~	NO
If yes, what was the previous zoning?			
N/A			
Is a rezoning application required?		~~YES~~	NO
Is a consent use application required?		~~YES~~	NO
Locality map:	A locality map must be attached to the Application Form as an appendix. The scale of the locality map must be at least 1:50 000. For linear activities 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: • 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; • the prevailing wind direction; and • GPS co-ordinates (Indicate the position of the proposed activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS-84 spheroid in a national or local projection)		
Landowner(s) Consent:	If the applicant is not the owner or person in control of the land on which the activity has been undertaken, he/she must obtain written consent from all landowners or persons in control of the land (of the site and all alternative sites). This must be attached to this document as Appendix G. Such consent must indicate whether or not the owner or person in control of the land would support approval of the application and that the land need not be rehabilitated. **Note:** The consent of the landowner or person in control of the land is not required for: a) linear activities; b) an activity directly related to prospecting or exploration of a mineral and petroleum resource or extraction and primary processing of a mineral resource; or c) strategic integrated projects ("SIPs") as contemplated in the *Infrastructure Development Act, 2014 (Act No. 23 of 2014)*.		

2. APPLICATION HISTORY

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

Has any national, provincial or local authority considered any development applications on the property previously?	~~Yes~~	No
If so, please give a brief description of the type and/or nature of the application/s as well as a reference number, if applicable: (In instances where there was more than one application, please attach a list of these applications)		
N/A		
Which authority considered the application:		
N/A		
Has any one of the previous application/s on the property been approved **or** refused? If so provide a list of the successful and unsuccessful application/s and the reasons for decision(s).	~~Yes~~	~~No~~
N/A		
Provide detail on the period of validity of decision and expiry dates of the above applications/ permits etc.		
N/A		

SECTION B: ACTIVITY INFORMATION

1. ACTIVITIES APPLIED FOR

I hereby apply in terms of section 24G of the National Environmental Management Act (Act 107 of 1998) for the regularisation of the unlawful commencement or continuation of the listed or waste management activities as specified in Section B:1 below.

Applicant (Full names): _____ **Signature:** _____

Place: _____ **Date:** _____

EAP (Full names): Janet Ebersohn **Signature:** _____

Place: Sedgefield **Date:** 03/03/2023

All listed activities associated with the development must be indicated below.

1.1 Applicable EIA listed activities

ECA EIA Contraventions: between 08 September 1997 and end of 09 May 2002			
Activities commenced with on or after 08 September 1997 and before end 09 May 2002: EIA regulations promulgated in terms of the ECA, Act 73 of 1989			
Government Notice No. ("GN") R1182 Activity No(s):	Describe the relevant listed activity/ies in writing as per GN No. 1182 of 1997	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
ECA EIA Contraventions: between 10 May 2002 and end of 02 July 2006			
Activities unlawfully commenced with on or after 10 May 2002 and before end 02 July 2006: EIA regulations promulgated in terms of the ECA, Act 73 of 1989,			
N/A			
NEMA EIA Contraventions: between 03 July 2006 and end of 01 August 2010			
Activities unlawfully commenced with on or after 03 July 2006 and before end 01 August 2010: EIA regulations promulgated in terms of the NEMA			
GN R386 Activity No(s): **(Listing Notice 1 of 2006)**	Describe the relevant listed activity/ies in writing as per GN No. R. 386 of 2006 ("NEMA 2006 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			

Government Notice No. R387 Activity No(s): **(Listing Notice 2 of 2006)**	Describe the relevant listed activity/ies in writing as per GN No. R. 387 of 2006 ("NEMA 2006 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
NEMA EIA Contraventions: between 02 August 2010 and end of 07 December 2014			
Activities unlawfully commenced with on or after 02 August 2010 and before end 07 December 2014: EIA regulations promulgated in terms of the NEMA, Act 107 of 1998,			
GN No. R. 544 Activity No(s): **(Listing Notice 1 of 2010)**	Describe the relevant listed activity(ies) in writing as per GN No. R. 544 of 2010 ("NEMA 2010 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
GN No. R. 545 Activity No(s): **(Listing Notice 2 of 2010)**	Describe the relevant listed activity/ies in writing as per GN No. R. 545 of 2010. (NEMA 2010 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
GN No. R. 546 Activity No(s): **(Listing Notice 3 of 2010)**	Describe the relevant listed Activity(ies) in writing as per GN No. R. 546 of 2010	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
NEMA EIA Contraventions: on or after 08 December 2014			
Activities unlawfully commenced with on or after 08 December 2014: EIA regulations promulgated in terms of the NEMA, Act 107 of 1998,			
GN No. R. 327 Activity No(s): **(Listing Notice 1 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.327 of 2014 ("NEMA 2014 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
12(i)(a)	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	The owner of Portion 42/46 Farm Buffelsrivier enlarged an instream dam in 2017 from a volume of approximately 4000 m^3 to 49861 m^3. The enlargement was also meant to replace storage in a dam downstream of approximately 5600 m^3 which is no longer being used. The enlarged dam is on a network of non-perennial drainage lines with a small unchanneled valley-bottom wetland downstream. The affected watercourse is a tributary of the Kammanassie River in quaternary catchment J34C. The enlarged dam is located in habitat classified as Critical Biodiversity Area according to the Western Cape Biodiversity Spatial Plan. The new dam constructed on Portion 34/46 is classified as offstream. The clearance of vegetation and excavation of soil required for the construction of the offstream dam has commenced. The surface area of the	2014/2017

		dam is 0.68 ha.	
13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	The new dam constructed on Portion 34 is classified as off-stream, with a capacity of 20145 cubic meters. The enlarged dam on Portion 42 is classified as an in-stream dam, with a capacity of 49861 cubic meters. Listed activity 13 is applicable to off-stream storage and therefore does not include the combined capacity of the dams of 70861 cubic meters, but only the off-stream dam capacity of 20145 which is under the 50000 cubic meter threshold.	2014/2017
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Construction phase impacts included the dam excavation and vegetation removal. In the dam basin for the enlarged dam, approximately 3m depth of soil was removed and used for the dam embankment, and approximately 0.9 ha of indigenous riparian vegetation was cleared. Downstream of the enlarged dam soil and rocks were discarded into small areas of two watercourses.	2017
27	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— (i) the undertaking of a linear activity; or maintenance purposes undertaken in accordance with a maintenance management plan.	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The off-stream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The combined removal of vegetation resulted in more than 1 ha of indigenous vegetation removed.	2014/2017
48(ii)(a)	The expansion of— (i) infrastructure or structures where the physical footprint is expanded by 100 square	The owner of Portion 42/46 Farm Buffelsrivier enlarged an instream dam in 2017 from a volume of approximately 4000 m^3 to 49861 m^3. The enlargement	2017

	metres or more; or (ii) dams or weirs, where the dam or weir, including infrastructure and water surface area, is expanded by 100 square metres or more; where such expansion occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	was also meant to replace storage in a dam downstream of approximately 5600 m^3 which is no longer being used	
66	The expansion of a dam where— (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 (ii) where the high-water mark of the dam will be increased with 10 hectares or more.	The height of the instream enlarged dam wall was increased by 5 meters. The original height of the dam wall was 4 meters.	2017
GN No. R. 325 Activity No(s): **(Listing Notice 2 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.325 of 2014 ("NEMA 2014 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
Activity 16	The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more	The height of the instream enlarged dam wall was increased by 5 meters. The original height of the dam wall was 4 meters. The total height of the dam wall is now 9m.	2017
GN No. R. 324 Activity No(s): **(Listing Notice 3 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.324 of 2014	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
Activity 12 (i)Western Cape (ii)	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. **(i) Western Cape** i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The instream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The combined removal of vegetation resulted in more than 1 ha of indigenous vegetation removed. The dams are located in a critical biodiversity areas identified in bioregional plans.	2014/2017

	2004; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.		
Activity 14 (i)(a) (i)Western Cape (i)(dd)(ff)	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; **Western Cape** i. Outside urban areas: (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The instream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The Biodiversity Spatial Plan has identified important remaining biodiverse sites across the province and indicates that dams and specifically the receiving environment are within sensitive areas. The dams are located in Critical Biodiversity Area 1 (Terrestrial) with areas downstream of the enlarged instream dam classified as Ecological Support Area 2.	2017

Please ensure that you have provided the similarly listed activities if the listed activities were commenced before the period the EIA Regulations came into effect, i.e. before 08 December 2014.

1.2 Applicable Waste Management Activities

List the relevant waste management activity/ies applied for:

Waste Management Activity Contraventions: On or after 03 July 2007 up to end of 28 November 2013			
Activities unlawfully commenced with in terms of GNR 718 of 03 July 2009 under the National Environmental Management Waste Act, Act 59 of 2008			
GN No. 718 – Category A Activity No(s):	Describe the relevant Category A waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			
GN No. 718 – Category B Activity No(s):	Describe the relevant Category B waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			

Waste Management Activity Contraventions: On or after 29 November 2013			
Activities unlawfully commenced with in terms of GNR 921 of 29 November 2013 under the National Environmental Management Waste Act, Act 59 of 2008,			
GN No. 921 - Category A Activity No(s):	Describe the relevant Category A waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			
GN No. 921 – Category B Activity No(s):	Describe the relevant Category B waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			

Please note:

The National Department of Environmental Affairs is the competent authority for activities regarded as hazardous waste. Such activities must be indicated as hazardous waste in the abovementioned lists.

Only those activities listed above shall be considered for authorisation. 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, an application for amendment or a new application for Environmental Authorisation will have to be submitted.

1.3 Activities listed similarly in terms of the EIA Regulations

Kindly indicate the listed activities in terms of the EIA Regulations that is listed similar to the unlawfully commenced activities. The descriptions provided below must clearly state why the activity/development is still similarly listed in terms of the EIA Regulations, 2014.

The similarly listed activities in terms of the EIA Regulations promulgated in terms of the NEMA, Act 107 of 1998,		
GN No. R. 327 Activity No(s): **(Listing Notice 1 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.327 of 2014 ("NEMA 2014 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.
12(i)(a)	The development of— (iii) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (iv) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (d) within a watercourse; (e) in front of a development setback; or (f) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	The owner of Portion 42/46 Farm Buffelsrivier enlarged an instream dam in 2017 from a volume of approximately 4000 m^3 to 49861 m^3. The enlargement was also meant to replace storage in a dam downstream of approximately 5600 m^3 which is no longer being used. The surface area of this dam (Groot Dam) is 1.96Ha. The enlarged dam is on a network of non-perennial drainage lines with a small unchanneled valley-bottom wetland downstream. The affected watercourse is a tributary of the Kammanassie River in quaternary catchment J34C. The enlarged dam is located in habitat classified as Critical Biodiversity Area according to the Western Cape Biodiversity Spatial Plan. The new dam constructed on Portion 34/46 is classified

		as offstream. The clearance of vegetation and excavation of soil required for the construction of the offstream dam has commenced. The surface area of this dam (Kop Dam) is 0.68 ha.
13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	The new dam constructed on Portion 34 is classified as offstream, with a capacity of 21000 cubic meters. The enlarged dam on Portion 42 is classified as an instream dam, with a capacity of 49861 cubic meters. The dams have a combined capacity of 70861 cubic meters.
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Construction phase impacts included the dam excavation and vegetation removal. In the dam basin for the enlarged dam, approximately 3m depth of soil was removed and used for the dam embankment, and approximately 0.9 ha of indigenous riparian vegetation was cleared. Downstream of the enlarged dam soil and rocks were discarded into small areas of two watercourses.
27	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— (ii) the undertaking of a linear activity; or maintenance purposes undertaken in accordance with a maintenance management plan.	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The instream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The combined removal of vegetation resulted in more than 1 ha of indigenous vegetation removed.
48(ii)(a)	The expansion of— (iii) infrastructure or structures where the physical footprint is expanded by 100 square metres or more; or (iv) dams or weirs, where the dam or weir, including infrastructure and water surface area, is expanded by 100 square metres or more; where such expansion occurs— (a) within a watercourse;	The owner of Portion 42/46 Farm Buffelsrivier enlarged an instream dam in 2017 from a volume of approximately 4000 m^3 to 49861 m^3. The enlargement was also meant to replace storage in a dam downstream of approximately 5600 m^3 which is no longer being used

	(b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	
66	The expansion of a dam where— (iii) 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 where the high-water mark of the dam will be increased with 10 hectares or more.	
GN No. R. 325 Activity No(s): **(Listing Notice 2 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.325 of 2014 ("NEMA 2014 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.
16	The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more	The height of the instream enlarged dam wall was increased by 5 meters. The original height of the dam wall was 4 meters.
GN No. R. 324 Activity No(s): **(Listing Notice 3 of 2014)**	Describe the relevant listed activity(ies) in writing as per GN No. R.324 of 2014	Describe the portion of the development as per the project description that relates to the applicable listed activity.
Activity 12 (i)Western Cape (ii)	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. **(i) Western Cape** i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The instream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The combined removal of vegetation resulted in more than 1 ha of indigenous vegetation removed. The dams are located in a critical biodiversity areas identified in bioregional plans.

	or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister	
Activity 14 (i)(a) Western Cape (i)(dd)(ff)	The development of— (iii) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (iv) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; **Western Cape** ii. Outside urban areas: (ee) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	The instream dam on portion 42 required approximately 0.9 ha of indigenous riparian vegetation cleared. The instream dam on portion 34 required approximately 0.68 ha of indigenous vegetation cleared. The Biodiversity Spatial Plan has identified important remaining biodiverse sites across the province and indicates that dams and specifically the receiving environment are within sensitive areas. The dams are located in Critical Biodiversity Area 1 (Terrestrial) with areas downstream of the enlarged instream dam classified as Ecological Support Area 2.

Please note:

Where approvals for the activity have been obtained in terms of any other legislation (e.g. National Water Act, Act 36 of 1998), certified copies of such approvals must be attached to this form.

2. ACTIVITY DESCRIPTION

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

Is/are the activity(ies) complete or is/are the activity(ies) still to be completed?	Completed	~~Incomplete~~
(a) Is/was the project a new development or an upgrade of an existing development? Also indicate the date (e.g. 2 August 2010) when the activity commenced as well as the original date of commencement if the application is an upgrade.	New	Upgrade

Upgrade - The owner of Portion 42/46 Farm Buffelsrivier enlarged an instream dam, known as Groot Dam, in 2017 from a volume of approximately 4000 m^3 to 49861 m^3. The enlargement was also meant to replace storage in a dam downstream of approximately 5600 m^3 which is no longer being used.

The original two dams were clearly evident in the 2004 image (Figure 1). The two dams collectively impound the network of streams arising in the hills forming the extent of their catchment to the south. The image from 2014 indicates when the upstream of the two dams was enlarged, with an overlay of the approximate size of the original dam (Figure 1). The enlarged dam subsequently

intercepts water from all the streams except a small inflow immediately upstream of the lower dam. While the upstream dam in its enlarged state has largely replaced the lower dam in terms of storage, a small volume of water is still retained in the lower of the two dams[1].

Figure 1: Historical aerial photos of the project area pre- and post-enlargement.

The enlargement of the Groot Dam is motivated to store the water that can be regarded as Existing Lawful Water Use and it combine two existing small dams, however the capacity was increased from a total combined capacity of 9 000m^3 to 49 861m^3. The water to fill the dam is mainly diverted from a "sloot" in the Klein Rivier that is regulated by means of a "beurt" allocation system. The storage will provide a buffer during high summer when water is not necessarily available from the "sloot" for the irrigation of permanent crops and vegetables when required.

New - The offstream dam known as Kop Dam on Portion 34/46 was newly constructed in 2014 with a storage capacity of 20145 m^3.

The water assurance during periods of low flows in the Kamanassie Rivier will provide buffer storage in the Kop Dam. The water will be taken directly from the Kamanassie during high flow conditions to store a volume of 20 145m^3 in the Kop Dam. This will increase the water surety for the irrigation of permanent crops on Portion 34 of farm Buffels Rivier 46, George.

The water to fill the Kop Dam is taken from the Kamanassie Rivier according to a historic water use. The allocation of 108 000m^3 /a can be regarded as Existing Lawful Water Use.

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

The enlargement of the instream dam (Groot Dam) on Portion 42 of 46 was completed in 2017. Earthmoving vehicles were required to excavate sediment from the enlarged dam's basin, clear vegetation, and extend the dam wall. Approximately 0.9 ha of riparian vegetation was cleared during the excavation, and soil up to 3 m deep was excavated from the dam basin for use in the dam wall. The impacts were considered a Moderate Negative according to the Aquatic Assessment (Appendix H). The enlarged dam is instream on a network of tributaries of the Kammanassie River. The original dam (pre-enlargement) impounded one tributary while the enlarged dam includes a second tributary. However, the latter was historically impounded by an existing dam a short distance (approximately 200m) downstream. An historical allocation of water from the Klein River is now transferred approximately 2.2km via a gravity-fed pipeline into the

[1] Aquatic Specialist Assessment for a Section 24G and WULA for an Enlarged Dam on Farm Buffelsrivier 42/46 and 34/46, George, Dr. Jackie Dabrowski of Confluent Aquatic Consulting & Research, August 2022.

enlarged dam for storage. The small dam located downstream of the enlarged dam has an outlet in the wall which is permanently open to ensure no water is being stored in the dam.

Figure 2: Enlargement of Groot Dam by the landowner in September 2017.

Figure 3: Groot Dam after construction in July 2022.

The primary purpose of enlarging the dam was to increase capacity to store water from the existing Klein River allocation of water. The dams on Portion 42 of 46 are lower in altitude than the abstraction point in the Klein River, which presented an opportunity to transfer the water via gravity feed to the dam that was subsequently enlarged. The registered volume for abstraction from the Klein River is 37 500 m^3. From the abstraction point in the Klein River to the confluence with the Kammanassie River is a neighbouring property, which is not owned by JVR Farming. Therefore, constructing a dam either instream or offstream on the Klein River would not have been an option. The original size of both dams on Portion 42 of 46 was too small to accommodate the volume of storage required for the Klein River allocation, necessitating enlargement of one of the dams[2].

[2] Aquatic Specialist Assessment for a Section 24G and WULA for an Enlarged Dam on Farm Buffelsrivier 42/46 and 34/46, George, Dr. Jackie Dabrowski of Confluent Aquatic Consulting & Research, August 2022.

Figure 4: Enlarged dam shown pre- and post-construction with impacted aquatic habitat overlaid. Green = riparian vegetation, yellow = enlarged dam footprint, Orange = sand discard in wetland, and, Red = rock discard in drainage line.

Additional impacts identified that are associated with the enlargement of the dam is the discarding of rock into the drainage line as shown in figure 3 below, which has subsequently seized on inspection of the dam wall on 27 July 2022. It was also noted that the small river crossing over the drainage line could possibly be a heritage structure (figure 4).

Figure 5: Discarded rock in drainage line.

Figure 6: Area of dumped soil upstream of a wetland.

Figure 7: Existing access to dam wall over historical river crossing.

In 1992 the two dams are evident, but the historical photographic record doesn't provide confirmation of when exactly they were constructed. In 1942 neither of the dams was present, but the original road route was very distinct, and a heritage type river crossing is still present at the location indicated by the arrow in Figure 6[3].

[3] Aquatic Specialist Assessment for a Section 24G and WULA for an Enlarged Dam on Farm Buffelsrivier 42/46 and 34/46, George, Dr. Jackie Dabrowski of Confluent Aquatic Consulting & Research, August 2022.

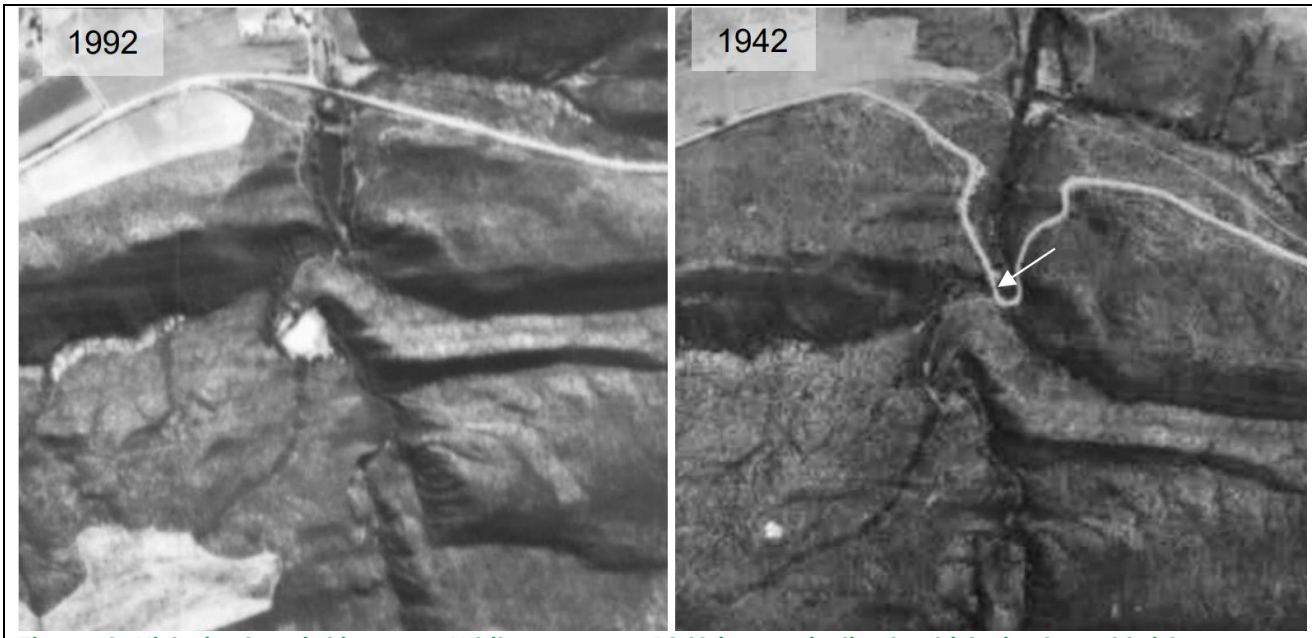


Figure 8: Historical aerial images. White arrow on 1942 image indicates historical road bridge.

The construction of the **Kop Dam** was completed in 2014. The Kop Dam can be regarded as an off-channel dam and it was confirmed that no freshwater features were impacted during the construction of the dam. The Freshwater Specialist confirmed that the Kop Dam falls outside any natural water features and no impacts can be expected. The Kop Dam is filled with water taken from the Kammanassie River. The dam will be filled from an existing abstraction point on the Kammanassie River and the taking of water can be regarded as Existing Lawful Water Use[4]. Kop Dam do not have the potential to catch natural run-off water. Water was historically since 1984 taken from the Kammanassie River and this practise has not been increased or changed.

There is an existing single track farm road to the dam. Associated infrastructure include two water pipes - a pipe from Kop dam gravity feeds to the irrigated areas below for crops. Another water pipe pumps water from the Kammanassie River to Kop Dam using solar power. The irrigation from the Kop Dam is done via gravity that has a saving on electricity and limit the loadshedding effect on the farming activities.

Figure 9: Water Pipelines for Kop Dam.

[4] Water Use Authorisation Report by Hester Lyons, November 2022.

(c) Please provide details of all components of the activity and attach diagrams (e.g. architectural drawings or perspectives, engineering drawings, process flow charts etc.).		
Buildings	~~YES~~	NO
Provide brief description:		
Infrastructure (e.g. roads, power and water supply/ storage)	YES	~~NO~~
Provide brief description:		
Processing activities (e.g. manufacturing, storage, distribution)	~~YES~~	NO
Provide brief description:		
Storage facilities for raw materials and products (e.g. volume and substances to be stored)		
Provide brief description	~~YES~~	NO
Storage and treatment facilities for solid waste and effluent generated by the project	~~Yes~~	No
Provide brief description		

(d) Other activities (e.g. water abstraction activities, crop planting activities)	Yes✓	~~No~~
Provide brief description		

The property is in a re-development phase where a more secure water source will be required. The applicant has transformed the historic grazing areas into permanent fruit crops and summer vegetables cultivation. The storing of water in the **Groot Dam** will increase the water security for the sustainable development of Portion 42 of farm Buffels Rivier 46, George.

The storing of water in the Groot Dam is critical to the successful development of the property that includes the cultivation of permanent fruit crops. The storage dam will increase the water surety which will provide a buffer on the water availability from the Klein Rivier. Water is not always available during summer for the irrigation of the agriculture crops.

A crop/water requirement of 5 000 m^3 /ha/a was published in the Government Gazette dated 25 May 1984 that specify that a maximum quantity of 5 000m^3 of water may be abstracted annually for the irrigation of each hectare of land. It was estimated that an area of 21ha was irrigated during the field survey performed by Schoeman& Associates in 1984 and that Portion 42 of farm Buffels Rivier 46 has a potential of irrigation area on the property of 48,8ha[5].

Currently there is a total of 20 ha irrigation area of the following crops:

- Pomegranate 2ha
- Nectarines 2ha
- Summer vegetables 16ha

[5] Water Use Authorisation Report by Hester Lyons, November 2022.

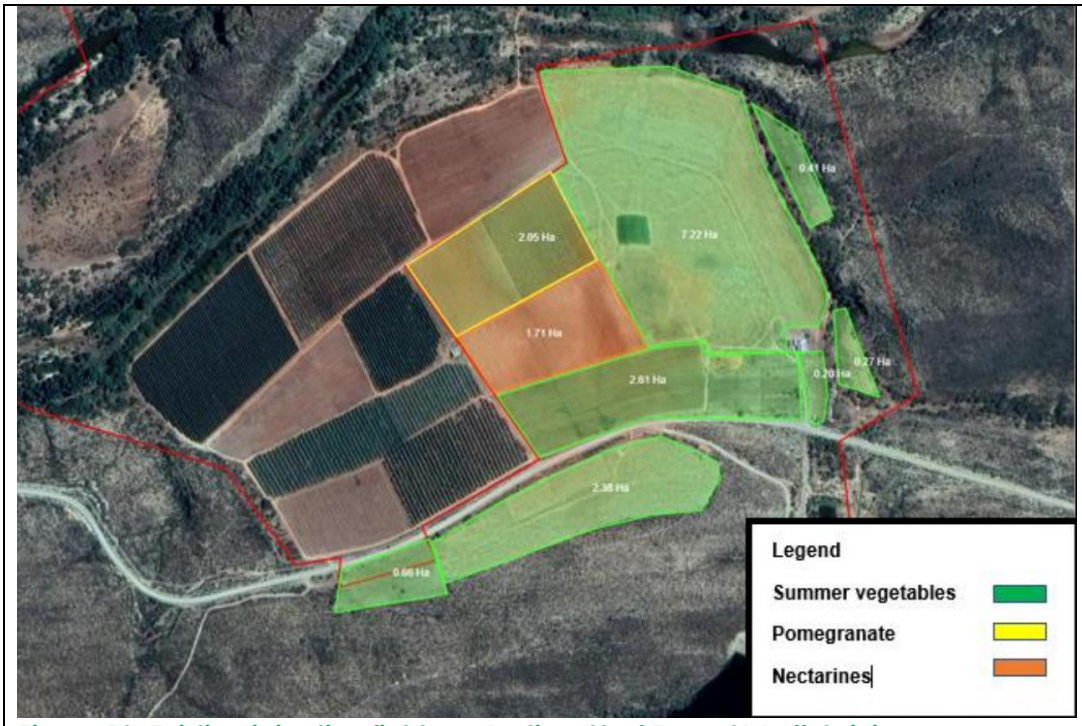


Figure 10: Existing irrigation fields on Portion 42 of Farm 46 Buffelsrivier.

The storing of water in the **Kop Dam** is critical to the successful fruit orchard development on Portion 34 of farm Buffels Rivier 46, George. The existing irrigation areas were in the recent year planted with permanent crops that required a more secure water source during certain growing seasons. The storage will only provide a buffer volume of 20 145m^3 for when no water is available in the Kamannassie River during high summer times. Irrigation for 11.5 ha of fruit trees is required[6].

The irrigation from the Kop Dam can be done via gravity that has a saving on electricity and limit the loadshedding effect on the farming activities.

Figure 11: Existing irrigation fields on Portion 34 of Farm 46 Buffelsrivier.

[6] Water Use Authorisation Report by Hester Lyons, November 2022.

3. PHYSICAL SIZE OF THE ACTIVITY

Groot Dam Indicate the physical spatial size of the activity as well as associated infrastructure (footprints):	19600 m²
Indicate the area that has been transformed / cleared to allow for the activity as well as associated infrastructure	9000 m²
Total area:	19600 m²
Kop Dam Indicate the physical spatial size of the activity as well as associated infrastructure (footprints):	8400 m²
Indicate the area that has been transformed / cleared to allow for the activity as well as associated infrastructure	8400 m²
Total area:	8400 m²

4. SITE ACCESS

Was there an existing access road?	YES✓	~~NO~~
If NO, what was the distance over which the new access road was built? Please indicate the length and width of the new road.	(Length)	m
	(width)	m
Describe the type of access road constructed:		
N/A		

Please Note:

Indicate the position of the access road on the site plan (See Section 5 below)

5. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken of the site and from the site), both before (if available) and after the activity commenced, with a description of each photograph, must be attached to this application. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide past and recent aerial photographs. It should be supplemented with additional photographs of relevant features on the site. Date and source of photographs must be included. Photographs must be attached as an **appendix** to this form.

Please note:

Should the relevant photographs not be included in the application, the application may be deemed insufficient and further information in this regard will be requested.

6. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

LEGISLATION	ADMINISTERING AUTHORITY	TYPE Permit/ license/ authorisation/comment	DATE (if already obtained):
Water Act 1998	BGCMA	WULA 21(b), (c) & (i)	In process

POLICY/ GUIDELINES	ADMINISTERING AUTHORITY
The control of surface water sources in the Olifants River (Oudtshoorn) GWCA, published in terms of GN 2180 dated 2 October 1987.	BGCMA Stompdrift/Kammanassie WUA

7. APPLICATIONS IN TERMS OF NEMA AND SPECIFIC ENVIRONMENTAL MANAGEMENT ACTS ("SEMAs")

If not specifically applied for in terms of this application, does the development require an application for a waste management license in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)?	~~YES~~	NO
If yes, has an application been submitted to the licensing authority?	~~YES~~	~~NO~~

Does the proposed project require an application for a water use license in terms of the National Water Act, 1998 (Act No. 36 of 1998)?	YES	~~NO~~
If yes, has an application been submitted to the licensing authority?	YES	~~NO~~
If no, please provide evidence of existing water use rights (if applicable) with this application form.		
Does the proposed project require an application for an atmospheric emissions license in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)?	~~YES~~	NO
If yes, has an application been submitted to the licensing authority?	~~YES~~	~~NO~~
Does the proposed project require an application in terms of the National Environmental Management: Integrated Coastal Management Act ("NEM: ICMA")?	~~YES~~	NO
If yes, has an application been submitted to the relevant competent authority?	~~YES~~	~~NO~~
If yes, provide more details of the application submitted/to be submitted in terms of the NEM: ICMA		

8. APPLICATIONS IN TERMS OF OTHER LEGISLATION

Is any permission, licence or other approval required in terms of any other legislation? (Please tick)	~~YES~~	NO

If yes, please complete the table below:

Type of approval required (List the applicable legislation & approval required):	Name of the authority responsible for administering the applicable legislation	Application submitted (Yes / No)	Status of application (e.g. pending/ granted/ refused)
Water National Water Act 1998	BGCMA	Yes	Pending

SECTION C: DESCRIPTION OF RECEIVING ENVIRONMENT

Site/Area Description

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

Section C Copy No. (e.g. 1, 2, or 3): 1

Groot Dam

1. THE GEOLOGICAL FORMATIONS UNDERLYING THE SITE (Tick the appropriate box)

~~GRANITE~~		~~QUARTZITE~~	
SHALE	✓	~~DOLOMITE~~	
SANDSTONE	✓	~~DOLERITE~~	
OTHER (specify)	Clays and loams derived from Bokkeveld (and Witteberg) Group shales. Fossiliferous shales, mudstones and siltstones of the Devonian Bokkeveld Group (Ceres and Traka Subgroups). Also present are mudstones and sandstones as well as subordinate shale of the Kirkwood Formation together with conglomerates of the Enon Formation (both of the Mesozoic Uitenhage Group)		

2. GRADIENT OF THE SITE

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

~~Flat~~	~~Flatter than 1:10~~	1:10 – 1:5 ✓	Steeper than 1:5 ✓

3. LOCATION IN LANDSCAPE

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

~~Ridgeline~~	~~Plateau~~	~~Side slope of hill/mountain~~	~~Closed valley~~	Open valley✓	~~Plain~~	~~Undulating plain/low hills~~	~~Dune~~	~~Sea-front~~	~~Other~~
Groot Dam is located in a valley.									

4. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

4.1 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (PRE-COMMENCEMENT)

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

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

4.2 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (POST-COMMENCEMENT)

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

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department.
(Information in respect of the above will often be available at the planning sections of local authorities. Where it does not exist, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

5. SURFACE WATER

5.1 SURFACE WATER (PRE-COMMENCEMENT)

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

Perennial River	~~YES~~	NO✓	UNSURE
Non-Perennial River	YES✓	~~NO~~	UNSURE
Permanent Wetland	YES✓	~~NO~~	UNSURE
Seasonal Wetland	~~YES~~	NO✓	UNSURE
Artificial Wetland	YES✓	~~NO~~	UNSURE
Estuarine / Lagoonal wetland	~~YES~~	NO✓	UNSURE

5.2 SURFACE WATER (POST-COMMENCEMENT)

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

Perennial River	~~YES~~	NO✓	UNSURE
Non-Perennial River	YES✓	~~NO~~	UNSURE
Permanent Wetland	YES✓	~~NO~~	UNSURE
Seasonal Wetland	~~YES~~	NO✓	UNSURE
Artificial Wetland	YES✓	~~NO~~	UNSURE
Estuarine / Lagoonal wetland	~~YES~~	NO✓	UNSURE

6. VEGETATION AND/OR GROUNDCOVER

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org.za or BGIShelp@sanbi.org.za. Information is also available on compact disc ("cd") from the Biodiversity-GIS Unit, Ph (021) 799 8738. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as an **appendix** to this form.

6.1 VEGETATION AND/OR GROUNDCOVER (PRE-COMMENCEMENT)

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

~~Indigenous Vegetation - good condition~~		Indigenous Vegetation with scattered aliens	x	~~Indigenous Vegetation with heavy alien infestation~~	
~~Describe the vegetation type above:~~		Describe the vegetation type above: Mapped vegetation type for Groot Dam is Eastern Little Karoo. There are a few scattered alien plants throughout the site.		~~Describe the vegetation type above:~~	
~~Provide ecosystem status for above:~~		Provide ecosystem status for above: Vulnerable		~~Provide Ecosystem status for above:~~	
Indigenous Vegetation in an ecological corridor ~~or along a soil boundary / interface~~		~~Veld dominated by alien species~~		~~Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe~~	
~~Bare soil~~		~~Building or other structure~~		~~Sport field~~	

~~Other (describe below)~~	~~Cultivated land~~	~~Paved surface~~

(a) Highlight the applicable pre-commencement biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category.

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	~~Ecological Support Area (ESA)~~	~~Other Natural Area (ONA)~~	~~No Natural Area Remaining (NNR)~~	The receiving environment at **Groot Dam** contains a primary aquatic Critical Biodiversity Area (CBA 1) and a secondary Wetland Critical Biodiversity Area (CBA 2). It is fringed by Terrestrial CBA.

(b) Highlight and describe the habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	83%	Remaining areas are near natural with varying degrees of alien plant infestation.
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	17%	± 30 ha Cultivated Land ± 20 ha irrigation area ± 1 ha roads Total of 51 ha

(c) Complete the table to indicate:
(i) the type of vegetation, including its ecosystem status, that was previously present on the site; and
(ii) whether an aquatic ecosystem was previously present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act,2004 (Act No. 10 of 2004)	~~Critical~~	Wetland (including rivers, depressions, channelled and un-channelled wetlands, flats, seeps pans, and artificial wetlands)			~~Estuary~~		~~Coastline~~	
	~~Endangered~~							
	Vulnerable✓							
	~~Least Threatened~~	YES✓	~~NO~~	~~UNSURE~~	~~YES~~	~~NO~~	~~YES~~	~~NO~~

(d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The mapped vegetation type at the site is Eastern Little Karoo (SKv11) which has a conservation status of Least Concern (SANBI NVM, 2018).

SKv 11 Eastern Little Karoo:
VT 25 Succulent Mountain Scrub (Spekboomveld) (51%) (Acocks 1953). LR 8 Spekboom Succulent Thicket (43%), LR 58 Little Succulent Karoo (36%) (Low & Rebelo 1996). BHU 97 Spekboom Xeric Succulent Thicket (43%), BHU 89 Oudtshoorn Broken Veld (34%) (Cowling & Heijnis 2001). STEP Blossoms Karroid Thicket (33%), STEP Calitzdorp Karroid Thicket (21%) (Vlok & Euston-Brown 2002).

Distribution Western Cape Province: Eastern basin of the Little Karoo from Calitzdorp in the west as far as Oudtshoorn in the east. The unit continues in a series of narrow belts (alternating with the Willowmore Gwarrieveld unit from the surrounds of Dysselsdorp as far west as the N2 road. A narrow belt of the Eastern Little Karoo fringes the southern flanks of the Kammanassie Mountains along the Kammanassie River as far west as Uniondale. Altitude 320–960 (most of area at 320–550 m).

Vegetation & Landscape Features Irregularly flat plains and undulating piedmont hills covered by dense succulent shrubland dominated by Aizoaceae (*Ruschia, Drosanthemum*) and Crassulaceae (*Cotyledon, Crassula, Tylecodon,*) and nonsucculent, mainly shrubs such as *Nymania, Pteronia* and *Rhus*. The spring displays of annual and geophyte flora are spectacular in years with good rain.

Geology & Soils Fossiliferous shales, mudstones and siltstones of the Devonian Bokkeveld Group (Ceres and Traka Subgroups). Also present are mudstones and sandstones as well as subordinate shale of the Kirkwood Formation together with conglomerates of the Enon Formation (both of the Mesozoic Uitenhage Group). Soils developing over these substrates are of varied structure and texture, but mainly loamy-silty and deep in places. Ag and Fc land types are equally important (and dominant) in the region.

Climate Aseasonal rainfall (MAP almost 290 mm) with slight optimum in March and pronounced dip in December to January (summer). MAT is about 17°C and frost occurs only 9 days per year. See also climate diagram for SKv 11 Eastern Little Karoo (Figure 5.65).

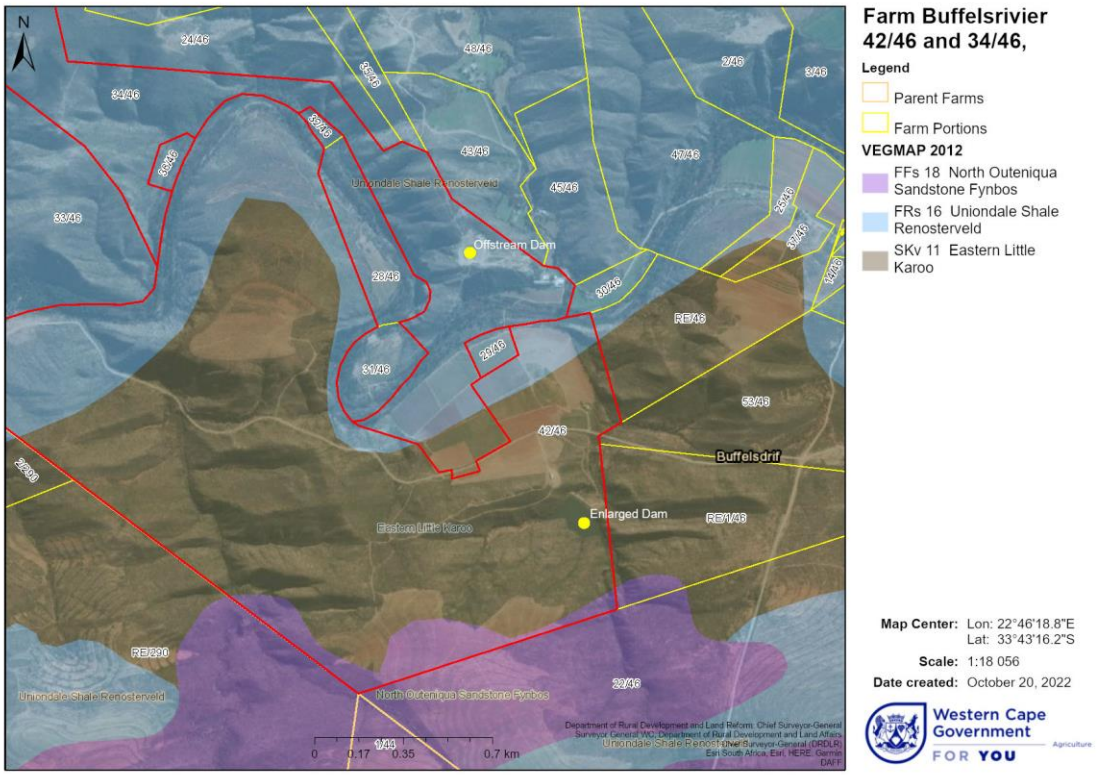
Important Taxa Succulent Tree: *Aloe ferox*. Succulent Shrubs: *Augea capensis* (d), *Leipoldtia schultzei* (d), *Tylecodon cacalioides* (d), *Cotyledon orbiculata* var. *orbiculata*, *C. tomentosa* subsp. *tomentosa*, *Crassula cultrata*, *C. nudicaulis*, *C. ovata*, *C. rupestris* subsp. *commutata*, *Drosanthemum lique*, *Euphorbia colliculina*, *E. mauritanica*, *Glottiphyllum carnosum*, *G. linguiforme*, *Lycium oxycarpum*, *Marlothistella stenophylla*, *M. uniondalensis*, *Othonna carnosa*, *Phyllobolus splendens*, *Pleiospilos compactus* subsp. *compactus*, *Ruschia grisea*, *R. spinosa*, *Smicrostigma viride*, *Tetragonia fruticosa*, *T. robusta* var. *psiloptera*, *Trichodiadema burgeri*, *Tylecodon paniculatus*, *T. wallichii* subsp. *wallichii*, *Zygophyllum morgsana*. Tall Shrubs: *Cadaba aphylla*, *Euclea undulata*, *Nymania capensis*, *Putterlickia pyracantha*, *Rhus lucida*, *R. pallens*. Low Shrubs: *Pentzia incana* (d), *Pteronia incana* (d), *Rhigozum obovatum* (d), *Aptosimum elongatum*, *Asparagus burchellii*, *A. glaucus*, *A. recurvispinus*, *Berkheya spinosa*, *Carissa haematocarpa*, *Chrysocoma ciliata*, *Elytropappus rhinocerotis*, *Eriocephalus ericoides*, *Felicia muricata*, *Galenia africana*, *G. fruticosa*, *G. secunda*, *Garuleum latifolium*, *Helichrysum asperum* var. *albidulum*, *H. simulans*, *Hermannia filifolia* var. *grandicalyx*, *Hirpicium alienatum*, *Limeum aethiopicum*, *Macledium relhanioides*, *Oedera genistifolia*, *Pegolettia baccaridifolia*, *Polygala myrtifolia*, *Pteronia flexicaulis*, *P. glauca*, *P. pallens*, *Rosenia humilis*, *Tripteris sinuata*, *Zygophyllum microphyllum*, *Z. spinosum*. Semiparasitic Shrub: *Thesium lineatum*. Woody Succulent Climbers: *Crassula perforata*, *Sarcostemma viminale*. Woody Climbers: *Asparagus racemosus*, *A. retrofractus*, *Cissampelos capensis*. Herbaceous Succulent Climber: *Othonna amplexifolia*. Herbaceous Climber: *Fockea sinuata*. Semiparasitic Epiphytic Shrub: *Viscum rotundifolium*. Herbs: *Atriplex semibaccata* var. *appendiculata*, *Chamaesyce inaequilatera*, *Galenia papulosa*, *Galium tomentosum*, *Helichrysum tinctum*, *Hermannia althaeifolia*, *H. pulverata*, *Indigofera porrecta* var. *bicolor*, *Lepidium africanum*, *L. desertorum*, *Sutera caerulea*, *Tribulus terrestris*. Geophytic Herbs: *Chlorophytum crispum*, *Drimia intricata*, *Empodium plicatum*, *Freesia refracta*, *F. verrucosa*. Succulent Herbs: *Psilocaulon junceum* (d), *Astroloba spiralis*, *Crassula capitella* subsp. *capitella*, *C. expansa* subsp. *expansa*, *C. muscosa*, *Gasteria brachyphylla*, *Haworthia truncata*, *Mesembryanthemum guerichianum*, *Psilocaulon articulatum*, *Senecio ficoides*, *Tetragonia microptera*. Graminoids: *Cynodon dactylon*, *C. incompletus*, *Ehrharta calycina*, *Pentaschistis airoides*.

Biogeographically Important Taxa (all Little Karoo endemics) Succulent Shrubs: *Carruanthus ringens*, *Gibbaeum nuciforme*, *Glottiphyllum depressum*. Low Shrub: *Berkheya cuneata*. Succulent Herb: *Crassula tecta*.

Endemic Taxa Succulent Shrubs: *Antimima brevicollis*, *Delosperma calitzdorpense*, *Drosanthemum duplessiae*, *Machairophyllum brevifolium*, *Pleiospilos compactus* subsp. *fergusoniae*, *Tanquana hilmarii*, *Tylecodon leucothrix*. Geophytic Herbs: *Albuca thermarum*, *Eriospermum crispum*, *Syringodea derustensis*. Succulent Herb: *Crassula badspoortense*.

Conservation Least threatened. Target 16%. Only very small portions are statutorily conserved in the Kammanassie and Swartberg East Nature Reserves and in some private reserves (Ortmansgat, Greylands). Much of the area has been transformed either by cultivation or dam-building (Kammanassie Dam, Stompdrift Dam). Local overgrazing can promote invasion of alien *Atriplex lindleyi* subsp. *inflata* and aggravate erosion, which is ranked moderate (76%) and high (13%).

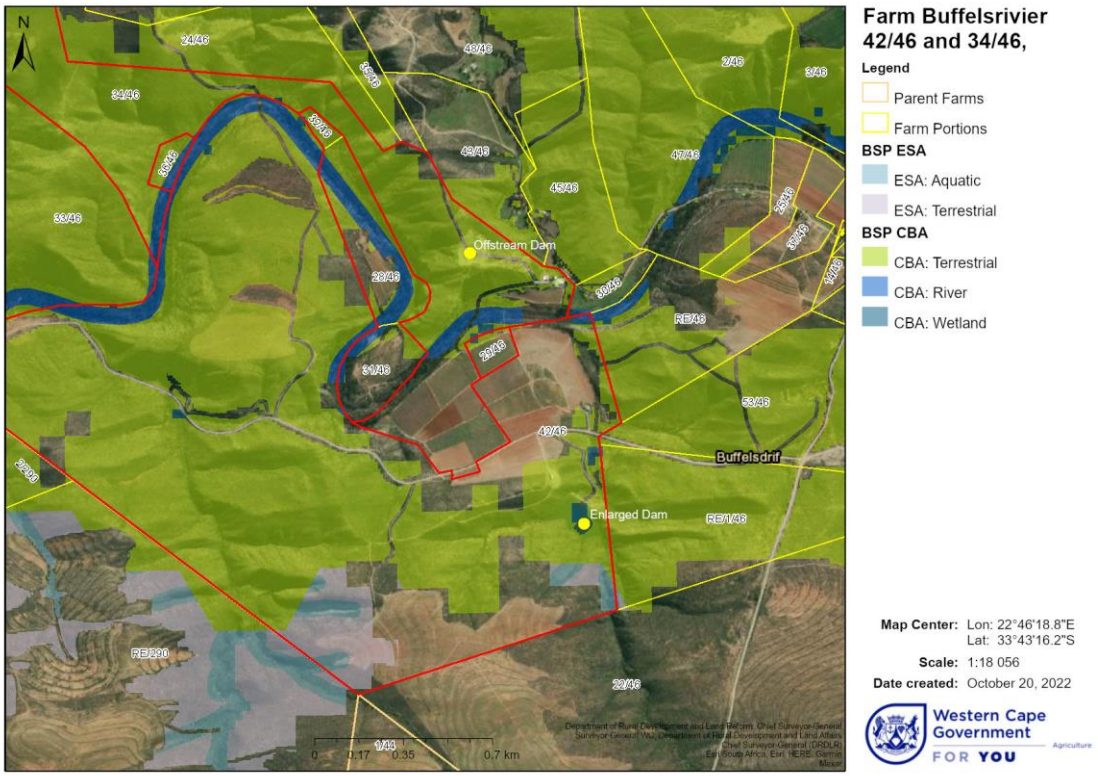
References *Van Wyk & Smith (2001), Vlok & Euston-Brown (2002), Van Jaarsveld & Van Wyk (2003), Vlok et al. (2003), Cleaver et al. (2005)*



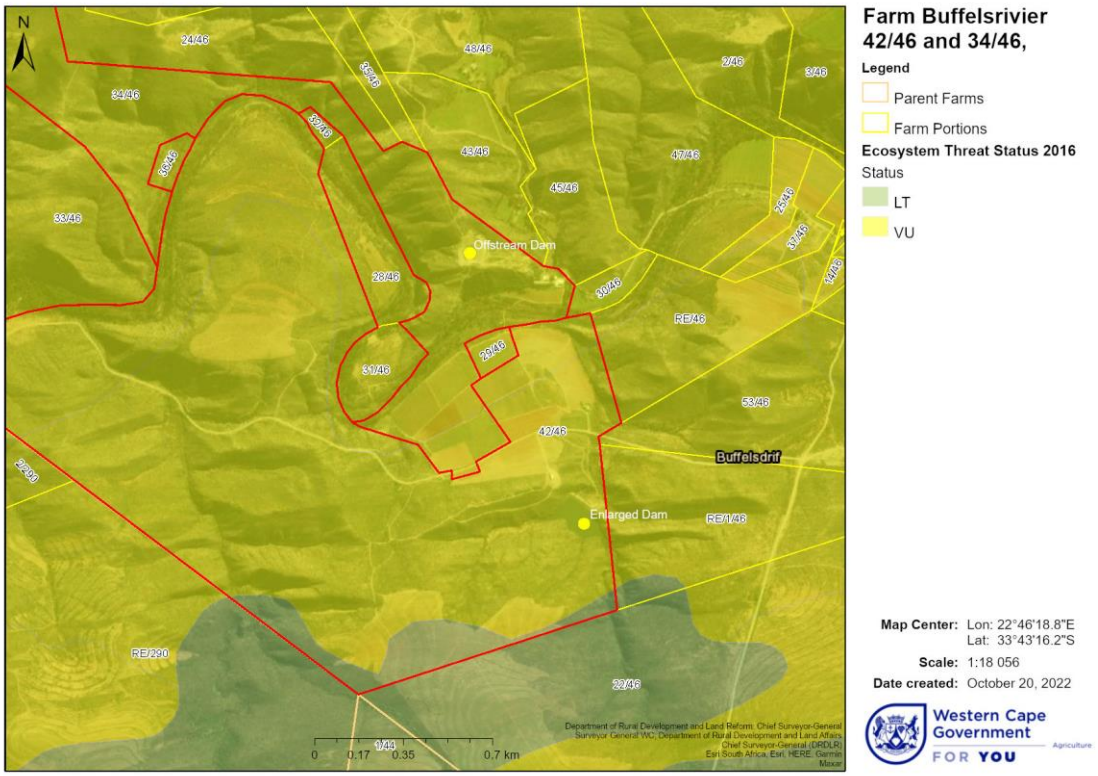
The site and immediate surrounding area are within a Terrestrial Critical Biodiversity Area (CBA) and a portion of Aquatic CBA.

Category 1:	**CBA: Terrestrial**
Category 2:	CBA: Terrestrial
Definition:	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
Objective:	Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.

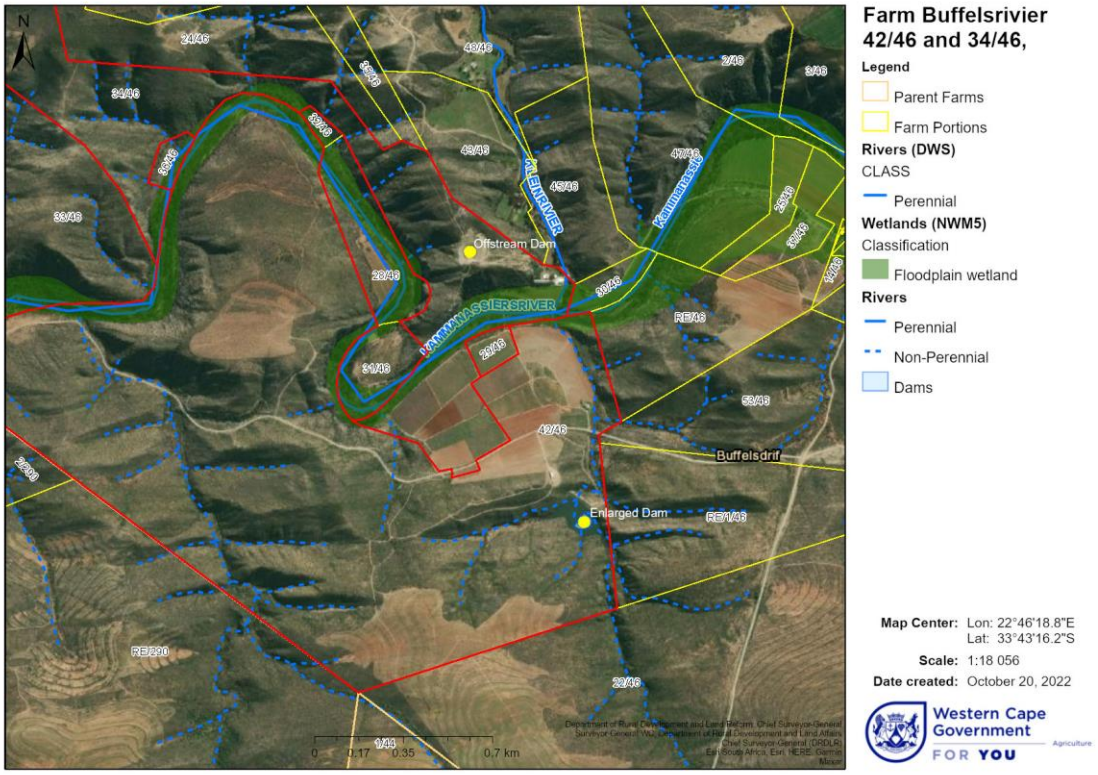
Category 1:	**CBA: Aquatic**
Category 2:	CBA: Wetland
Definition:	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
Objective:	Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.



The Western Cape Biodiversity Spatial Plan 2017 describes the Ecosystem Threat Status as Vulnerable (VU).



The instream dam that was enlarged is on a network of unnamed streams indicated as non-perennial drainage lines which historically flowed into the Kammanassie River (NGI, 1:50 000 drainage lines). The enlarged dam site is in quaternary catchment J34C.



The project area is located within the Southern Folded Mountains (Ecoregion Level 2:19.01). The terrain is described as parallel hills and low mountains with moderate and high relief. Altitude ranges between 100 – 1 300 m.a.m.s.l. The Mean Annual Precipitation (MAP) is 674 mm. Rainfall in the catchment can occur year-round, although there are bimodal seasonal peaks in autumn and spring.

6.2 VEGETATION AND/OR GROUNDCOVER (POST-COMMENCEMENT)

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

~~Indigenous Vegetation - good condition~~		Indigenous Vegetation with scattered aliens	x	~~Indigenous Vegetation with heavy alien infestation~~	
Describe the vegetation type above:		Describe the vegetation type above: Mapped vegetation type for Groot Dam is Eastern Little Karoo. There are a few scattered alien plants throughout the site.		Describe the vegetation type above:	
Provide ecosystem status for above:		Provide ecosystem status for above: Vulnerable		Provide Ecosystem status for above:	
Indigenous Vegetation in an ecological corridor or along a soil boundary / interface		~~Veld dominated by alien species~~		~~Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe~~	
~~Bare soil~~		~~Building or other structure~~		~~Sport field~~	
~~Other (describe below)~~		Cultivated land		~~Paved surface~~	

(a) Highlight and describe the post-construction habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	82%	Remaining areas are near natural with varying degrees of alien plant infestation.
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	18%	1.96 ha Dam surface area of ± 30 ha Cultivated Land ± 20 ha irrigation area ± 1 ha roads Total of 53 ha

(b) How have the vegetation and/or aquatic ecosystem(s) present on site (including any important biodiversity features identified on site (e.g. threatened species and special habitats)) been affected by the commencement of the listed activity(ies)?

The mapped vegetation type at the site is Eastern Little Karoo (SKv11) which has a conservation status of Least Concern (SANBI NVM, 2018). Plants listed for the vegetation type were consulted to determine whether any important taxa associated with wetlands or watercourses could be present at the site. No important wetland taxa were listed.

The Western Cape Biodiversity Spatial Plan (WCBSP; 2016) indicates that all three dams are located in **Critical Biodiversity Area** 1 (Terrestrial) with areas downstream of the existing dam classified as **Ecological Support Area** 2. The lower conservation status of the watercourse downstream of the dam indicates that it has already been degraded due to historical impoundment by the two dams. The WCBSP defines systems in this category as follows:

Critical Biodiversity Area: "Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure."

The management objective for systems in this category is to: "Maintain in a natural or near-natural state with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate."

Ecological Support Area: "Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services."

The remaining stream section is not identified in any category in the WCBSP.

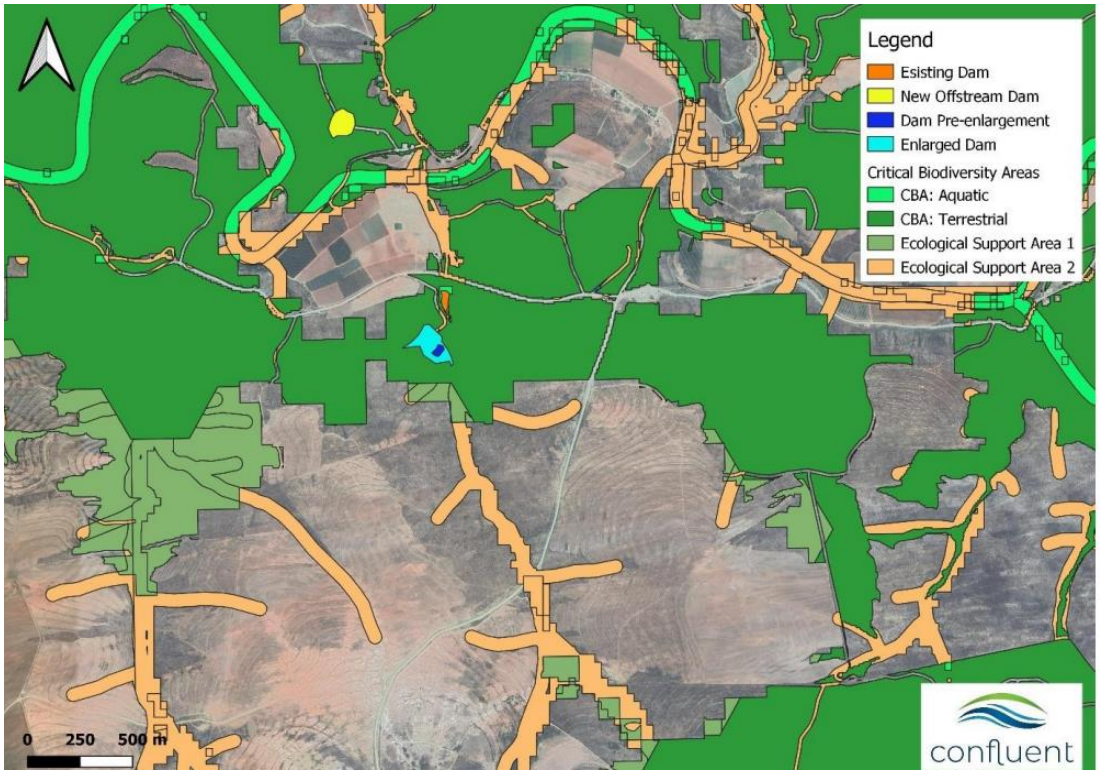


Figure 12: Mapped conservation categories according to the Western Cape Biodiversity Spatial Plan (WCBSP, 2016).

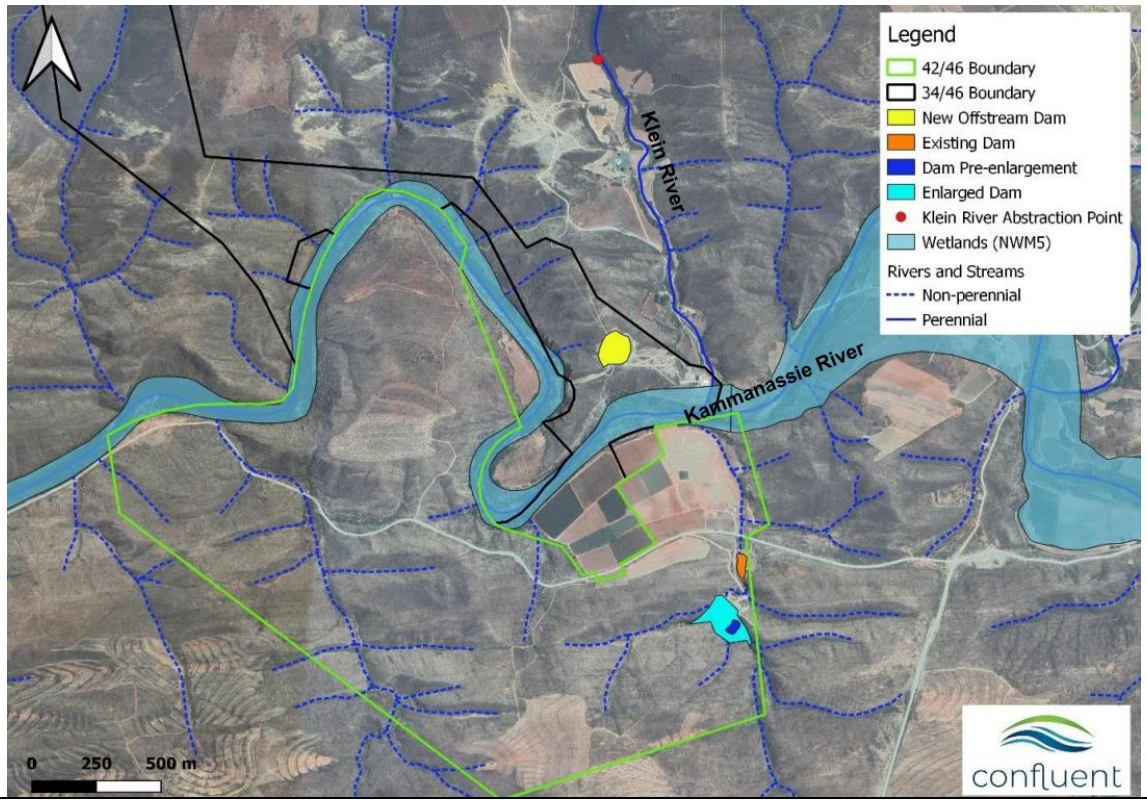
As per the Aquatic Specialist Assessment:
The three **drainage lines** that flow into the enlarged dam were all categorised as non-perennial with intermittent flows. The eastern watercourse immediately downstream of the dam was classified as unchanneled valley-bottom wetland. The EIS of the network of drainage lines upstream and downstream of the dam was determined to be Moderate. As non-perennial systems with intermittent flow, they are not very sensitive to periods of reduced flow or water quality changes related to low flows.

The inflowing drainage line to the western arm of the dam is approximately 500m from the source of a small catchment. The eastern arm of the dam is downstream of the confluence of two drainage lines. The southern of these two watercourses is the most significant in terms of the catchment size, and during the site visit had isolated pools of water. There was very minor, but perceptible flow into the dam from the eastern arm. Below the enlarged dam, the western watercourse was classified as a drainage line, although small sections of instream wetland vegetation were present. While the eastern watercourse was classified as an unchanneled valley-bottom wetland. The existing dam downstream contained a small volume of standing water, and was full of Phragmites australis reeds, as well as birdlife and audible amphibians.

As per the Aquatic Specialist Assessment:
The **wetland** is a distinct hydrogeomorphic unit (HGM) but it must be noted that it is a very small section of the eastern tributary between the enlarged and existing dams. It measures approximately 0.1 ha in extent. On the day of the site visit, a shallow (approx. 2 cm deep) film of water was moving through the wetland, and abundant instream wetland vegetation was present. Species include Phragmites australis, Typha capensis, Cyperus textilis, Cliffortia strobilifera and at least two Juncus spp.

The wetland's EIS was classified as Moderate. No Red Data or unique aquatic species are expected to occur in the wetland. The importance of the wetland as a migration route and for feeding and breeding of biota relates to presence of water in a semi-arid landscape, and the relatively undisturbed catchment area. This provides space for feeding, breeding and movement of aquatic and semi-aquatic biota.

The instream dam that was enlarged is on a network of unnamed streams indicated as non-perennial drainage lines which historically flowed into the Kammanassie River (NGI, 1:50 000 drainage lines). The enlarged dam is in quaternary catchment J34C. The enlarged dam is instream on a network of tributaries of the Kammanassie River. The original dam (pre-enlargement) impounded one tributary while the enlarged dam includes a second tributary. However, the latter was historically impounded by an existing dam a short distance (approximately 200m) downstream.



As per the Aquatic Impact Assessment:
The network of watercourses affected by Groot Dam was already impacted through impoundment by two dams. Enlargement of the upstream dam has resulted in a decrease in the PES of the system by one level due to loss of riparian and aquatic habitat. The increased volume of the enlarged dam is much greater than the sum of storage in the two existing dams. However, it is understood that the intention of the enlarged dam was to store an allocation of water from the Klein River, and not to store additional surface runoff from the catchment. The landowner effectively decommissioned storage in the downstream dam letting most of the water run out of the dam creating the opportunity to rehabilitate one previously impounded reach in the stream network.

The Index of Habitat Integrity determined that instream habitat had decreased from a C (Moderately Modified) to a D (Largely Modified). While the riparian habitat decreased from a B/C (Largely Natural to Moderately Modified) to a C/D (Moderately to Largely Modified). The wetland PES pre- and post-enlargement of the dam was B/C Largely Natural to Moderately Modified as impacts related to the dam were minor. The Ecological Importance and Sensitivity (EIS) of the both the drainage lines and downstream wetland were determined to be Moderate.

6.3 VEGETATION / GROUNDCOVER MANAGEMENT

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

The construction phase for the Groot Dam's enlargement has already been concluded and the impacts associated with this phase was considered retrospectively. Mitigation measures cannot be provided as the actions have already been taken.

7. LAND USE OF THE SITE (PRE-COMMENCEMENT)

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

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

(a) Please provide a description.

Untransformed area: contained indigenous vegetation with few scattered alien plants.

Dam or reservoir: As per the Aquatic Impact Assessment - The historical assessment relied upon satellite imagery obtained from Google Earth. The original two dams were clearly evident in the 2004 image. The two dams collectively impound the network of streams arising in the hills forming the extent of their catchment to the south. The image from 2014 indicates when the upstream of the two dams was enlarged, with an overlay of the approximate size of the original dam.

River, stream or wetland: A network of tributaries of the Kammanassie River. The original dam (pre-enlargement) impounded one tributary while the enlarged dam includes a second tributary.

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

Cross out ("☒") the block that reflects the past land uses and/or prominent features that occur/red within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

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

9. LAND USE CHARACTER OF SURROUNDING AREA (POST-COMMENCEMENT)

Cross out ("☒") the block that reflects the current land uses and/or prominent features that occur(s) within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

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

10. SOCIO-ECONOMIC CONTEXT

10.1 SOCIO-ECONOMIC CONTEXT (PRE-COMMENCEMENT)

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

POPULATION BREAKDOWN

George has the largest population in the Eden District which, according to the forecasts of the Western Cape Department of Social Development, is estimated to be 209 581 in 20171. This total gradually increases across the 5-year planning cycle and is expected to reach 224 095 by 2023. This total equates to an approximate 6.9 per cent growth off the 2017 base estimate. In 2017, George's population gender breakdown will be relatively evenly split between male (102 817, 48.9 per cent) and female (106 764, 51.1 per cent). For 2023, the split is anticipated to be 109 639 (48.9 per cent) and 114 456 (51.1 per cent) for males and females respectively.

AGE DISTRIBUTION

In 2017, George is expected to maintain relatively stable population levels within the formative, schooling and young working age groups after which a decreased concentration is noted in the 35 – 39 age category. The stable population levels indicate that not many young working professionals leave the region, but are absorbed within the local labour market. The population distribution however suddenly spikes upwards between the ages of 45 and 49 which, amongst other reasons, can be attributed to an increasing trend amongst more affluent citizens to retire or down-scale at a relatively young age.

HOUSEHOLDS

According to Census 2011, there were 53 551 households within the greater George region. As per the 2016 Community Survey, this number increased to 62 722 which equates to a 17.1 per cent increase off the 2011 base.

POVERTY HEADCOUNT AND INTENSITY

The poverty headcount show that the number of poor people within the George municipal area decreased from 3.3 per cent of the population in 2011 to 1.5 per cent in 2016. The decreasing poverty headcount is positive as it means less strain on municipal financial resources. The intensity of poverty, i.e. the proportion of poor people that are below the poverty line within the George municipal area, decreased from 42.6 per cent in 2011 to 40.4 per cent in 2016. However, this percentage is still high and should be moving towards zero as income of more households within the George municipal area moves away from the poverty line.

MUNICIPAL CHALLENGES

As the regional service centre of the Southern Cape and Klein Karoo, George is ranked second to Cape Town on the Western Cape list of rankings of "Development Potential Index". Despite this potential, the municipal area is faced with serious challenges relating to:

- Economic: Unemployment is entrenched, poverty pervasive, and the future of existing business is under threat. The challenge is to re-instil investor and consumer confidence by improving service delivery and creating an environment conducive to investment.
- Social: If it is to be 'a city for all reasons' George needs to offer all residents access to the services and facilities of city living. It also needs to ensure that those living outside George, in villages or on farms, also have access to basic services and facilities. The challenge is to ensure that social investment not only addresses basic human needs, but also develops the human capital needed for a thriving and prosperous service economy.
- Built Environment: The challenge is promoting spatial transformation in the towns, villages and farms in the George municipal area, and providing humane and enabling living environments for all.

Natural Environment: Notwithstanding the area's rich and varied natural capital, it remains a sensitive and vulnerable environment. The challenge is ensuring the on-going functioning of eco-system services, that climate change is taken seriously, and the Municipality's towns and rural areas are developed sustainably. Whilst the Municipality's natural assets and productive rural landscapes need to be safeguarded, they also need to be opened up to all – particularly those denied access in the apartheid era.

PRIMARY SECTOR: Agriculture, Forestry and Fishing
This industry comprised R535.9 million (or 4.5 per cent) of the Municipality's GDP in 2015. It displayed modest growth of 2.2 per cent for the period 2005 - 2015, but growth has nevertheless contracted in the post-recessionary period (the sector experienced contraction of 0.5 per cent over the period 2010 – 2015). Agriculture, forestry and fishing employed 9.0 per cent of the municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 2.1 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.4 per cent per annum on average since 2010. On net employment, 2 017 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. The majority (54.9 per cent or 3 936 workers) of the workforce in agriculture, forestry and fishing operate within the low-skill sector, which has experienced a contraction of 2.9 per cent since 2005, but nevertheless grew by 3.2 per cent per annum over the post-recession period (2010 – 2015). The semi-skilled sector employs 1 669 workers and the sector has contracted at a rate of 2.3 per cent per annum since 2005, but did experience a notable recovery of 3.7 per cent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (5.7 per cent or 409 workers). This segment has shown robust growth post-recession (5.4 per cent per annum), with a 0.6 per cent per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2 per cent of the industry's workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3 per cent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 3.4 per cent per annum since 2010.

GDP		2015	Trend 2005 – 2015	Recovery 2010 – 2015
		R535.9 million	2.2%	-0.5%
Employment		7 173	-2.1%	3.4%
Skill Levels	Skilled	409	-0.6%	5.4%
	Semi-skilled	1 669	-2.3%	3.7%
	Low-skilled	3 936	-2.9%	3.2%
	Informal	1 159	1.3%	3.4%

10.2 SOCIO-ECONOMIC CONTEXT (POST-COMMENCEMENT)

Describe the post commencement social and economic characteristics of the community in order to determine any change. Where differences between pre- and post-commencement exist, state which are as a result of the activity(ies) for which rectification is being applied for.

The applicant has transformed the historic grazing areas into permanent fruit crops and summer vegetables cultivation. The storing of water in the Groot Dam will increase the water security for the sustainable development of Portion 42 of farm Buffels Rivier 46, George.

In order to increase the water security and to safeguard 4ha permanent crops and summer vegetable crops, some buffer storage was created. The shared water allocation from the Klein Rivier can be stored and used for irrigation when required. This has allowed the applicant to utilise and store 49 861m3 of winter water in the Groot Dam to utilise it in the summer and providing surety of water supply.

An increased number of farm workers have been employed due to the increased agricultural activities on the farm.

The development will ensure that water will be used beneficially and effectively. The water surety will increase production in the cultivation of crops and it will contribute to the Gross Domestic Product of the country.

11. HISTORICAL AND CULTURAL ASPECTS

(a) Please be advised that every application for Environmental Authorisation including an application for a Waste Management Licence, must include, where applicable the investigation, assessment and evaluation of the impact of any proposed listed or specified activity on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act.

Please be further advised that if section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), is applicable to your application, then you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Section 38 of the Act states as follows: "*38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-*

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
(b) the construction of a bridge or similar structure exceeding 50m in length;
(c) any development or other activity which will change the character of a site-
(i) exceeding 5 000 m² in extent; or
(ii) involving three or more existing erven or subdivisions thereof; or
(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) the re-zoning of a site exceeding 10 000 m² in extent; or
(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development."

(b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), must also be investigated, assessed and evaluated. Section 3(2) states as follows: "*3(2) Without limiting the generality of subsection (1), the national estate may include—*

(a) places, buildings, structures and equipment of cultural significance;
(b) places to which oral traditions are attached or which are associated with living heritage;
(c) historical settlements and townscapes;
(d) landscapes and natural features of cultural significance;
(e) geological sites of scientific or cultural importance;
(f) archaeological and palaeontological sites;
(g) graves and burial grounds, including—
(i) ancestral graves;
(ii) royal graves and graves of traditional leaders;
(iii) graves of victims of conflict;
(iv) graves of individuals designated by the Minister by notice in the Gazette;
(v) historical graves and cemeteries; and
(vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
(h) sites of significance relating to the history of slavery in South Africa;
(i) movable objects, including—
(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
(ii) objects to which oral traditions are attached or which are associated with living heritage;
(iii) ethnographic art and objects;
(iv) military objects;
(v) objects of decorative or fine art;
(vi) objects of scientific or technological interest; and
(vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)."

Is section 38 of the National Heritage Resources Act, 1999, applicable to the development?		YES	~~NO~~	~~UNCERTAIN~~
If YES, explain:	Section 38 (c) any development or other activity which will change the character of a site— (i) exceeding 5 000 m² in extent; A Notice of Intent will be submitted to Heritage Western Cape.			
Did/does the development impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999?		~~YES~~	NO	~~UNCERTAIN~~
If YES, explain:	N/A			
Was any building or structure older than 60 years affected in any way?		~~YES~~	~~NO~~	UNCERTAIN

If YES, explain:	Old stone bridge structure.

Please Note:

If uncertain, the Department may request that specialist input be provided. If, yes, a copy of the Notice of Intent submitted to Heritage Western Cape must be submitted with this form.

12. COASTAL ASPECTS (SEAFRONT/SEA ENVIRONMENT)

(a) Is the site(s) located within any of the following areas? (highlight the appropriate boxes).
If the site or alternative site is closer than 100m to such an area, please provide the approximate distance in (m).

AREA	YES	NO	UNSURE	If "YES": Distance to nearest area (m)
An area within 100m of the high water mark of the sea	~~YES~~	NO✓	UNSURE	
An area within 100m of the high water mark of an estuary/lagoon	~~YES~~	NO✓	UNSURE	
An area within the littoral active zone	~~YES~~	NO✓	UNSURE	
An area in the coastal public property	~~YES~~	NO✓	UNSURE	
Major anthropogenic structures	~~YES~~	NO✓	UNSURE	
An area within a Coastal Protection Zone	~~YES~~	NO✓	UNSURE	
An area seaward of the coastal management line	~~YES~~	NO✓	UNSURE	
An area within the high risk zone (20 years)	~~YES~~	NO✓	UNSURE	
An area within the medium risk zone (50 years)	~~YES~~	NO✓	UNSURE	
An area within the low risk zone (100 years)	~~YES~~	NO✓	UNSURE	
An area below the 5m contour	~~YES~~	NO✓	UNSURE	
An area within 1km from the high water mark of the sea	~~YES~~	NO✓	UNSURE	
A rocky beach	~~YES~~	NO✓	UNSURE	
A sandy beach	~~YES~~	NO✓	UNSURE	

(b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

13. REGIONAL PLANNING CONTEXT

Is the activity permitted in terms of the property's existing land use rights?	YES✓	~~NO~~	~~Please explain~~
The property is zoned agriculture and is being used for agricultural purposes			
Will the activity be in line with the following?			
Provincial Spatial Development Framework (PSDF)	YES✓	~~NO~~	~~Please explain~~
The significance of the Province's spatial asset base stems from the fact that it: underpins the economy, particularly agriculture which provides food security, sustains rural livelihoods and draws income into the Province, and tourism. As per the Western Cape PSDF (2014): "Despite the importance of secondary and tertiary economic activities, agriculture remains the backbone of the provincial economy. Farming in the Western Cape covers some 11.5m hectares and contributes almost 21% of the country's agricultural production. The agricultural sector comprises: 6 682 commercial farmers, 9 844 smallholder farmers, and some 201 230 farm workers."			
Urban edge / Edge of Built environment for the area	~~YES~~	NO✓	~~Please explain~~
The property is situated in an agricultural node			
Integrated Development Plan of the Local Municipality	YES✓	NO	Please explain
Agriculture, forestry and fishing employed 9.0 per cent of the municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 2.1 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.4 per cent per annum on average since 2010. On net employment, 2 017 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered.			

The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. The majority (54.9 per cent or 3 936 workers) of the workforce in agriculture, forestry and fishing operate within the low-skill sector, which has experienced a contraction of 2.9 per cent since 2005, but nevertheless grew by 3.2 per cent per annum over the post-recession period (2010 – 2015). The semi-skilled sector employs 1 669 workers and the sector has contracted at a rate of 2.3 per cent per annum since 2005, but did experience a notable recovery of 3.7 per cent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (5.7 per cent or 409 workers). This segment has shown robust growth post-recession (5.4 per cent per annum), with a 0.6 per cent per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2 per cent of the industry's workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3 per cent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 3.4 per cent per annum since 2010.

Agriculture is a primary sector in the George Municipality and is an important creator of low skilled jobs. This sector is growing and offering further opportunity to local communities.

Spatial Development Framework of the Local Municipality	YES✓	~~NO~~	~~Please explain~~

Agriculture plays a significant role in the George municipality and Garden Route municipality more broadly. It provides opportunities to increase un- or low skilled employment and grow products for local and international markets and for beneficiation in the manufacturing sector. It also contributes to the GDP, provides food security or a "bread basket" in close proximity to major settlements and is a base for tourism activities (Laskey, 2013:60). Protecting and promoting the agricultural economy is therefore a priority for the George Municipality and the Garden Route District Municipality.

Policy Guidelines:
a) Support efforts to rejuvenate the agricultural economy based on the assets and resources of the region. Some of these resources include the forest, hops, fruit, livestock, flowers, honeybush and sustainable fynbos harvesting.
b) Significant rural and agricultural areas to be managed as such in the Greater George Area are understood to be as follows:

Significant Rural Places in the Greater George Area	
Olifantsrivier Valley: - Rooiloop - Snyberg - Barandas - Toorwater - Nietgenaamd	 Railway siding Railway Station Railway Station Railway Station Church/ Convent
Rooirivier	Agri-area
Kammanassierivier Valley	Agri-area
Eseljacht	Agri-area
Ongelegen	Agri-area
Molenrivier	Agri-area
Eensaamheid	Agri-area
Geelhoutboom	Agri-area
Hoogekraal	Agri-area
Sinksabrug	Agri-area
Waboomskraal	Agri-area

Approved Structure Plan of the Municipality	YES✓	~~NO~~	~~Please explain~~

The activity is in line with the Municipal Structure Plan.

An Environmental Management Framework (EMF) adopted by the Department	YES✓	~~NO~~	~~Please explain~~

The Garden Route EMF refers to several policies and guidelines dealing with agriculture within the Garden Route. Of particular reference, is the Western Cape PSDF. The activity is in line with the WCPSDF 2014.

Any other Plans	~~YES~~	NO✓	~~Please explain~~

N/A

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

Kop Dam

14. THE GEOLOGICAL FORMATIONS UNDERLYING THE SITE (Tick the appropriate box)

~~GRANITE~~		~~QUARTZITE~~	
SHALE	✓	~~DOLOMITE~~	
SANDSTONE	✓	~~DOLERITE~~	
OTHER (specify)	Clays and loams derived from Bokkeveld (and Witteberg) Group shales. Fossiliferous shales, mudstones and siltstones of the Devonian Bokkeveld Group (Ceres and Traka Subgroups). Also present are mudstones and sandstones as well as subordinate shale of the Kirkwood Formation together with conglomerates of the Enon Formation (both of the Mesozoic Uitenhage Group)		

15. GRADIENT OF THE SITE

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

~~Flat~~	Flatter than 1:10✓	1:10 – 1:5 ✓	~~Steeper than 1:5~~

16. LOCATION IN LANDSCAPE

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

Ridgeline✓	~~Plateau~~	~~Side slope of hill/mountain~~	~~Closed valley~~	Open valley✓	~~Plain~~	~~Undulating plain/low hills~~	~~Dune~~	~~Sea-front~~	~~Other~~
Kop Dam is located on a ridgeline.									

17. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

17.1 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (PRE-COMMENCEMENT)

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

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

17.2 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (POST-COMMENCEMENT)

Shallow water table (less than 1.5m deep)	~~YES~~	NO✓	~~UNSURE~~
Seasonally wet soils (often close to water bodies)	~~YES~~	NO✓	~~UNSURE~~
Unstable rocky slopes or steep slopes with loose soil	~~YES~~	NO✓	~~UNSURE~~
Dispersive soils (soils that dissolve in water)	~~YES~~	NO✓	~~UNSURE~~

Soils with high clay content	~~YES~~	NO✓	~~UNSURE~~
Any other unstable soil or geological feature	~~YES~~	NO✓	~~UNSURE~~
An area sensitive to erosion	~~YES~~	NO✓	~~UNSURE~~

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department.
(Information in respect of the above will often be available at the planning sections of local authorities. Where it does not exist, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

18. SURFACE WATER

8.1 SURFACE WATER (PRE-COMMENCEMENT)

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

Perennial River	~~YES~~	NO✓	UNSURE
Non-Perennial River	~~YES~~	NO✓	UNSURE
Permanent Wetland	~~YES~~	NO✓	UNSURE
Seasonal Wetland	~~YES~~	NO✓	UNSURE
Artificial Wetland	~~YES~~	NO✓	UNSURE
Estuarine / Lagoonal wetland	~~YES~~	NO✓	UNSURE

8.2 SURFACE WATER (POST-COMMENCEMENT)

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

Perennial River	~~YES~~	NO✓	UNSURE
Non-Perennial River	~~YES~~	NO✓	UNSURE
Permanent Wetland	~~YES~~	NO✓	UNSURE
Seasonal Wetland	~~YES~~	NO✓	UNSURE
Artificial Wetland	YES	~~NO~~	UNSURE
Estuarine / Lagoonal wetland	~~YES~~	NO✓	UNSURE

9. VEGETATION AND/OR GROUNDCOVER

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org.za or BGIShelp@sanbi.org.za. Information is also available on compact disc ("cd") from the Biodiversity-GIS Unit, Ph (021) 799 8738. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as an **appendix** to this form.

19.1 VEGETATION AND/OR GROUNDCOVER (PRE-COMMENCEMENT)

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

~~Indigenous Vegetation - good condition~~		Indigenous Vegetation with scattered aliens	x	~~Indigenous Vegetation with heavy alien infestation~~	
~~Describe the vegetation type above:~~		Describe the vegetation type above: Mapped vegetation type Kop Dam is Uniondale Shale Renosterveld. There are a		~~Describe the vegetation type above:~~	

	few scattered alien plants throughout the site.	
~~Provide ecosystem status for above:~~	Provide ecosystem status for above: Vulnerable	~~Provide Ecosystem status for above:~~
Indigenous Vegetation in an ecological corridor ~~or along a soil boundary / interface~~	~~Veld dominated by alien species~~	~~Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe~~
~~Bare soil~~	~~Building or other structure~~	~~Sport field~~
~~Other (describe below)~~	~~Cultivated land~~	~~Paved surface~~

(b) Highlight the applicable pre-commencement biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category.

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	~~Ecological Support Area (ESA)~~	~~Other Natural Area (ONA)~~	~~No Natural Area Remaining (NNR)~~	The receiving environment at **Kop Dam** contains a primary Terrestrial Critical Biodiversity Area (CBA 1).

(c) Highlight and describe the habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	9%	196 ha
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	6%	Transformed 2 ha Cultivated 12 ha Total of 14 ha

(c) Complete the table to indicate:
(i) the type of vegetation, including its ecosystem status, that was previously present on the site; and
(ii) whether an aquatic ecosystem was previously present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act,2004 (Act No. 10 of 2004)	~~Critical~~	Wetland (including rivers, depressions, channelled and un-channelled wetlands, flats, seeps pans, and artificial wetlands)			~~Estuary~~		~~Coastline~~	
	~~Endangered~~							
	Vulnerable✓							
	~~Least Threatened~~							
		~~YES~~	NO✓	~~UNSURE~~	~~YES~~	NO✓	~~YES~~	NO✓

(e) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The mapped vegetation type at the site is Uniondale Shale Renosterveld (FRs 16) which has a conservation status of Least Threatened (SANBI NVM, 2018).

FRs 16 Uniondale Shale Renosterveld

VT 43 Mountain Renosterbosveld (50%), VT 26 Karroid Broken Veld (27%) (Acocks 1953). Karroid Shrublands (48%), South Coast Renosterveld (24%), Mosaic of South Coast Renosterveld (19%) (Moll & Bossi 1983). Grassy Renoster Shrubland (Campbell 1985). LR 63 South and South-west Coast Renosterveld (49%), LR 54 Central Lower Nama Karoo (23%) (Low & Rebelo 1996). BHU 44 Uniondale Inland Renosterveld (32%), BHU 98 Willowmore Xeric Succulent Thicket (21%) (Cowling et al. 1999b, Cowling & Heijnis 2001). STEP Willowmore Renoster Thicket (35%) (Vlok & Euston-Brown 2002).

Distribution Western and Eastern Cape Provinces: Little Karoo from Sebrasfontein (south of Oudtshoorn) to Uniondale on the northern slopes of the Outeniqua Mountains, lower southern slopes of the Kammanassie Mountains, northern slopes of the western end of the Kouga Mountains as well as ridges, plateaus and valleys to Willowmore in the north; a few outliers in the Grootrivierberge, west of Naroegas Poort. Altitude 500–1 150 m.

Vegetation & Landscape Features Intermontane valleys and lower slopes covered with low, medium dense, cupressoid-leaved shrubland having an open grassy understorey, and dominated by renosterbos. North-facing slopes have thicket clumps. Eastern extent very much limited by fire-retardant thicket vegetation, and thus associated mainly with the fynbos areas at higher altitudes.

Geology & Soils Clays and loams derived from Bokkeveld (and Witteberg) Group shales. Glenrosa and Mispah forms prominent. Land types mainly Fc and Fb.

Climate MAP 170–660 mm (mean: 350 mm), even throughout the year with a slight peak in March. Mean daily maximum and minimum temperatures 29.6°C and 2.4°C for January and July, respectively. Frost incidence 10–40 days per year. See also climate diagram for FRs 16 Uniondale Shale Renosterveld (Figure 4.101).

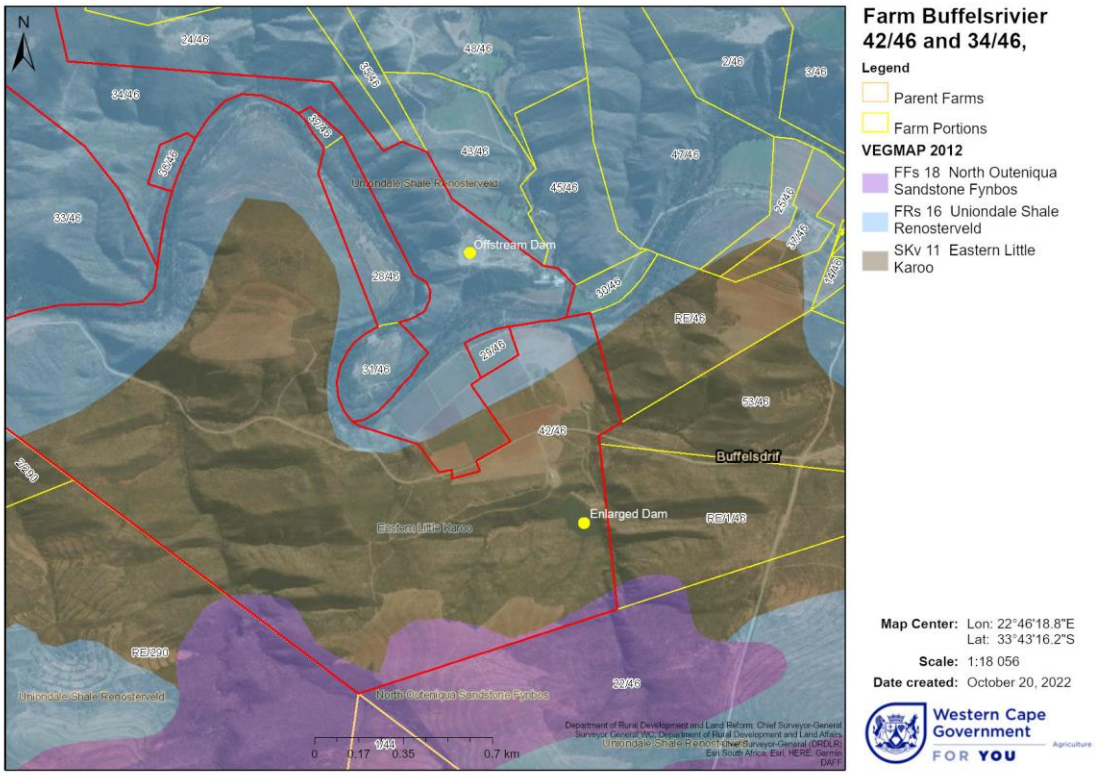
Important Taxa Small Tree: *Acacia karroo* (d). Succulent Tree: *Aloe ferox* (d). Tall Shrubs: *Rhus lucida* (d), *Diospyros austro-africana*, *Dodonaea viscosa* var. *angustifolia*, *Euclea undulata*. Low Shrubs: *Elytropappus rhinocerotis* (d), *Oedera squarrosa* (d), *Carissa bispinosa* subsp. *bispinosa*, *Chrysocoma oblongifolia*, *Felicia filifolia* subsp. *filifolia*, *Galenia africana*, *Helichrysum asperum* var. *albidulum*, *Lessertia fruticosa*, *Lotononis nutans*, *Pteronia incana*, *Selago saxatilis*, *Zygophyllum spinosum*. Succulent Shrubs: *Aloe perfoliata* (d), *A. microstigma* subsp. *microstigma*, *Crassula dependens*, *Drosanthemum lique*, *Glottiphyllum salmii*. Semiparasitic Shrub: *Thesium strictum*. Herbs: *Lepidium africanum* subsp. *africanum*, *Limeum aethiopicum* subsp. *aethiopicum*. Geophytic Herbs: *Drimia anomala*, *D. intricata*, *Romulea jugicola*. Succulent Herb: *Crassula muscosa*. Graminoids: *Aristida diffusa*, *Ehrharta calycina*, *Melica decumbens*.

Endemic Taxa Low Shrub: *Amphithalea vlokii*. Succulent Shrubs: *Carruanthus ringens*, *Glottiphyllum oligocarpum*. Geophytic Herb: *Tritonia chrysantha*.

Conservation Least threatened. Target 29%. Only a few patches (less than 1%) are protected in the private Sunnyside Game Farm and in Welbedacht State Forest. Some 15% transformed (cultivation). Woody aliens include *Hakea sericea* and *Pinus pinaster*. Erosion mainly high and moderate.

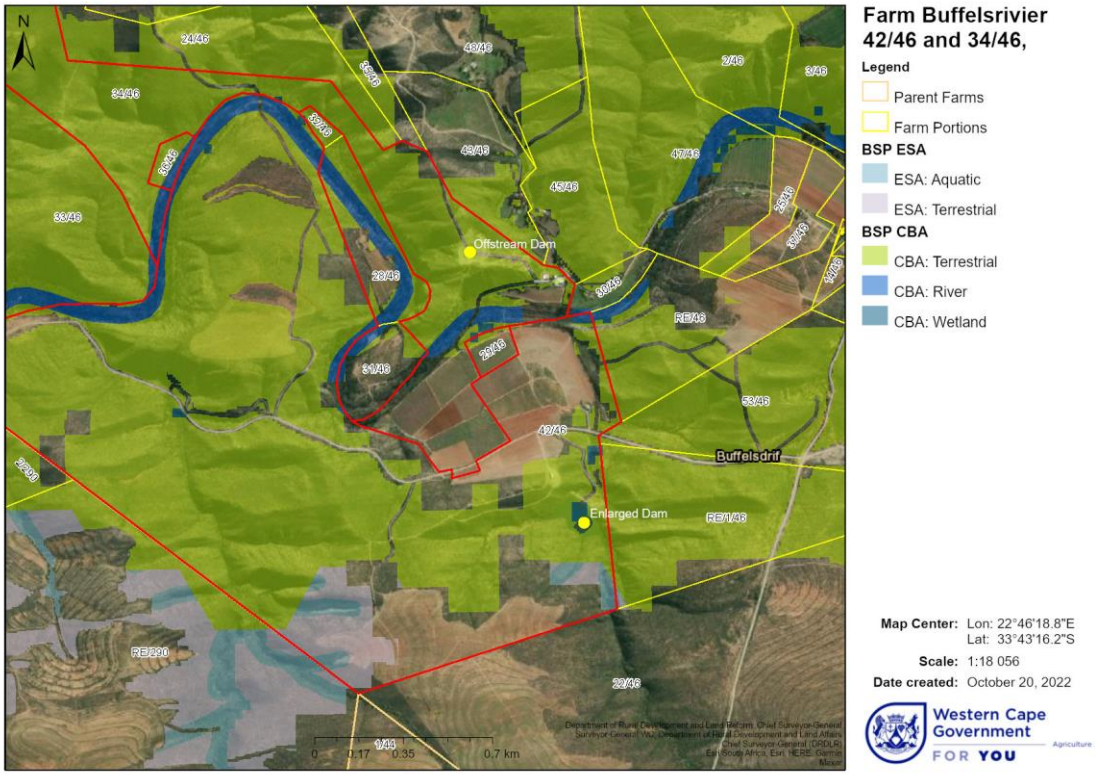
Remark This is a poorly known vegetation type.

References Boucher & Moll (1981), Vlok & Euston-Brown (2002).

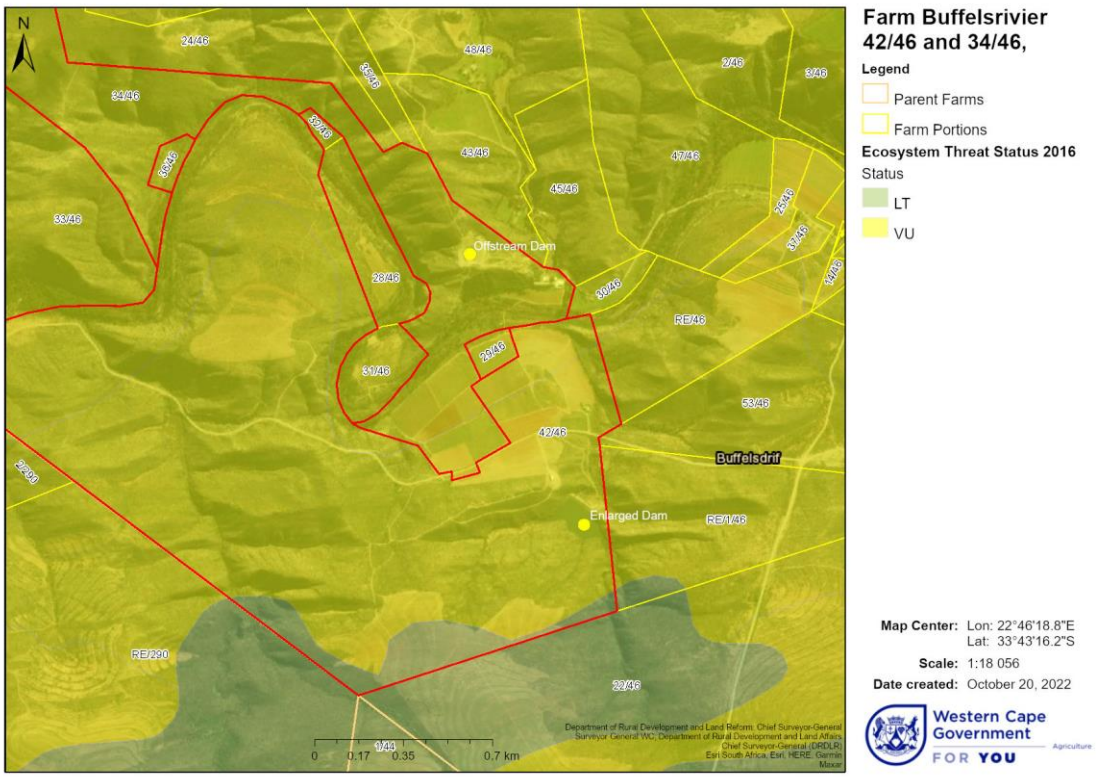


The site is within a Terrestrial Critical Biodiversity Area.

Category 1:	CBA: Terrestrial
Category 2:	CBA: Terrestrial
Definition:	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
Objective:	Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.



The Western Cape Biodiversity Spatial Plan 2017 describes the Ecosystem Threat Status as Vulnerable (VU).



19.2 VEGETATION AND/OR GROUNDCOVER (POST-COMMENCEMENT)

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

~~Indigenous Vegetation - good condition~~		Indigenous Vegetation with scattered aliens	x	~~Indigenous Vegetation with heavy alien infestation~~	
Describe the vegetation type above:		Describe the vegetation type above: Mapped vegetation type for Kop Dam is Uniondale Shale Renosterveld. There are a few scattered alien plants throughout the site.		Describe the vegetation type above:	
Provide ecosystem status for above:		Provide ecosystem status for above: Vulnerable		Provide Ecosystem status for above:	
Indigenous Vegetation in an ecological corridor or along a soil boundary / interface		~~Veld dominated by alien species~~		~~Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe~~	
Bare soil		~~Building or other structure~~		~~Sport field~~	
~~Other (describe below)~~		~~Cultivated land~~		~~Paved surface~~	

(a) Highlight and describe the post-construction habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	93%	195 ha
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	7%	Transformed 2 ha Cultivated 12 ha Dam 1 Ha Total of 15 ha

(b) How have the vegetation and/or aquatic ecosystem(s) present on site (including any important biodiversity features identified on site (e.g. threatened species and special habitats)) been affected by the commencement of the listed activity(ies)?

As per the Aquatic Impact Assessment: There is no impact on a watercourse as defined in the NWA. Water supply to the offstream dam is an existing allocation pumped from the Kammanassie River.
Approximately 0.68 ha of indigenous vegetation was cleared for the dam.
Construction of the dam required excavation of soil and additional clearing of vegetation for the installation of water pipelines.

19.3 VEGETATION / GROUNDCOVER MANAGEMENT

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

The construction phase for the Kop Dam's has already been concluded and the impacts associated with this phase was considered retrospectively. Mitigation measures cannot be provided as the actions have already been taken.

20. LAND USE OF THE SITE (PRE-COMMENCEMENT)

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

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

(b) Please provide a description.

Untransformed area: contained indigenous vegetation with a few scattered invasive alien plants.
Agriculture - Historical land use was dryland grazing.
Mountain, koppie or ridge – the site is on a small mountain ridge that runs parallel with the Kammanassie River.

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

Cross out ("☒") the block that reflects the past land uses and/or prominent features that occur/red within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

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

22. LAND USE CHARACTER OF SURROUNDING AREA (POST-COMMENCEMENT)

Cross out ("☒") the block that reflects the current land uses and/or prominent features that occur(s) within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

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

10. SOCIO-ECONOMIC CONTEXT

23.1 SOCIO-ECONOMIC CONTEXT (PRE-COMMENCEMENT)

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

POPULATION BREAKDOWN

George has the largest population in the Eden District which, according to the forecasts of the Western Cape Department of Social Development, is estimated to be 209 581 in 20171. This total gradually increases across the 5-year planning cycle and is expected to reach 224 095 by 2023. This total equates to an approximate 6.9 per cent growth off the 2017 base estimate. In 2017, George's population gender breakdown will be relatively evenly split between male (102 817, 48.9 per cent) and female (106 764, 51.1 per cent). For 2023, the split is anticipated to be 109 639 (48.9 per cent) and 114 456 (51.1 per cent) for males and females respectively.

AGE DISTRIBUTION

In 2017, George is expected to maintain relatively stable population levels within the formative, schooling and young working age groups after which a decreased concentration is noted in the 35 – 39 age category. The stable population levels indicate that not many young working professionals leave the region, but are absorbed within the local labour market. The population distribution however suddenly spikes upwards between the ages of 45 and 49 which, amongst other reasons, can be attributed to an increasing trend amongst more affluent citizens to retire or down-scale at a relatively young age.

HOUSEHOLDS

According to Census 2011, there were 53 551 households within the greater George region. As per the 2016 Community Survey, this number increased to 62 722 which equates to a 17.1 per cent increase off the 2011 base.

POVERTY HEADCOUNT AND INTENSITY

The poverty headcount show that the number of poor people within the George municipal area decreased from 3.3 per cent of the population in 2011 to 1.5 per cent in 2016. The decreasing poverty headcount is positive as it means less strain on municipal financial resources. The intensity of poverty, i.e. the proportion of poor people that are below the poverty line within the George municipal area, decreased from 42.6 per cent in 2011 to 40.4 per cent in 2016. However, this percentage is still high and should be moving towards zero as income of more households within the George municipal area moves away from the poverty line.

MUNICIPAL CHALLENGES

As the regional service centre of the Southern Cape and Klein Karoo, George is ranked second to Cape Town on the Western Cape list of rankings of "Development Potential Index". Despite this potential, the municipal area is faced with serious challenges relating to:

- Economic: Unemployment is entrenched, poverty pervasive, and the future of existing business is under threat. The challenge is to re-instil investor and consumer confidence by improving service delivery and creating an environment conducive to investment.
- Social: If it is to be 'a city for all reasons' George needs to offer all residents access to the services and facilities of city living. It also needs to ensure that those living outside George, in villages or on farms, also have access to basic services and facilities. The challenge is to ensure that social investment not only addresses basic human needs, but also develops the human capital needed for a thriving and prosperous service economy.
- Built Environment: The challenge is promoting spatial transformation in the towns, villages and farms in the George municipal area, and providing humane and enabling living environments for all.
- Natural Environment: Notwithstanding the area's rich and varied natural capital, it remains a sensitive and vulnerable environment. The challenge is ensuring the on-going functioning of eco-system services, that climate change is taken seriously, and the Municipality's towns and rural areas are developed sustainably. Whilst the Municipality's natural assets and productive rural landscapes need to be safeguarded, they also need to be opened up to all – particularly those denied access in the apartheid era.

PRIMARY SECTOR: Agriculture, Forestry and Fishing

This industry comprised R535.9 million (or 4.5 per cent) of the Municipality's GDP in 2015. It displayed modest growth of 2.2 per cent for the period 2005 - 2015, but growth has nevertheless contracted in the post-recessionary period (the sector experienced contraction of 0.5 per cent over the period 2010 – 2015). Agriculture, forestry and fishing employed 9.0 per cent of the municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 2.1 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.4 per cent per annum on average since 2010. On net employment, 2 017 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. The majority (54.9 per cent or 3 936 workers) of the workforce in agriculture, forestry and fishing operate within the low-skill sector, which has experienced a contraction of 2.9 per cent since 2005, but nevertheless grew by 3.2 per cent per annum over the post-recession period (2010 – 2015). The semi-skilled sector employs 1 669 workers and the sector has contracted at a rate of 2.3 per cent per annum since 2005, but did experience a notable recovery of 3.7 per cent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (5.7 per cent or 409 workers). This segment has shown robust growth post-recession (5.4 per cent per annum), with a 0.6 per cent per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2 per cent of the industry's workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3 per cent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 3.4 per cent per annum since 2010.

GDP		2015	Trend 2005 – 2015	Recovery 2010 – 2015
		R535.9 million	2.2%	-0.5%
Employment		7 173	-2.1%	3.4%
Skill Levels	Skilled	409	-0.6%	5.4%
	Semi-skilled	1 669	-2.3%	3.7%
	Low-skilled	3 936	-2.9%	3.2%
	Informal	1 159	1.3%	3.4%

23.2 SOCIO-ECONOMIC CONTEXT (POST-COMMENCEMENT)

Describe the post commencement social and economic characteristics of the community in order to determine any change. Where differences between pre- and post-commencement exist, state which are as a result of the activity(ies) for which rectification is being applied for.

The existing irrigation areas were in the recent year planted with permanent crops that required a more secure water source during certain growing seasons.

The Kop Dam will allow for the storage of water that can be used as a safeguard storage for the irrigation of fruit orchards. Most of the orchards can be irrigated under gravity. In terms of saving on electricity this infrastructure is valuable to ensure that the farm can operate independently during loadshedding. An area of 11.5ha fruit orchards has been established on Portion 34 of farm Buffels Rivier 46, George.

An increased number of farm workers have been employed due to the increased agricultural activities on the farm.

The development will ensure that water will be used beneficially and effectively. The water surety will increase production in the cultivation of crops and it will contribute to the Gross Domestic Product of the country.

24. HISTORICAL AND CULTURAL ASPECTS

(b) Please be advised that every application for Environmental Authorisation including an application for a Waste Management Licence, must include, where applicable the investigation, assessment and evaluation of the impact of any proposed listed or specified activity on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act.

Please be further advised that if section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), is applicable to your application, then you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Section 38 of the Act states as follows: "*38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-*

- *(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- *(b) the construction of a bridge or similar structure exceeding 50m in length;*
- *(c) any development or other activity which will change the character of a site-*
  - *(i) exceeding 5 000 m² in extent; or*
  - *(ii) involving three or more existing erven or subdivisions thereof; or*
  - *(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
  - *(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- *(d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- *(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*"

(b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), must also be investigated, assessed and evaluated. Section 3(2) states as follows: "*3(2) Without limiting the generality of subsection (1), the national estate may include—*

(a) places, buildings, structures and equipment of cultural significance;
(b) places to which oral traditions are attached or which are associated with living heritage;
(c) historical settlements and townscapes;
(d) landscapes and natural features of cultural significance;
(e) geological sites of scientific or cultural importance;
(f) archaeological and palaeontological sites;
(g) graves and burial grounds, including—
(i) ancestral graves;
(ii) royal graves and graves of traditional leaders;
(iii) graves of victims of conflict;
(iv) graves of individuals designated by the Minister by notice in the Gazette;
(v) historical graves and cemeteries; and
(vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
(h) sites of significance relating to the history of slavery in South Africa;
(i) movable objects, including—
(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
(ii) objects to which oral traditions are attached or which are associated with living heritage;
(iii) ethnographic art and objects;
(iv) military objects;

(v) objects of decorative or fine art;
(vi) objects of scientific or technological interest; and
(vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)."

Is section 38 of the National Heritage Resources Act, 1999, applicable to the development?	YES	~~NO~~ ~~UNCERTAIN~~
If YES, explain:	Section 38 (c) any development or other activity which will change the character of a site— (i) exceeding 5 000 m² in extent; A Notice of Intent will be submitted to Heritage Western Cape.	
Did/does the development impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999?	~~YES~~	NO ~~UNCERTAIN~~
If YES, explain:	N/A	
Was any building or structure older than 60 years affected in any way?	~~YES~~	NO✓ ~~UNCERTAIN~~
If YES, explain:		

Please Note:

If uncertain, the Department may request that specialist input be provided. If, yes, a copy of the Notice of Intent submitted to Heritage Western Cape must be submitted with this form.

25. COASTAL ASPECTS (SEAFRONT/SEA ENVIRONMENT)

(a) Is the site(s) located within any of the following areas? (highlight the appropriate boxes).
If the site or alternative site is closer than 100m to such an area, please provide the approximate distance in (m).

AREA	YES	NO	UNSURE	If "YES": Distance to nearest area (m)
An area within 100m of the high water mark of the sea	~~YES~~	NO✓	~~UNSURE~~	
An area within 100m of the high water mark of an estuary/lagoon	~~YES~~	NO✓	~~UNSURE~~	
An area within the littoral active zone	~~YES~~	NO✓	~~UNSURE~~	
An area in the coastal public property	~~YES~~	NO✓	~~UNSURE~~	
Major anthropogenic structures	~~YES~~	NO✓	~~UNSURE~~	
An area within a Coastal Protection Zone	~~YES~~	NO✓	~~UNSURE~~	
An area seaward of the coastal management line	~~YES~~	NO✓	~~UNSURE~~	
An area within the high risk zone (20 years)	~~YES~~	NO✓	~~UNSURE~~	
An area within the medium risk zone (50 years)	~~YES~~	NO✓	~~UNSURE~~	
An area within the low risk zone (100 years)	~~YES~~	NO✓	~~UNSURE~~	
An area below the 5m contour	~~YES~~	NO✓	~~UNSURE~~	
An area within 1km from the high water mark of the sea	~~YES~~	NO✓	~~UNSURE~~	
A rocky beach	~~YES~~	NO✓	~~UNSURE~~	
A sandy beach	~~YES~~	NO✓	~~UNSURE~~	

(c) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

26. REGIONAL PLANNING CONTEXT

Is the activity permitted in terms of the property's existing land use rights?	YES✓	~~NO~~	~~Please explain~~
The property is zoned agriculture and is being used for agricultural purposes.			

Will the activity be in line with the following?			
Provincial Spatial Development Framework (PSDF)	YES✓	~~NO~~	~~Please explain~~
The significance of the Province's spatial asset base stems from the fact that it: underpins the economy, particularly agriculture which provides food security, sustains rural livelihoods and draws income into the Province, and tourism. As per the Western Cape PSDF (2014): "Despite the importance of secondary and tertiary economic activities, agriculture remains the backbone of the provincial economy. Farming in the Western Cape covers some 11.5m hectares and contributes almost 21% of the country's agricultural production. The agricultural sector comprises: 6 682 commercial farmers, 9 844 smallholder farmers, and some 201 230 farm workers."			
Urban edge / Edge of Built environment for the area	~~YES~~	NO✓	~~Please explain~~
The property is situated in an agricultural node			
Integrated Development Plan of the Local Municipality	YES✓	~~NO~~	Please explain
Agriculture, forestry and fishing employed 9.0 per cent of the municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 2.1 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.4 per cent per annum on average since 2010. On net employment, 2 017 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. The majority (54.9 per cent or 3 936 workers) of the workforce in agriculture, forestry and fishing operate within the low-skill sector, which has experienced a contraction of 2.9 per cent since 2005, but nevertheless grew by 3.2 per cent per annum over the post-recession period (2010 – 2015). The semi-skilled sector employs 1 669 workers and the sector has contracted at a rate of 2.3 per cent per annum since 2005, but did experience a notable recovery of 3.7 per cent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (5.7 per cent or 409 workers). This segment has shown robust growth post-recession (5.4 per cent per annum), with a 0.6 per cent per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2 per cent of the industry's workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3 per cent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 3.4 per cent per annum since 2010. Agriculture is a primary sector in the George Municipality and is an important creator of low skilled jobs. This sector is growing and offering further opportunity to local communities.			
Spatial Development Framework of the Local Municipality	YES✓	~~NO~~	~~Please explain~~
Agriculture plays a significant role in the George municipality and Garden Route municipality more broadly. It provides opportunities to increase un- or low skilled employment and grow products for local and international markets and for beneficiation in the manufacturing sector. It also contributes to the GDP, provides food security or a "bread basket" in close proximity to major settlements and is a base for tourism activities (Laskey, 2013:60). Protecting and promoting the agricultural economy is therefore a priority for the George Municipality and the Garden Route District Municipality. Policy Guidelines: a) Support efforts to rejuvenate the agricultural economy based on the assets and resources of the region. Some of these resources include the forest, hops, fruit, livestock, flowers, honeybush and sustainable fynbos harvesting. b) Significant rural and agricultural areas to be managed as such in the Greater George Area are understood to be as follows:			

Significant Rural Places in the Greater George Area	
Olifantsrivier Valley: - Rooiloop - Snyberg - Barandas - Toorwater - Nietgenaamd	 Railway siding Railway Station Railway Station Railway Station Church/ Convent
Rooirivier	Agri-area
Kammanassierivier Valley	Agri-area
Eseljacht	Agri-area
Ongelegen	Agri-area
Molenrivier	Agri-area
Eensaamheid	Agri-area
Geelhoutboom	Agri-area
Hoogekraal	Agri-area
Sinksabrug	Agri-area
Waboomskraal	Agri-area

Approved Structure Plan of the Municipality	YES✓	~~NO~~	~~Please explain~~
The activity is in line with the Municipal Structure Plan.			
An Environmental Management Framework (EMF) adopted by the Department	YES✓	~~NO~~	~~Please explain~~
The Garden Route EMF refers to several policies and guidelines dealing with agriculture within the Garden Route. Of particular reference, is the Western Cape PSDF. The activity is in line with the WCPSDF 2014.			
Any other Plans	~~YES~~	NO✓	~~Please explain~~
N/A			

SECTION D: NEED AND DESIRABILITY

Please Note: Before completing this section, first consult this Department's *Guideline on Need and Desirability* (March 2013) available on the Department's website (**http://www.capegateway.gov.za/eadp**).

1. Was the activity permitted in terms of the property's land use rights at the time of commencement?	YES✓	~~NO~~	Please explain
The property is zoned Agriculture and is being used for agricultural practices			

2. Was the activity in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES✓	~~NO~~	Please explain
As per the Western Cape PSDF, 2014: "Despite the importance of secondary and tertiary economic activities, agriculture remains the backbone of the provincial economy. Farming in the Western Cape covers some 11.5m hectares, and contributes almost 21% of the country's agricultural production. The agricultural sector comprises: 6 682 commercial farmers, 9 844 smallholder farmers, and some 201 230 farm workers."			
(b) Urban edge / Edge of Built environment for the area	~~YES~~	NO✓	Please explain
The property is situated in an agricultural node.			
(c) Integrated Development Plan and Spatial Development Framework of the Local Municipality (e.g. would the approval of this application have compromised the integrity of the existing approved and credible municipal IDP and SDF?).	YES✓	~~NO~~	~~Please explain~~
Agriculture, forestry and fishing employed 9.0 per cent of the municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 2.1 per cent per annum on average. Employment picked up significantly after the recession and grew at a rate of 3.4 per cent per annum on average since 2010. On net employment, 2 017 jobs have been lost since 2005 - not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. The majority (54.9 per cent or 3 936 workers) of the workforce in agriculture, forestry and fishing operate within the low-skill sector, which has experienced a contraction of 2.9 per cent since 2005, but nevertheless grew by 3.2 per cent per annum over the post-recession period (2010 – 2015). The semi-skilled sector employs 1 669 workers and the sector has contracted at a rate of 2.3 per cent per annum since 2005, but did experience a notable recovery of 3.7 per cent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (5.7 per cent or 409 workers). This segment has shown robust growth post-recession (5.4 per cent per annum), with a 0.6 per cent per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2 per cent of the industry's workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3 per cent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 3.4 per cent per annum since 2010. Agriculture is a primary sector in the George Municipality and is an important creator of low skilled jobs. This sector is growing and offering further opportunity to local communities.			
Agriculture plays a significant role in the George municipality and Garden Route municipality more broadly. It provides opportunities to increase un- or low skilled employment and grow products for local and international markets and for beneficiation in the manufacturing sector. It also contributes to the GDP, provides food security or a "bread basket" in close proximity to major settlements and is a base for tourism activities (Laskey, 2013:60). Protecting and promoting the agricultural economy is therefore a priority for the George Municipality and the Garden Route District Municipality. Policy Guidelines: a) Support efforts to rejuvenate the agricultural economy based on the assets and resources of the region. Some of these resources include the forest, hops, fruit, livestock, flowers, honeybush and sustainable fynbos harvesting. b) Significant rural and agricultural areas to be managed as such in the Greater George Area are understood to be as follows:			

Significant Rural Places in the Greater George Area	
Olifantsrivier Valley: - Rooiloop - Snyberg - Barandas - Toorwater - Nietgenaamd	 Railway siding Railway Station Railway Station Railway Station Church/ Convent
Rooirivier	Agri-area
Kammanassierivier Valley	Agri-area
Eseljacht	Agri-area
Ongelegen	Agri-area
Molenrivier	Agri-area
Eensaamheid	Agri-area
Geelhoutboom	Agri-area
Hoogekraal	Agri-area
Sinksabrug	Agri-area
Waboomskraal	Agri-area

(d) Approved Structure Plan of the Municipality	YES✓	~~NO~~	Please explain
The activity is in line with the Municipal Structure Plan.			

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application have compromised the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES✓	~~NO~~	Please explain
The Garden Route EMF refers to several policies and guidelines dealing with agriculture within the Garden Route. Of particular reference, is the Western Cape PSDF. The activity is in line with the WCPSDF 2014.			
(f) Any other Plans (e.g. Guide Plan)	~~YES~~	NO✓	Please explain
N/A			

3. Was the land use (associated with the activity for which rectification is sought) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority (i.e. was the development in line with the projects and programmes identified as priorities within the relevant IDP)?	YES✓	~~NO~~	~~Please explain~~
Kammanassierivier Valley is identified as a Agri-area in the George SDF.			
Agriculture plays a significant role in the George municipality and Garden Route municipality more broadly. It provides opportunities to increase un- or low skilled employment and grow products for local and international markets and for beneficiation in the manufacturing sector. It also contributes to the GDP, provides food security or a "bread basket" in close proximity to major settlements and is a base for tourism activities (Laskey, 2013:60). Protecting and promoting the agricultural economy is therefore a priority for the George Municipality and the Garden Route District Municipality.			

4. Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) have occurred here when activities commenced?	YES	NO	Please explain
Due to the need to ensure successful agricultural practises on the property, it is understood that the dams were required. As per the WULA Report: – The taking of water from the Klein River for the Groot Dam can be regarded as Existing Lawful Water Use (ELU). – The taking of water of 108 000m³/annum for the Kop Dam can be regarded as ELU and it will not have a further negative effect on the resource or on any person's water use.			

5. Did the community/area need the activity and the associated land use concerned (was it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES✓	~~NO~~	Please explain
The activity is broadly considered a societal priority as it has expanded and ensured agricultural success on the property, whilst providing additional employment opportunities.			

6. Were the necessary services with adequate capacity available (at the time of commencement), or was additional capacity created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the Application Form / additional information as an	YES✓	~~NO~~	Please explain

appendix, where applicable.)			
No additional services from the municipality were required. The applicant makes use of solar powered water pumps and gravity feed.			

7. Is/was this development provided for in the infrastructure planning of the municipality, and if not what was/will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the Application Form / additional information as an **appendix**, where applicable.)	YES✓	~~NO~~	Please explain
No additional services from the municipality were required.			

8. Was this project part of a national programme to address an issue of national concern or importance?	~~YES~~	NO✓	Please explain
The activity was undertaken to sustain agricultural development for the farm.			

9. Did location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the land use on this site within its broader context.)	YES✓	~~NO~~	Please explain
The property is zoned for Agriculture. All activities undertaken were in order to enable the success of agricultural practices on the farm.			

10. How did/does the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	YES	NO	Please explain
Agricultural activities associated with the dams are for crop irrigation. This includes fruit trees and summer vegetables cultivated on land historically used for livestock grazing and dryland lucerne.			
As per the WULA Report: – The taking of water from the Klein River for the Groot Dam can be regarded as Existing Lawful Water Use (ELU). – The taking of water of 108 000m^3/annum for the Kop Dam can be regarded as ELU and it will not have a further negative effect on the resource or on any person's water use.			
As per the Aquatic Impact Assessment for Groot Dam: The network of watercourses affected by Groot Dam was already impacted through impoundment by two dams. Enlargement of the upstream dam has resulted in a decrease in the PES of the system by one level due to loss of riparian and aquatic habitat. The increased volume of the enlarged dam is much greater than the sum of storage in the two existing dams. However, it is understood that the intention of the enlarged dam was to store an allocation of water from the Klein River, and not to store additional surface runoff from the catchment. The landowner effectively decommissioned storage in the downstream dam letting most of the water run out of the dam creating the opportunity to rehabilitate one previously impounded reach in the stream network. The Index of Habitat Integrity determined that instream habitat had decreased from a C (Moderately Modified) to a D (Largely Modified). While the riparian habitat decreased from a B/C (Largely Natural to Moderately Modified) to a C/D (Moderately to Largely Modified). The wetland PES pre- and post-enlargement of the dam was B/C Largely Natural to Moderately Modified as impacts related to the dam were minor. The Ecological Importance and Sensitivity (EIS) of the both the drainage lines and downstream wetland were determined to be Moderate.			
As per the Aquatic Specialist Assessment for Groot Dam: The three **drainage lines** that flow into the enlarged dam were all categorised as non-perennial with intermittent flows. The eastern watercourse immediately downstream of the dam was classified as unchanneled valley-bottom wetland. The EIS of the network of drainage lines upstream and downstream of the dam was determined to be Moderate. As non-perennial systems with intermittent flow, they are not very sensitive to periods of reduced flow or water quality changes related to low flows. The inflowing drainage line to the western arm of the dam is approximately 500m from the source of a small catchment. The eastern arm of the dam is downstream of the confluence of two drainage lines. The southern of these two watercourses is the most significant in terms of the catchment size, and during the site visit had isolated pools of water. There was very minor, but perceptible flow into the dam from the eastern arm. Below the enlarged dam, the western watercourse was classified as a drainage line, although small sections of instream wetland vegetation were present. While the eastern watercourse was classified as an unchanneled valley-bottom wetland. The existing dam			

downstream contained a small volume of standing water, and was full of Phragmites australis reeds, as well as birdlife and audible amphibians.
As per the Aquatic Specialist Assessment for Groot Dam: The **wetland** is a distinct hydrogeomorphic unit (HGM) but it must be noted that it is a very small section of the eastern tributary between the enlarged and existing dams. It measures approximately 0.1 ha in extent. On the day of the site visit, a shallow (approx. 2 cm deep) film of water was moving through the wetland, and abundant instream wetland vegetation was present. Species include Phragmites australis, Typha capensis, Cyperus textilis, Cliffortia strobilifera and at least two Juncus spp. The wetland's EIS was classified as Moderate. No Red Data or unique aquatic species are expected to occur in the wetland. The importance of the wetland as a migration route and for feeding and breeding of biota relates to presence of water in a semi-arid landscape, and the relatively undisturbed catchment area. This provides space for feeding, breeding and movement of aquatic and semi-aquatic biota.
As per the Aquatic Impact Assessment for Kop Dam: There is no impact on a watercourse as defined in the NWA. Water supply to the offstream dam is an existing allocation pumped from the Kammanassie River.

11. How did/does the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?	~~YES~~	NO✓	Please explain
The activity does not impact on people's health and well-being.			

12. Did/does the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	~~YES~~	NO✓	Please explain
No unacceptable opportunity cost is involved with the activity.			

13. What were the cumulative impacts (positive and negative) of the land use associated with the activity applied for?	YES	NO	Please explain
Positive Impacts: – More secure water source during certain growing seasons for fruit trees and crops. – Employment opportunities have been created for the local community. – Skills development of members of the local community during operation of the farms. – The activity will potentially contribute to the export sector and overall increase the economic status of the country.			
Negative Impacts: – The activity has resulted in the loss of indigenous terrestrial and aquatic vegetation, minor soil erosion, sedimentation of downstream watercourses, and flow modifications. – Death or injury to ground and tree dwelling biota and compaction of soil. – Removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss.			

14. Is/was the development the best practicable environmental option for this land/site?	YES	NO	Please explain
The Agricultural Act (Act 43 of 1983) Point 6(1)(b) states: the utilization and protection of land which is cultivated. – The storing of water in the Groot Dam is critical to the successful development of the property that includes the cultivation of permanent fruit crops. The storage dam will increase the water surety which will provide a buffer on the water availability from the Klein Rivier. Water is not always available during summer for the irrigation of the agriculture crops. – The Kop Dam was constructed for water assurance during periods of low flows in the Kamanassie Rivier will provide buffer storage.			
As per the Aquatic Impact Assessment - Groot Dam - The primary purpose of enlarging the dam was to increase capacity to store water from the existing Klein River allocation of water. The dams on Portion 42/46 are lower in altitude than the abstraction point in the Klein River, which presented an opportunity to transfer the water via gravity feed to the dam that was subsequently enlarged. The registered volume for abstraction from the Klein River is 37 500 m^3. From the abstraction point in the Klein River to the confluence with the Kammanassie River is a neighbouring property, which is not owned by JVR Farming. Therefore, constructing a dam either instream or offstream on the Klein River would not have been an option. The original size of both dams on Portion 42/46 was too small to accommodate the volume of storage required for the Klein River allocation, necessitating enlargement of one of the dams.			

The location of the road and confined space of the lower dam meant the upper of the two dams was selected for enlargement. One benefit from an ecological perspective is that the constant release of water from the lower dam effectively decommissions that dam, impounding one less catchment, that of the small wetland assessed in this report.

While the above-mentioned reasons provide a logical thought process justifying enlargement of the dam, the option to construct an offstream dam in an agricultural field closer to the Kammanassie River would have required consideration as part of the authorisation process. Despite the loss of agriculturally productive land, this is considered a viable option when surface water resources are under significant pressure, as in this catchment.

The Kop Dam was constructed on a hill and does not have the potential to catch natural run-off water. It has been positioned to store water taken from the Kammanassie River and gravity feed for irrigation. It has been positioned to make use of the topography of the land however it does not efficiently hold water for storage.

The water requirement for the irrigation of the existing fruit trees is estimated at 57 500 m^3/a versus the water supply of 108 000 m^3/a. The allocation of 108 000m3 /a from the Kamanassie Rivier according to a historic water use can be regarded as ELU. The dam was constructed to store water from the existing Kamanassie Rivier allocation of water.

When considering alternative options, it is important to consider the dam type. The dam type selection focusses on the most cost-effective dam option but must also consider lifetime costs and environmental impact. The options to consider include earth and rock fill dams and arch and gravity concrete dams.

Concrete options only become viable when the scope of the project is large enough to balance the cost of importing materials, equipment and expertise and when the volume of fill materials are insufficient.

Fill or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site. Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part of the dam basin. The disadvantages of fill dams are that they are more susceptible to erosion at the water level in the dam and especially when overtopped. Spillway capacity and freeboard must therefore be sufficient for all foreseeable circumstances. Fill dams also require better planning for temporary diversion during construction, as even minimal overtopping can cause severe damage to a partially built embankment.

15. What are/were the benefits to society in general and to the local communities?	Please explain
The dam itself does not benefit the local community; however, agricultural practices on the farm benefit the local community by offering employment for the locals; as well as contributions to the food production sector. Agricultural activities will not be possible without the dam.	

16. Any other need and desirability considerations related to the activity?	Please explain
The development will ensure that water will be used beneficially and effectively. The water surety will increase production in the cultivation of crops and it will contribute to the Gross Domestic Product of the country.	

17. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA were taken into account:

The purpose of Section 23 of NEMA is to promote the application of appropriate environmental management tools to ensure the integrated environmental management of activities.

The general objectives were considered by undertaking the following:

An Environmental Assessment Practitioner/ EAP was appointed to assess the significance of the activity on the surrounding environment.

- All significant impacts on the environment have been identified and assessed. To avoid further negative impacts on the environment, the specialists' and EAP's recommendations must be adhered to. Monitoring and management must be undertaken in accordance with the specialists' and EAP's recommendations and an approved Environmental Management Programme (EMPr). The applicant must in compliance with the EMPr, ensure that mitigation measures are undertaken according to the specialists' recommendations and proper environmental management practices.

- A full Public Participation Process (PPP) will be undertaken as per the EIA Regulations 2014 as amended, and DEA&DP's Guidelines on PPP (2013); which allows sufficient opportunity for public consultation. An advertisement has been placed within the Oudtshoorn Courant dated 6 March 2013, informing members of the public of the NEMA Section 24G Pre-Application Environmental Impact Report and available information. Other stakeholders (ward councillor, local authorities, adjacent landowners, organs of state, state departments, etc.) have been identified and have been notified of the process. In addition, a site notice has been placed at the site.

18. Please describe how the **principles of environmental management** as set out in section 2 of NEMA were taken into account:

Section 2 of the NEMA provides principles of environmental management to serve as a framework for environmental management implementation and decision making. The main and applicable principles of environmental management as set out in Section 2 of NEMA emphasise the following:

- Environmental management placing people and their needs at forefront of its concern, and serve their physical, physiological, developmental, cultural and social interests equitably.
- Environmental degradation can be mitigated successfully through the implementation of the EMPr and MMPs. I&APs and Stakeholders are allowed the opportunity to consider and submit comment and can become involved in the process, thereby ensuring that all people's needs, rights and concerns will be addressed through this process.
- Development must be socially, environmentally, and economically sustainable. The proposed activities are considered socially, environmentally, and economically sustainable provided all mitigation measures are implemented.
- Consideration for ecosystem disturbance and loss of biodiversity due to excavation and earthworks of the dam and removal of indigenous vegetation.
- Pollution and environmental degradation. The potential environmental degradation has been considered and mitigation measures proposed.
- Landscape disturbance. The proposed activity of planting fruit trees and crops is considered in line with the current character of the area. However, the clearance of vegetation, construction of a dam and altering the bed and banks of a watercourse have caused damage to the landscape.
- Avoidance, minimisation and remedying of environmental impacts. The potential environmental degradation has been considered and mitigation measures proposed.
- Interests, needs and values of Interested and Affected Parties. This process provides potential Interested & Affected Parties (I&APs) and other key stakeholders with sufficient opportunity for review, comment and provide input into the process.
- Access of information. Registered I&APs are all provided with access to the relevant documentation

SECTION E: ALTERNATIVES

Please Note: Before completing this section, first consult this Department's *Guideline on Alternatives* (March 2013) available on the Department's website (**http://www.capegateway.gov.za/eadp**).

"Alternatives", in relation to an activity, means different means of meeting the general purposes and requirements of the activity, which may include alternatives to –

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

The NEMA prescribes that the procedures for the investigation, assessment and communication of the (potential) consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation –

- ensure that the general objectives of integrated environmental management laid down in NEMA and the National Environmental Management Principles set out in NEMA are taken into account; and (where applicable)
- include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The general objective of integrated environmental management is, *inter alia*, to "*identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management*" set out in NEMA.

1. In the sections below, please provide a description of any considered alternatives and alternatives that were found to be feasible and reasonable.

Please note:

- Detailed written proof of the investigation of alternatives must be provided. If no reasonable or feasible alternative exists, a motivation must be provided.
- Alternatives considered for a Section 24G application are used to determine if the development was the best practicable alternative (environmentally, socially and economically) for the site or property.
- In respect of a section 24 application, the option of not implementing the activity ("no-go"), includes the option of ceasing the activity, not implementing continuation of the activity, refusal of the commenced activity and complete rehabilitation of the affected site.

(a) Property and location/site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

There are no feasible or reasonable alternative for Groot Dam.

The primary purpose of enlarging the Groot Dam was to increase capacity to store water from the existing Klein River allocation of water. The dams on Portion 42/46 are lower in altitude than the abstraction point in the Klein River, which presented an opportunity to transfer the water via gravity feed to the dam that was subsequently enlarged. The registered volume for abstraction from the Klein River is 37 500 m^3. From the abstraction point in the Klein River to the confluence with the Kammanassie River is a neighbouring property, which is not owned by JVR Farming. Therefore, constructing a dam either instream or offstream on the Klein River would not have been an option. The original size of both dams on Portion 42/46 was too small to accommodate the volume of storage required for the Klein River allocation, necessitating enlargement of one of the dams.

The location of the road and confined space of the lower dam meant the upper of the two dams was selected for enlargement. One benefit from an ecological perspective is that the constant release of water from the lower dam effectively decommissions that dam, impounding one less catchment, that of the small wetland assessed in this report.

While the above-mentioned reasons provide a logical thought process justifying enlargement of the dam, the option to construct an offstream dam in an agricultural field closer to the Kammanassie River would have required consideration as part of the authorisation process. Despite the loss of agriculturally productive land, this is considered a viable option when surface water resources are under significant pressure, as in this catchment. This is however not a feasible or reasonable alternative for the applicant considering that agricultural land will be lost and the cost implications are very high.

Had the correct process for environmental authorisations been followed from the start, an alternative site for an off-stream dam would have to have been considered in the process. Off stream dams are preferred storage reservoirs when surface water is not the main source of water as they cause less environmental damage than an instream excavation. Considering that this site was previously disturbed, and tributaries already impacted, the completed dam in its current position is considered preferable.

There are no feasible or reasonable alternative for Kop Dam.
The option to construct an offstream dam in an agricultural field closer to the Kammanassie River is not a feasible or reasonable alternative for the applicant considering that agricultural land will be lost and the cost implications are very high. Another option would be to construct a dam instream of the Kammanassie River. This would cause environmental damage and impacts on water rights of users in the area. This is not considered a feasible or reasonable alternative. Off stream dams are preferred storage reservoirs when surface water is not the main source of water as they cause less environmental damage than an instream excavation.

(b) Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The dams were required to store allocated water to irrigate valuable agricultural land for fruit trees and crops and provide a buffer storage during certain growing seasons. To mitigate unavoidable negative impacts specialist were appointed to provide environmental input within the S24G process.

There are no reasonable or feasible activity alternatives other than to take allocated irrigation water directly from the Kammanassie River and Klein River at a very high risk to the applicant. This is due to the availability of water from the rivers during summer season and the amount of water available from the "sloot". This also has major cost implication in terms of pumping water more regularly and not being able to use gravity feed.

The water to fill the Groot Dam is mainly diverted from a "sloot" in the Klein Rivier that is regulated by means of a "beurt" allocation system. The storage is meant to provide a buffer during high summer when water is not necessarily available from the "sloot" for the irrigation of permanent crops and vegetables when required.

(c) Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

When considering alternative design options, it is important to consider the dam type. The dam type selection focusses on the most cost-effective dam option but must also consider lifetime costs and environmental impact. The options to consider include earth and rock fill dams and arch and gravity concrete dams.

Had the correct process for environmental authorisations been followed from the start for Groot Dam, an alternative site for an off-stream dam would have to have been considered in the process. Off stream dams are preferred storage reservoirs when surface water is not the main source of water as they cause less environmental damage than an instream excavation. Considering that this site was previously disturbed, and tributaries already impacted, the completed dam in its current position is considered preferable.

Concrete options only become viable when the scope of the project is large enough to balance the cost of importing materials, equipment and expertise and when the volume of fill materials are insufficient.

Fill or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site. Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part of the dam basin. The disadvantages of fill dams are that they are more susceptible to erosion at the water level in the dam and especially when overtopped. Spillway capacity and freeboard must therefore be sufficient for all foreseeable circumstances. Fill dams also require better planning for temporary diversion during construction, as even minimal overtopping can cause severe damage to a partially built embankment.

For fill embankments the most practical spillway options are bywash- and side channel-type spillways. Bywash spillways are the most common solution for farm dams and consist of a channel excavated through the flanks and a return channel to the downstream river. Side channel spillways are employed when the required spillway length is too long for a by wash structure. The spillway must be founded on competent rock. Where the rock is too deep to form the natural invert of the spillway, a concrete structure must be built up to the required level. A concrete structure has the advantage of providing a fixed flow control position, as opposed to a rough channel where the control point is dependent on the flow rate.

The return channel conveys water back to the river. Its capacity must be similar to the capacity of the spillway crest. Rapid flow rates in the channel have a high erosion potential. Water must therefore be guided away from the dam embankment. The channel alignment must be selected to avoid highly erodible areas, as lining of the channel will be very expensive. The position and layout would be determined by the rock conditions.

(d) Technology alternatives (e.g. to reduce resource demand and resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts or detailed motivation if no reasonable or feasible alternatives exist:

Use of solar power. In terms of saving on electricity this infrastructure is valuable to ensure that the farm can operate independently during loadshedding.
The use of Eskom power is and alternative but there will be no saving on electricity and farming activities will be limited by loadshedding.

The irrigation from the Kop Dam is done via gravity that has a saving on electricity and limit the loadshedding effect on the farming activities. Gravity feed is used to take water from the "sloot" to Groot dam. There are no feasible alternatives to this option.

Alternative irrigation System can be considered however these systems have cost implications to the Applicant as existing irrigation systems (Micro and Quick Coupling Sprinkler) will need to be replaced. This does not make financial sense as the existing systems are adequate for the target crop.

Micro irrigation systems work by running water through low-pressure, flexible tubing that runs across a landscape. Instead of delivering water to a big area, the irrigation system directly provides water to the root zone of plants or other relatively small areas. Water is also delivered more slowly and over a more extended time compared to other irrigation methods. By emphasizing efficiency, micro irrigation systems can have numerous benefits over conventional sprinkler systems.

Quick Coupling Sprinkler target specific areas for irrigation through the control of valves and can be adapted to specific needs with more accurate control of water flow.

(e) Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Agricultural lands can be cultivated with crops that require less water such as lucerne. The crops were changed from lucerne to fruit trees and vegetables. The production of lucerne on the properties is not as viable as fruit and vegetable production, hence the change in crops cultivated.

The water requirement for the irrigation of the existing fruit trees is estimated at 57 500 m^3 /a versus the water supply of 108 000 m^3 /a. The water restrictions according to the water management rules published in GN 9231 dated 25 May 1984 did not allowed for the expansion of additional irrigation areas on Portion 34 of farm Buffels Rivier 46, George. The irrigation area was identified during the field survey as 13.5ha and this area was decreased during the change of crops cultivated. The water requirements are therefore within the ELU.

A crop/water requirement of 5 000 m3 /ha/a was published in the Government Gazette dated 25 May 1984 that specify that a maximum quantity of 5 000m3 of water may be abstracted annually for the irrigation of each hectare of land. It was estimated that an area of 21ha was irrigated during the field survey performed by Schoeman& Associates in 1984 and that Portion 42 of farm Buffels Rivier 46, George has a potential of irrigation area on the property of 48,8ha. The water requirements are therefore within the ELU.

(f) The option of ceasing the activity (the refusal of the activity(ies) and/or rehabilitation of the site):

The option of ceasing use of the dams could result in the following impacts:

1. If left at its current capacity the Groot Dam will continue to provide some aquatic habitats however will still impact on hydrology of the system, specifically on the downstream watercourses.
2. Kop Dam will most likely dry up and require rehabilitation (infilling). This will allow vegetation to regrow.
3. The agricultural practises will in all probability fail as a result of not having enough water to irrigate the fruit trees and summer vegetables.
4. Socio-economic impacts that could have resulted in employment opportunities and skill developments will no longer be possible.
5. There will be no socio-economic contribution to the economy with the export of products.

As per the Aquatic Impact Assessment:

Decommissioning of Groot Dam if the landowner is instructed to rehabilitate the enlarged dam to its previous level of storage. This will require the dam to be rehabilitated to its pre-enlarged state. Rehabilitation must be reviewed by a person experienced in dam design to ensure that no aspects will compromise dam safety during the decommissioning phase.

- The first step in the decommissioning phase would be to remove soil from the dam embankment to the level stipulated by regulators. An alternative may be to simply lower the spillway, but this option must be determined in consultation with a dam engineer. This impact can be mitigated from a Minor to a Negligible Negative impact if all mitigation measures are followed.

- With renewed rainfall and flows once the dam level has adjusted lower, the watercourse will begin reforming along the low point near its historical path. This area will likely have minimal soil and vegetation cover. It is necessary to aid the watercourse in reforming a channel without resulting in excessive erosion and sedimentation.

- Excavation of soil from the dam's embankment, and drawdown of the water level will result in areas of exposed soil being prone to erosion. To avoid deposition of this soil in the watercourse, these areas should be revegetated and stabilised using mitigation measures.

(g) 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:

N/A

(h) Please provide a summary of the alternatives investigated and the outcomes of such investigation:

Please note: If no feasible and reasonable alternatives exist, the description and proof of the investigation of alternatives, together with motivation of why no feasible or reasonable alternatives exist, must be provided.

1. Location / Site alternatives:

There is no feasible or reasonable site alternatives.

2. Design / layout alternatives:

Dam type and most cost-effective dam options considering lifetime costs and environmental impact - instream dams, earth and rock fill dams, arch and gravity concrete dams.

3. Technology – alternative:

Irrigation systems.

4. Operational alternatives:

Use of crops that require less water.

SECTION F: IMPACT ASSESSMENT, MANAGEMENT, MITIGATION AND MONITORING MEASURES

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

Please note: The information in this section must be duplicated for all the feasible and reasonable alternatives (where relevant).

1. PLEASE DESCRIBE THE MANNER IN WHICH THE DEVELOPMENT HAS IMPACTED ON THE FOLLOWING ASPECTS:

(a) Geographical and physical aspects:

Earthmoving vehicles were required to excavate sediment from the enlarged dam's basin, clear vegetation, and extend the dam wall. Approximately 0.9 ha of riparian vegetation was cleared during the excavation, and soil up to 3 m deep was excavated from the dam basin for use in the dam wall. The impacts were considered a Moderate Negative.
Construction of the Kop Dam required to excavate sediment and soil for the dam's basin with excavation of up to 3 m deep. Excavated material was for the dam wall of approximately 3 meters heigh. Vegetation was cleared from the dam site.

(b) Biological aspects:

Has the development impacted on critical biodiversity areas (CBAs) or ecological support areas (ESAs)?	YES✓	NO
If yes, please describe:		
The Western Cape Biodiversity Spatial Plan (WCBSP; 2016) indicates that all dams are located in Critical Biodiversity Area 1 (Terrestrial) with areas downstream of the existing Groot Dam classified as Ecological Support Area 2. The lower conservation status of the watercourse downstream of the dam indicates that it has already been degraded due to historical impoundment by the two dams.		
Has the development impacted on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)?	YES✓	NO
If yes, please describe:		
The mapped vegetation type at the site is Eastern Little Karoo (SKv11) which has a conservation status of Least Concern (SANBI NVM, 2018). Plants listed for the vegetation type were consulted to determine whether any important taxa associated with wetlands or watercourses could be present at the site. No important wetland taxa were listed.		

As per the Aquatic Impact Assessment: The river reach considered in this assessment incorporates the enlarged dam's catchment and the remaining area downstream up to the confluence with the Kammanassie River. All drainage lines in this system have similar impacts and adjacent land uses. A dam's primary impacts are usually associated with altered hydrology and flows. In this situation, the same streams were impounded both pre- and post-enlargement of the dam. While the dam was primarily enlarged to store water from the Klein River allocation, when water levels draw down this creates more potential storage volume than was present pre-enlargement, which could lead to reduced flows reaching downstream. However, the lower dam's outlet has since been opened allowing water from its small catchment to permanently drain downstream, which did not happen historically. The enlarged dam is therefore believed to increase the impact in terms of abstraction and flow to a minor degree. The riparian vegetation lost by inundation post-enlargement measures approximately 0.5 ha in extent. This excludes vegetation loss due to the pre-enlargement dam. However, much of the catchment above the dam remains in a largely natural condition with only two small dams further upstream (on neighbouring properties). Riparian zones upstream of the dam consist primarily of indigenous vegetation and have little to no disturbance. Downstream of the existing dam towards the Kammanassie River, the riparian zone is minimal and agricultural fields have historically replaced areas of riparian vegetation. Downstream of the dam, the impoundment has blocked any flows from reaching the western watercourse. Rocks cleared from agricultural fields have been dumped into this watercourse, smothering some riparian and instream habitat. The combined scores for the Index of Habitat Integrity (IHI) indicate that the watercourse Present Ecological State (PES) has deteriorated from a Category C (Moderately Modified) to a Category D (Largely Modified) as a result of the dam enlargement. A pile of soil (3-4 m3) was discarded along the banks and partially into the wetland downstream of the enlarged dam next to the spillway. Rocks removed from nearby agricultural fields were discarded into the drainage line downstream of the dam. In both cases, this discard is causing localised smothering of vegetation and aquatic habitat. These impacts should be mitigated regardless of the outcome of any environmental authorisations related to enlargement of the dam
The dam was enlarged on a network of unnamed streams indicated as non-perennial drainage lines which historically flowed into the Kammanassie River (NGI, 1:50 000 drainage lines). The EIS of the network of drainage lines upstream and downstream of the dam was determined to be Moderate. As non-perennial systems with intermittent flow, they are not very sensitive to periods of reduced flow or water quality changes related to low flows.
As per the Aquatic Impact Assessment: The wetland is a distinct hydrogeomorphic unit (HGM) but it must be noted that it is a very small section of the eastern tributary between the enlarged and existing dams. It measures approximately 0.1 ha in extent. On the day of the site visit, a shallow (approx. 2 cm deep) film of water was moving through the wetland, and abundant instream wetland vegetation was present. Species include Phragmites australis, Typha capensis, Cyperus textilis, Cliffortia strobilifera and at least two Juncus spp. The historical road was placed across the wetland > 80 years ago (Figure 4), and the existing dam has been at this location for several decades. These two barriers represent the main impacts affecting the PES of the wetland prior to the upper dam's enlargement. The main impact of the latter was an area of the wetland where sand from the spillway was dumped into the watercourse. This is having a very localised impact on hydrology, geomorphology and vegetation, but did not result in the PES downgrading from the dam's pre-enlargement state. The wetland PES pre- and post-enlargement of the dam is B/C which is classified as Largely Natural to Moderately Modified.

The wetland's EIS was classified as Moderate. No Red Data or unique aquatic species are expected to occur in the wetland. The importance of the wetland as a migration route and for feeding and breeding of biota relates to presence of water in a semi-arid landscape, and the relatively undisturbed catchment area. This provides space for feeding, breeding and movement of aquatic and semi-aquatic biota. As an unchanneled valley-bottom wetland which is relatively small, the presence of high velocity channelled flows (ie. From the spillway during flooding) can potentially degrade the wetland due to erosion and channel incision
The mapped vegetation type at the Kop Dam site is Uniondale Shale Renosterveld (FRs 16) which has a conservation status of Least Threatened (SANBI NVM, 2018). There is no impact on a watercourse as defined in the NWA. Water supply to the offstream dam is an existing allocation pumped from the Kammanassie River.

Has the development impacted on any populations of threatened plant or animal species, and/or on any habitat that may contain a unique signature of plant or animal species?	YES	NO✓

If yes, please describe:
The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Uniondale Shale Renosterveld and Eastern Little Karoo.
As per the Aquatic Impact Assessment, plants listed for the vegetation type were consulted to determine whether any important taxa associated with wetlands or watercourses could be present at the site. No important wetland taxa were listed.
Please describe the manner in which any other biological aspects were impacted:
None.

(c) Socio-Economic aspects:

What was the capital value of the activity on completion?	R800 000 (Prt 42) R700 000 (Prt 34)	
What is the (expected) yearly income or contribution to the economy that is/will be generated by or as a result of the activity?	To be determined	
Has/will the activity have contributed to service infrastructure?	YES✓	~~NO~~
How many new employment opportunities were/will be created in the construction phase of the activity?	19	
What was the value of the employment opportunities during the construction phase?	R222 300 x 19	
What percentage of this accrued to previously disadvantaged individuals?	100%	

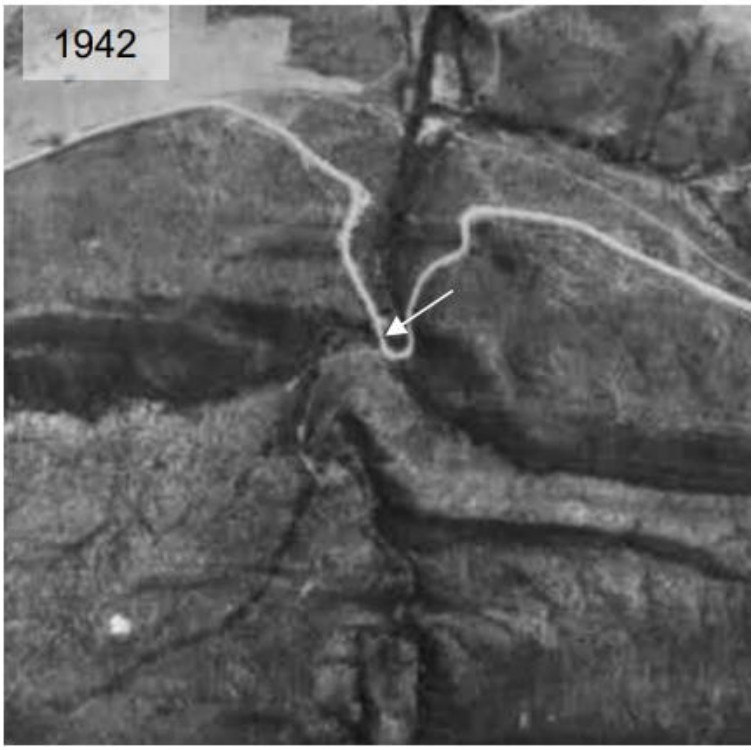
How was this ensured and monitored (please explain):
Local Labour was sourced.

How many permanent new employment opportunities were/will be created during the operational phase of the activity?	To be determined
What is the current/expected value of the employment opportunities during the first 10 years?	R
What percentage of this accrued/will accrue to previously disadvantaged individuals?	%

How was/will this be ensured and monitored (please explain):
Local Labour will be sourced.
Any other information related to the manner in which the socio-economic aspects was/will be impacted:
Only Positive impacts are expected with regards to the socio-economic aspects. They are as follow: • Skills development. • Basic health and safety. • Rehabilitation works. • Alien vegetation identification and removal techniques
All operational employment will be sourced locally as far as possible taking into account the availability of necessary skills. Where specific skills need to be sourced, this be done as close as possible.
Opportunities will include planting, herbicide and pesticide application, irrigation, fertilizer application, tree training & pruning, harvesting, dehusking & drying, grading and packing and general orchard maintenance, supervisors, farm manager, finance & accounting staff, and logistics staff.
Farm workers will be employed on a permanent basis and will increase with an increase in planted area. This will not only contribute to the local economy but will also contribute to skills development.

(d) Cultural and historic aspects:

In 1942 the original road route was very distinct, and a heritage type river crossing is still present at the location indicated by the arrow, below. Rocks cleared from agricultural fields have been dumped into the watercourse flowing under the river crossing, smothering some riparian and instream habitat. This may also impact on the heritage type river crossing. A Notice of Intent will be submitted to Heritage Western Cape.



2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

Did the activity produce waste (including rubble) during the construction phase?	~~YES~~	NO✓
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?		m^3
N/A		

Does the activity produce waste during its operational phase?	~~YES~~	NO✓
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?		m^3

Where and how was/will the waste be treated / disposed of (describe)?		
N/A		
Has the municipality or relevant authority confirmed that sufficient capacity exists for treating / disposing of the waste (to be) generated by this activity(ies)? If yes, provide written confirmation from Municipality or relevant authority. N/A	~~YES~~	~~NO~~
Does/will the activity produce waste that is/will be treated and/or disposed of at another facility other than into a municipal waste stream? N/A	~~YES~~	~~NO~~
If yes, has this facility confirmed that sufficient capacity exists for treating / disposing of the waste (to be) generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility: N/A	~~YES~~	~~NO~~
Does the facility have an operating license? (If yes, please attach a copy of the license.) N/A	~~YES~~	~~NO~~
Facility name:		
Contact person:		
Postal address:		
	Postal code:	
Telephone:	Cell:	
E-mail:	Fax:	

Describe the measures that were/will be taken to reduce, reuse or recycle waste:
N/A

(b) Emissions into the atmosphere

Does/will the activity produce emissions that will be disposed of into the atmosphere?	~~YES~~	NO✓
If yes, does it require approval in terms of relevant legislation?	~~YES~~	NO✓
Describe the emissions in terms of type and concentration and how it is/will be treated/mitigated:		
N/A		

3. WATER USE

Please indicate the source(s) of water for the activity by ticking the appropriate boxes)

~~Municipal~~	Water board	~~Groundwater~~	River, Stream, Dam or Lake✓	~~Other~~	~~The activity did/does/will not use water~~

If water was extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that was extracted per month:	m^3

Please provide proof of assurance of water supply (e.g. Letter of confirmation from municipality / water user associations, yield of borehole) Please see WULA Report.		
Did/does the activity require a water use permit / license from DWA?	YES✓	~~NO~~
If yes, please submit a certified copy of the water use permit/license or submit the necessary application to Department of Water Affairs and attach proof thereof to this application, whichever is applicable. Please see WULA Report.		
Describe the measures that were/ will be taken to reduce water demand, and measures to reuse or recycle water:		

4. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source

Eskom as well as solar power.

If power supply is not available, where will power be sourced from?
N/A

5. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:
Solar panels have been installed for the water pumps at the dams. Gravity feed is also used to move water.

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

Solar panels have been installed for the water pumps at the dams.

6. DESCRIPTION AND ASSESSMENT OF THE SIGNIFICANCE OF IMPACTS prior to and after MITIGATION

Please note:

- While sections are provided for impacts on certain aspects of the environment and certain impacts, the sections should also be copied and completed for all other impacts.
- Mitigation measures that were implemented and mitigation measures that are to be implemented should be clearly distinguished.

Methodology for Assessment of Impacts There are mainly three categories of environmental impacts:

Direct Impacts: These impacts are caused by the development itself for example the clearing of vegetation for a development.

Indirect Impacts: These impacts are usually linked closely with the project and may have more profound results than the direct impacts for example the degradation of surface water due to soil erosion emanating from the site where vegetation clearance has taken place.

Cumulative Impacts: These impacts can be defined as the ability of natural and social environments to incorporate cumulative stresses placed on them and the likelihood of negative synergistic effects. Cumulative impacts also arise when existing future development rights set a precedent in an area. The process of cumulative impacts may arise from any of the following four events:
• A single large event
• Multiple interrelated events
• Sudden or catastrophic events
• Incremental change

Definition of key terminology:

Nature of the impact
This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Extent of the impact
Describe whether the impact will be: local extending only as far as the development site area; or limited to the site and its immediate surroundings; or will have an impact on the region or will have an impact on a national scale or across international borders.

Duration of the impact
The specialist should indicate whether the lifespan of the impact would be short term (0-5 years), medium term (5-15 years), long term (16-30 years) or permanent.

Intensity
The specialist should establish whether the impact is destructive or benign and should be qualified as low, medium or high. The specialist study must attempt to quantify the magnitude of the impacts and outline the rationale used.

Probability of occurrence
The specialist should describe the probability of the impact actually occurring and should be described as improbable/unlikely (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures). NEMA SECTION 24G APPLICATION S24GAF/04/2018 47

Reversibility
• Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.
• Partly reversible – the impact is reversible but more intense mitigation measures are required
• Barely reversible – the impact is unlikely to be reversed even with intense mitigation measures
• Irreversible – the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources
Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be no loss of resources, marginal loss, significant loss or complete loss of resources.

Cumulative effect

An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. The cumulative effect can be:

- Negligible – the impact would result in negligible to no cumulative effect
- Low – the impact would result in insignificant cumulative effects
- Medium – the impact would result in minor cumulative effects
- High – the impact would result in significant cumulative effects

Significance

Significance of impacts are determined through a synthesis of the assessment criteria and is described as –

- Low negative– where it would have negligible effects and would require little or no mitigation
- Low positive – the impact will have minor positive effects
- Medium negative – the impact will have moderate negative effects and will require moderate mitigation
- Medium positive – the impact will have moderate positive effects
- High negative – the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact
- High positive – the impact will have significant positive effects
- Very high negative – the impact will have highly significant effects and are unlikely to be able to be mitigated adequately
- High positive – the impact will have highly significant positive effects

(a) **Impacts that resulted from the planning, design and construction phases (briefly describe and compare the impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that occurred as a result of the planning, design and construction phases.**

Impacts on geographical and physical aspects:	
Nature of impact:	Excavation work using heavy machinery resulted in the removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss.
Extent and duration of impact:	On-going
Probability of occurrence:	Highly Probable
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative
Degree to which the impact can be mitigated:	None
Proposed mitigation:	The significance is a "moderate negative" in both cases because the impact cannot be mitigated in retrospect
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative

Impact on biological aspects:	
Nature of impact:	Vegetation removal using heavy machinery resulted in the death or injury to ground and tree dwelling biota, destruction of indigenous plants, compaction of soil and soil erosion.
Extent and duration of impact:	Limited
Probability of occurrence:	High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	None, if the dam is constructed in the area the vegetation will be lost, however rehabilitation of the surrounding areas and replanting of indigenous vegetation is recommended.

Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative

Impacts on socio-economic aspects:	
Nature of impact:	Temporary employment opportunities during construction
Extent and duration of impact:	Limited to the local area for the duration of the construction phase
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Low - Positive
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - Positive
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - Positive

Impacts on cultural-historical aspects:	
Nature of impact:	Impacts on historic river crossing
Extent and duration of impact:	Limited
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Completely reversible
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	Removal of rock from the stream and around the river crossing.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible

Noise impacts:	
Nature of impact:	Noise pollution caused by construction machinery
Extent and duration of impact:	Limited to the site and neighbouring properties
Probability of occurrence:	Highly probable
Degree to which the impact can be reversed:	Partly reversible – only lasting for the duration of construction
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources
Cumulative impact prior to mitigation:	Negligible
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	Construction only weekdays as per working day light hours
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Visual impacts / Sense of Place:	
Nature of impact:	The sense of place will not be impacted on.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	

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

Table 1: Retrospective construction phase impact: Dam excavation and vegetation removal (Groot Dam).

Project phase	**Construction**			
Impact	**Dam excavation and removal of 0.9 ha of riparian vegetation.**			
Description of impact	**Loss of riparian and aquatic habitat.**			
Mitigatability	Low	Mitigation does not exist; or mitigation will slightly reduce the significance of impacts		
Potential mitigation	**• Had the dam been proposed through an environmental authorisation process considering viable alternatives, the minimum footprint of disturbance would have been proposed, taking environmental sensitivity into account, possibly reducing the impact to instream and riparian habitat. • Vegetation clearing is usually specified out of major breeding seasons in Spring and Summer to minimise disturbance and injury to biota. • The erosion risk due to excavation of the dam basin would have been managed through the installation of silt fences, sand-bag barriers and hay-bale check dams.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Limited	Limited to the site and its immediate surroundings
Intensity	Very high	Natural and/ or social functions and/ or processes are majorly altered	Very high	Natural and/ or social functions and/ or processes are majorly altered
Probability	Almost certain / Highly probable	It is most likely that the impact will occur	Almost certain / Highly probable	It is most likely that the impact will occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Moderate - negative**		**Moderate - negative**	
Comment on significance	The significance is a "moderate negative" with and without mitigation because the impact cannot be mitigated in retrospect.			
Cumulative impacts	Not applicable.			

Table 2: Construction phase impact: Soil and rock discard in watercourses (Groot Dam).

Project phase	**Construction**			
Impact	**Disposal of excess soil and rocks**			
Description of impact	**Sediment discarded in wetland downstream and rocks in drainage line**			
Mitigatability	High	Mitigation exists and will considerably reduce the significance of impacts		
Potential mitigation	**• Soil discarded into the wetland must be carefully removed and indigenous vegetation rehabilitated. • Rocks discarded in the drainage line below the dam must be carefully moved out of the drainage line and any bare soil must be revegetated with indigenous vegetation. • The above work should be done by hand without the use of heavy machinery.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	On-going	Impact will last between 15 and 20 years	Short term	Impact will last between 1 and 5 years
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Moderate	Natural and/ or social functions and/ or processes are moderately altered	Very low	Natural and/ or social functions and/ or processes are slightly altered
Probability	Almost certain / Highly probable	It is most likely that the impact will occur	Unlikely	Has not happened yet but could happen once in the lifetime of the project, therefore there is a
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	High	The affected environment will be able to recover from the impact	High	The affected environment will be able to recover from the impact
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Minor - negative**		**Negligible - negative**	
Comment on significance				
Cumulative impacts	Not applicable			

(b) **Impacts that result from the operational phase (briefly describe and compare impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the operational phase.**

Impacts on the geographical and physical aspects:	
Nature of impact:	Flow modification
Extent and duration of impact:	Site Related. Long Term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Partly reversibly
Degree to which the impact may cause irreplaceable loss of resources:	Marginal Loss
Cumulative impact prior to mitigation:	Low- Medium Negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low- Medium Negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• If deemed necessary, a EWR should be calculated. • Confirmation of the exact volume of water to be abstracted from the Klein River on an annual basis along with proof of the lawfulness of this abstraction must be provided.
Cumulative impact post mitigation:	Low- Medium
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Impacts on the geographical and physical aspects:	
Nature of impact:	Erosion of excavated slope/dam wall. Historically disturbed soil may be difficult to stabilise and protect from erosion.
Extent and duration of impact:	Limited

Probability of occurrence:	Low
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor Negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	• A combination of active and passive revegetation must take place in exposed areas: Active = planting recommended indigenous species, and Passive = not disturbing plants that naturally germinate. • Revegetation of the dam wall must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. • Alien vegetation must be actively removed before it becomes established when it can either be hand pulled or removed with a tree popper. NO heavy machinery can be used within previously disturbed area for the purpose of alien removal. • Revegetation must be monitored 6-monthly for 3 years by an Environmental Control Officer / Aquatic Ecologist.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative

Impact on biological aspects:	
Nature of impact:	Loss of indigenous terrestrial vegetation or Kop Dam
Extent and duration of impact:	Limited to the site – Long term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Low – Partly reversible
Degree to which the impact may cause irreplaceable loss of resources:	Marginal – Significant
Cumulative impact prior to mitigation:	Medium negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	Rehabilitate disturbed area; install berms and anti-erosion measures; side/drains / culverts for access tracks; no instream dam. Encourage regrowth of indigenous vegetation on disturbed and exposed areas around the dam. A guided alien vegetation removal plan should also be followed for the remaining alien vegetation on site.
Cumulative impact post mitigation:	Low - Medium negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative

Impacts on the socio-economic aspects:	
Nature of impact:	The activity will create new employment opportunities
Extent and duration of impact:	Local and long Term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Increased job security may contribute to improved living standards and social wellbeing within the community.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low – Medium positive
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Impacts on the cultural-historical aspects:	
Nature of impact:	No impacts on cultural-historical aspects are foreseen.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	

Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	No noise impacts are foreseen.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Visual impacts / Sense of Place:	
Nature of impact:	The sense of place will not be impacted.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Table 3: Operational phase impact: Hydrological impacts to downstream watercourses (Groot Dam).

Project phase	**Operation**			
Impact	**Hydrological impacts to downstream watercourses**			
Description of impact	**Reduced base flow and flood flows reaching downstream watercourses**			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	**• Compile a rehabilitation plan to improve hydrological connectivity for the wetland area and dam downstream of the enlarged dam. This must included detailed methods to remove any infilling from the historical road (which is no longer needed), reduction / removal of the lower dam's embankment, and revegetation of disturbed areas. Existing 'vlei' habitat in the dam should be retained. • Ensure the Section 21a water use from the Klein River has been validated and verified and confirm the volumes abstractable from this source. • Seek advice from someone suitably qulified in dam design to determine whether the spillway is well located and adequate for the dam. One alternative may be to move the spillway to the other side of the dam wall, as there is also a watercourse at this point which is already channelled. Wetland vegetation below the existing spillway could be washed away and the channel incised should the dam spill over into it.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Positive	
Duration	Permanent	Impact may be permanent, or in excess of 20 years	Permanent	Impact may be permanent, or in excess of 20 years
Extent	Limited	Limited to the site and its immediate surroundings	Limited	Limited to the site and its immediate surroundings
Intensity	Moderate	Natural and/ or social functions and/ or processes are moderately altered	Moderate	Natural and/ or social functions and/ or processes are moderately altered
Probability	Certain / definite	There are sound scientific reasons to expect that the impact will definitely occur	Likely	The impact may occur
Confidence	High	Substantive supportive data exists to verify the assessment	Medium	Determination is based on common sense and general knowledge
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Low	The resource is not damaged irreparably or is not scarce
Significance	**Moderate - negative**		**Minor - positive**	
Comment on significance	Mitigation measures will result in an improvement compared to the current and historical hydrology of the watercourse(s) downstream of the enlarged dam.			
Cumulative impacts	No applicable			

Table 4: Operational phase impact: Dam maintenance.

Project phase	**Operation**			
Impact	**Dam Maintenance**			
Description of impact	**Silt removal, flood repairs, dam wall vegetation control**			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	**• Heavy machinery for dredging the dam of periodic siltation may only gain access to the basin from the spillway 'road' and the dam wall. Earth-moving vehicles may not drive over anyshoreline vegetation to access the dam. • To minimise the impact of dredging on instream biota (plants and animals) dredging must be conducted in mid-winter to avoid the breeding season. • If aquatic vegetation has established over large areas, only 60% of vegetation that has established (reeds etc.) can be removed, working from the central basin outwards. • Make an effort to rescue any obvious wildlife from disturbance such as frogs. • Work should be conducted when the water level is as drawn down as low as possible to minimise increasing suspended sediments in the dam, as this can harm aquatic biota. • The dam's capacity must not be increased in volume, and records of the cubic metres of sediment removed must be maintained. • No trees or large shrubs must be allowed to grow on the dam embankment (wall) as these can lead to piping erosion and dam wall failure. Existing trees must be removed carefully, roots and all. Guidance in this respect must be obtained from a person experienced in dam design and maintenance. • In the event of flood damage, soil from any eroded areas must be replaced as before and revegetated with indigenous plants. Heavy vehicles may not enter the bed or banks of inflowing or outflowing watercourses unless in agreement through consultation with the BGCMA.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Short term	Impact will last between 1 and 5 years	Brief	Impact will not last longer than 1 year
Extent	Limited	Limited to the site and its immediate surroundings	Very limited	Limited to specific isolated parts of the site
Intensity	Moderate	Natural and/ or social functions and/ or processes are moderately altered	Low	Natural and/ or social functions and/ or processes are somewhat altered
Probability	Probable	The impact has occurred here or elsewhere and could therefore occur	Rare / improbable	Conceivable, but only in extreme circumstances, and/or might occur for this project although this has
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Minor - negative**		**Negligible - negative**	
Comment on significance				
Cumulative impacts	Not applicable			

(c) Impacts that may result from the decommissioning and closure phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase.

Potential impacts on the geographical and physical aspects:	
Nature of impact:	Earthworks to decommission Groot Dam may cause erosion leading to soil loss and sedimentation of the watercourse downstream.
Extent and duration of impact:	Local
Probability of occurrence:	Very High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate - negative
Degree to which the impact can be mitigated:	Minor - negative
Proposed mitigation:	• Demarcate the disturbed area with temporary fencing (not danger tape) and ensure all workers know this is the limit of disturbance.

	• Construction vehicle parking and equipment stores must be located at least 100 m from the demarcated area to prevent fuel and material spills from entering the watercourse. • Access by vehicles must be in and out on one road only to reduce the area of disturbance . • Fence off the watercourse downstream and the wetland area upstream of the excavated area for the duration of construction. These must be demarcated 'No-go Areas' for people and vehicles. • Attempt to reshape and slope the valley to the natural site contours, avoiding the creation of ditches and cuts which channel water flow and cause erosion. • Work must not be conducted during periods of rainfall to avoid further disturbance. • A large silt fence must be established and maintained free of silt for the duration of the rehabilitation work. • The depth of topsoil and final landform must be independently assessed by an Environmental Control Officer / Aquatic Ecologist using an auger prior to revegetation to ensure a uniform distribution of topsoil has been achieved.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor - negative

Potential impact on biological aspects:	
Nature of impact:	Erosion of recently replaced soil for decommissioned Kop Dam.
Extent and duration of impact:	Local and on-going
Probability of occurrence:	Certain / Definite
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Without revegetation, replaced soil will erode causing habitat loss and sedimentation downstream
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	1. Seed the slopes and stream bed with a grass mixture (Italian Ryegrass, Cynodon dactylon (kweek), Digitaria eriantha (Smuts finger grass) and cover with a light mulch. 2. On the slopes, nail in overlapping soil saver matting to protect the soil. 3. Use silt fences installed parallel to each other along the full length of the disturbed slopes approximately 8 - 10 m apart. 4. Revegetated slopes must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. 5. A 10 m buffer zone surrounding the area of disturbance must be established and demarcated with basic fencing. 6. A combination of active and passive revegetation must take place in the 10 m buffer zone: Active = planting recommended indigenous species, and Passive = not disturbing indigenous plants that naturally germinate. 7. Alien vegetation must be actively removed before it becomes established when it can either be hand-pulled or removed with a tree popper. NO heavy machinery can be used within the buffer or previously disturbed area for the purpose of alien removal. 8. Revegetation of the buffer and previously excavated area must be monitored 6-monthly for 3 years by an Environmental Control Officer / Aquatic Ecologist. 9. Monitoring should also take place by the land-owner following heavy rainfall to identify and proactively address erosion before it can progress too severely. 10. Any eroded areas must be refilled with topsoil, reseeded with grass mix, covered with a light mulch and protected with soil saver mats. The use of silt fencing can be extended to problem areas to provide further protection
Cumulative impact post mitigation:	Sedimentation of river systems.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor Negative

Potential impacts on the socio-economic aspects:	
Nature of impact:	Loss of employment for farm workers
Extent and duration of impact:	Local - Permanent
Probability of occurrence:	Definite

Degree to which the impact can be reversed:	Irreversible
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Low - Medium negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - Medium negative
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	The only mitigation will be not to decommission the project
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Potential impacts on the cultural-historical aspects:	
Nature of impact:	No impacts on cultural-historical aspects are foreseen.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Potential noise impacts:	
Nature of impact:	Noise pollution caused by construction machinery
Extent and duration of impact:	Limited to the site and neighbouring properties
Probability of occurrence:	Highly probable
Degree to which the impact can be reversed:	Partly reversible – only lasting for the duration of decommissioning
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources
Cumulative impact prior to mitigation:	Negligible
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	Construction only weekdays as per working day light hours
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential visual impacts:	
Nature of impact:	The sense of place will not be impacted.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Table 5: Decommissioning Phase Impact: Earthworks to remove soil from the dam embankment.

Project phase	**Decommissioning**			
Impact	**Earthworks to remove soil from the dam embankment**			
Description of impact	**Erosion, sedimentation, and vegetation disturbance in dam footprint and downstream.**			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	**• Demarcate the area to be cleared and ensure all workers know this is the limit of disturbance and vehicle access. • Construction vehicle parking and equipment stores must be located at least 100 m from the demarcated area to prevent fuel and material spills from entering the watercourse. • Fence off the watercourse and wetland area downstream of the dam for the duration of decommissioning. These must be demarcated 'No-go Areas' for people and vehicles. • Draw down the water level of the dam if necessary to ensure earthorks are undertaken under dry conditions. Water can be released downstream using a siphon system, but the flow velocity existing the pipe must not cause erosion. • Replace and reshape disturbed soils to natural contours in the order in which they were removed. ie. rock layer followed by subsoils (usually yellowish colour). Topsoil must be placed over the subsoil, but the latter must not be compacted. • Topsoil must be at a depth greater than or equal to 50 cm to facilitate revegetation. • Attempt to reshape and slope the valley to the natural site contours, avoiding the creation of ditches and cuts which channel water flow and cause erosion. • Work must not be conducted during periods of rainfall to avoid further disturbance. • A large silt fence along the disturbed area must be established and maintained free of silt for the duration of the rehabilitation work. • The depth of topsoil and final landform must be independently assessed by an Environmental Control Officer / Aquatic Ecologist using an auger prior to revegetation to ensure a uniform distribution of topsoil has been achieved.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Medium term	Impact will last between 5 and 10 years	Short term	Impact will last between 1 and 5 years
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	High	Natural and/ or social functions and/ or processes are notably altered	High	Natural and/ or social functions and/ or processes are notably altered
Probability	Almost certain / Highly probable	It is most likely that the impact will occur	Unlikely	Has not happened yet but could happen once in the lifetime of the project, therefore there is a
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Minor - negative**		**Negligible - negative**	
Comment on significance				
Cumulative impacts	Not applicable			

Table 6: Decommissioning Phase Impact: Restoration of the Stream Bed (Groot Dam).

Project phase	**Decommissioning**			
Impact	**Restoration of the stream bed**			
Description of impact	**Erosion, channel incision and sedimentation downstream**			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	**• Install 4 - 5 small (1 layer high) hay-bale check dams perpendicular to the water flow, equally spaced at intervals along the stream channel. The purpose is to slow and filter flows, and encourage settling of sediment upstream of each check dam. • Hay-bale check dams must be correctly installed wrapped in a biodegradable material such as hessian to hold them together. They should be 'dug in' to the stream bed and keyed into the banks. • Cover approximately 40% of the stream bed with cobbles and small rocks (Approx. 30 cm width) placed randomly along the length of the stream bed. Rocks removed from agricultural fields would be acceptable for this purpose but must be placed in a single layer, not as a pile.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	Medium term	Impact will last between 5 and 10 years	Short term	Impact will last between 1 and 5 years
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	Moderate	Natural and/ or social functions and/ or processes are moderately altered	Low	Natural and/ or social functions and/ or processes are somewhat altered
Probability	Likely	The impact may occur	Probable	The impact has occurred here or elsewhere and could therefore occur
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Minor - negative**		**Negligible - negative**	
Comment on significance				
Cumulative impacts	No applicable.			

Table 7: Decommissioning Phase Impact: Erosion of recently disturbed soil.

Project phase	**Decommissioning**			
Impact	**Erosion of recently disturbed soil**			
Description of impact	**Without revegetation, exposed soil will erode causing sedimentation downstream**			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	**• Lightly seed the slopes and stream bed with the grass Cynodon dactylon (kweek). Seed into topsoil, and cover with a thin layer of mulch. • On slopes greater than 1:3, nail in overlapping soil saver matting to protect the soil. • On steep slopes silt fences must be installed perpendicular to the slopes and parallel to each other approximately 8 - 10 m apart (Methods provided). • Revegetated slopes must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. • The indigenous seed bank may have been destroyed through inundation by dam water, or lost through earth-moving. Passive establishment of indigenous plants must be monitored. If after one full growing season following decommissioning of the dam there is still < 50% cover with indigenous seedlings, active planting may be necessary (see plant list). This must be monitored and overseen by an Aquatic Ecologist. • Alien vegetation must be actively removed before it becomes established when it can either be hand-pulled or removed with a tree popper. NO heavy machinery can be used within the recovering watercourse or previously disturbed area for the purpose of alien plant removal. • Revegetation of the riparian area and previously excavated area must be monitored 6-monthly for 3 years by an Aquatic Ecologist. • Monitoring should also take place by the land-owner following heavy rainfall to identify and proactively address erosion before it can progress too severely. • Eroded areas of the steep banks must be refilled with topsoil, reseeded with grass, covered with a light mulch and protected with soil saver mats. Silt fencing must be used in problem areas to provide further protection against erosion.**			
Assessment	**Without mitigation**		**With mitigation**	
Nature	Negative		Negative	
Duration	On-going	Impact will last between 15 and 20 years	Short term	Impact will last between 1 and 5 years
Extent	Local	Extending across the site and to nearby settlements	Limited	Limited to the site and its immediate surroundings
Intensity	High	Natural and/ or social functions and/ or processes are notably altered	Moderate	Natural and/ or social functions and/ or processes are moderately altered
Probability	Almost certain / Highly probable	It is most likely that the impact will occur	Probable	The impact has occurred here or elsewhere and could therefore occur
Confidence	Medium	Determination is based on common sense and general knowledge	Medium	Determination is based on common sense and general knowledge
Reversibility	Medium	The affected environment will only recover from the impact with significant intervention	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	**Moderate - negative**		**Minor - negative**	
Comment on significance				
Cumulative impacts	Not applicable			

(d) Any other impacts:

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

(Low, Medium, Medium-High, High, or Very-High)	

Please note: If any of the above information is not available, specialist input may be requested.

7. SPECIALIST INPUTS/STUDIES AND RECOMMENDATIONS

Please note: Specialist inputs/studies that will be undertaken as part of this application. These specialist inputs/studies must take into account the Department's relevant Guidelines on the Involvement of Specialists in EIA Processes available on the Department's website (**http://www.capegateway.gov.za/eadp**). A summary of all the specialist inputs/studies must be provided with the additional information.

Specialist inputs/studies and recommendations:

Aquatic Specialist Assessment for a Section 24G and WULA for an Enlarged Dam on Farm Buffelsrivier 42/46 and 34/46, George by Confluent Aquatic Consulting & Research dated August 2022.

In conclusion, the network of affected watercourses was already impacted through impoundment by two dams. Enlargement of the upstream dam has resulted in a decrease in the PES of the system by one level due to loss of riparian and aquatic habitat. The increased volume of the enlarged dam is much greater than the sum of storage in the two existing dams. However, it is understood that the intention of the enlarged dam was to store an allocation of water from the Klein River, and not to store additional surface runoff from the catchment. The landowner effectively decommissioned storage in the downstream dam letting most of the water run out of the dam creating the opportunity to rehabilitate one previously impounded reach in the stream network.

It is recommended that the enlarged dam be retained with the following provisions:

- A comprehensive rehabilitation plan for the downstream wetland and decommissioned dam must be compiled and fully implemented.
- Confirmation of the exact volume of water to be abstracted from the Klein River on an annual basis along with proof of the lawfulness of this abstraction must be provided.
- All water abstraction points must be metered to ensure over-abstraction doesn't occur.
- An assessment of the dam wall and spillway by a suitable professional must be undertaken to ensure the dam poses no risk to the receiving wetland.
- Aquatic habitat that has established vlei-like conditions in standing water in the downstream dam should be maintained with a trickle-flow of water released from the dam provided this is available. This is achievable using a siphon system with a valve to open / close the pipe.

Water Use Authorisation Report JVR Boerdery (Pty) Ltd for Portion 42 of Farm Buffelsrivier 46 by HDL Consulting (Pty) Ltd dated November 2022.

This WUL serves as motivation to enlarge the Groot Dam to a capacity of 49 861 m3 . The water to fill the dam can be regarded as ELU and it will be taken from the Klein Rivier according to a historic share agreement.

The Groot Dam can be regarded as an in-stream dam and Dr. Jackie Dabrowski from Confluent Environmental (Pty) Ltd was appointed to perform a Freshwater Specialist Study.

The development of the property will realise the following benefits:

1. The property is in a re-development phase where a more secure water source will be required. The applicant has transformed the historic grazing areas into permanent fruit crops and summer vegetables cultivation. The storing of water in the Groot Dam will increase the water security for the sustainable development of Portion 42 of farm Buffels Rivier 46, George.
2. The storing of water in the Groot Dam is critical to the successful development of the property that includes the cultivation of permanent fruit crops. The storage dam will increase the water surety which will provide a buffer on the water availability from the Klein Rivier. Water is not always available during summer for the irrigation of the agriculture crops.
3. The taking of water from the Klein Rivier can be regarded as ELU. The water from the Klein River is taking 2.2km away from the Groot Dam and the dam can be filled with gravity that save on electricity.
4. The development will ensure that water will be used beneficially and effectively. The water surety will increase production in the cultivation of crops and it will contribute to the Gross Domestic Product of the country.

Water Use Authorisation Report Ella Doretia Janse van Rensburg for Portion 34 of Farm Buffelsrivier 46 by HDL Consulting (Pty) Ltd dated November 2022.

This WUL serves as motivation to enlarge the Kop Dam to a capacity of 20 145 m3 . The water to fill the dam can be regarded as ELU and it will be taken from the Kamannassie Rivier.

The Kop Dam can be regarded as an off-channel dam and Dr. Jackie Dabrowski from Confluent Environmental (Pty) Ltd has confirmed that no freshwater impacts will be experience during the construction and operation of the Kop Dam.

The development of the property will realise the following benefits:

1. The existing irrigation areas were in the recent year planted with permanent crops that required a more secure water source during certain growing seasons.
2. The capacity of the Kop Dam is within the allowable 50 000m3 that was published during the promulgation of the Olifants River (Oudtshoorn) GWCA whereby each property that falls within the GWCA are allowed storage credits of 50 000m3 .
3. The storing of water in the Kop Dam is critical to the successful fruit orchard development on Portion 34 of farm Buffels Rivier 46, George. The storage will only provide a buffer volume of 20 145m3 for when no water is available in the Kamannassie River during high summer times.
4. The taking of water of 108 000m3/a can be regarded as ELU and it will not have a further negative effect on the resource or on any person's water use.

8. IMPACT ASSESSMENT SUMMARY

Briefly describe the impacts (as appropriate), significance rating of impacts, mitigation and significance rating of impacts of the activity. This must include an assessment of the significance of all impacts.

Impacts	Significance rating of impacts after mitigation (Low, Medium, Medium-High, High, Very High):
Excavation work using heavy machinery resulted in the removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss.	Moderate - Negative
Vegetation removal using heavy machinery resulted in the death or injury to ground and tree dwelling biota, destruction of indigenous plants, compaction of soil and soil erosion.	Moderate - Negative
Temporary employment opportunities during construction.	Low - Positive
Impacts on historic river crossing.	Negligible - Negative
Noise pollution caused by construction machinery	Low - Negative
Dam excavation and vegetation removal (Groot Dam).	Moderate - Negative
Soil and rock discard in watercourses (Groot Dam).	Negligible – Negative

9. SUMMARY OF THE CONSEQUENCES OF/ IMPACTS OF THE UNLAWFULLY COMMENCED ACTIVITY/IES

Please provide a detailed summary of the consequences/impacts of commencement of the activity/ies on the environment.

Summary:

- Impeding the flow of a portion of a non-perennial watercourse.
- Erosion and sedimentation of a portion of a watercourse on the applicant's property.
- Loss of riparian and terrestrial habitat on a portion of the non-perennial watercourse.
- Re-Infestation of Alien Invasive Plants after removal of heavy alien infestation, due to the disturbance seed bank and ceasing of the activities.
- Clearing of indigenous plants on 1.2 hectares.
- Increased success for future agricultural plans.
- New employment opportunities and significant skills development.

10. OTHER MANAGEMENT, MITIGATION AND MONITORING MEASURES

(a) Over and above the mitigation measures described above, please indicate any additional management, mitigation and monitoring measures.

- The Environmental Management Programme must be implemented and adhered to.
- A comprehensive rehabilitation plan for the downstream wetland and decommissioned dam must be compiled and fully implemented.
- Confirmation of the exact volume of water to be abstracted from the Klein River on an annual basis along with proof of the lawfulness of this abstraction must be provided.
- All water abstraction points must be metered to ensure over-abstraction doesn't occur.
- An assessment of the dam wall and spillway by a suitable professional must be undertaken to ensure the dam poses no risk to the receiving wetland.
- Aquatic habitat that has established vlei-like conditions in standing water in the downstream dam should be maintained with a trickle-flow of water released from the dam provided this is available. This is achievable using a siphon system with a valve to open / close the pipe
- The Rehabilitation and Maintenance Management Plans needs to be compiled, be implemented and adhered to.
- An Alien Invasive Plant Removal Programme must form part of the EMPr/MMP and must be implemented. The area must be continuously maintained throughout the lifespan of the project.
- No pollution of groundwater or surface water may occur due to any activity.
- Environmental audits should be conducted every month during the course of rehabilitation until an 80% success rate is reached.

(b) Describe the ability of the applicant to implement the management, mitigation and monitoring measures.

The applicant will receive the necessary training in the understanding and implementation of the EMPr & MMP and will appoint a qualified ECO to undertake environmental inspections.

Please note: A draft **ENVIRONMENTAL MANAGEMENT PROGRAMME** must be attached to this application as **Appendix I**.

SECTION G: ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLYING ASSUMPTIONS AND UNCERTAINTIES

(a) Please describe adequacy of the assessment methods used.

The scope of the study has been determined with reference to the requirements of the relevant legislation, namely the NEMA EIA Regulations, 2014 as amended. The main responsibilities of the Environmental Consultant would include, inter alia, the following as stipulated in the EIA Regulations:
Submission of the required Application Form to the relevant authority, in order to register the proposed project, and obtain the applicable reference number;

- Consultation with the relevant authorities and stakeholders, through the Section 24G process, to ensure that identification of relevant issues or concerns are undertaken. Ensure the assessment of and response to the issues that are raised;
- Consideration of the applicable Legislation, Guidelines & Policies;
- Compilation of the required S24G Report, describing the proposed activity, the affected environment, the potential environmental impacts, all applicable legislation and applicable guidelines, and the detail of the public participation process followed;
- Submission of the above-mentioned documents to the public for comment and to the authority (DEA&DP) for a decision. This Section 24G process is being undertaken with sustainable development as a goal. The assessment identifies the impacts of the activity on the environment and assesses the significance of these, as well as proposed mitigation measures, as required, to ensure positive impacts and/or to reduce anticipated negative impacts to an acceptable level where they could not be avoided. This is to ensure that the activity makes "equitable and sustainable use of environmental and natural resources for the benefit of present and future generations." The assessment methods used are anticipated to be adequate for the nature of the application and the site,

(b) Please describe the assessment criteria used.

• NEMA Act 107 of 1998
• NEMA: EIA Regulations 2014 as amended
• Western Cape Department of Environmental Affairs and Development Planning: Guideline Documents.

The criteria are also based on the EIA Regulations, published by the Department of Environmental Affairs and Tourism (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989.

These criteria include:

Nature of the impact
This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Extent of the impact
Describe whether the impact will be: local extending only as far as the development site area; or limited to the site and its immediate surroundings; or will have an impact on the region or will have an impact on a national scale or across international borders.

Duration of the impact
The specialist should indicate whether the lifespan of the impact would be short term (0-5 years), medium term (5-15 years), long term (16-30 years) or permanent. NEMA SECTION 24G APPLICATION S24GAF/04/2018 62

Intensity
The specialist should establish whether the impact is destructive or benign and should be qualified as low, medium or high. The specialist study must attempt to quantify the magnitude of the impacts and outline the rationale used.

Probability of occurrence
The specialist should describe the probability of the impact actually occurring and should be described as improbable/unlikely (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures).

Reversibility
• Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.
• Partly reversible – the impact is reversible but more intense mitigation measures are required
• Barely reversible – the impact is unlikely to be reversed even with intense mitigation measures
• Irreversible – the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources
Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be no loss of resources, marginal loss, significant loss or complete loss of resources.

Cumulative effect
An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. The cumulative effect can be:
• Negligible – the impact would result in negligible to no cumulative effect
• Low – the impact would result in insignificant cumulative effects • Medium – the impact would result in minor cumulative effects
• High – the impact would result in significant cumulative effects

Significance
Significance of impacts are determined through a synthesis of the assessment criteria and is described as –
• Low negative– where it would have negligible effects and would require little or no mitigation
• Low positive – the impact will have minor positive effects
• Medium negative – the impact will have moderate negative effects and will require moderate

mitigation • Medium positive – the impact will have moderate positive effects • High negative – the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact • High positive – the impact will have significant positive effects • Very high negative – the impact will have highly significant effects and are unlikely to be able to be mitigated adequately • High positive – the impact will have highly significant positive effects.

(c) Please describe the gaps in knowledge.

Gaps of knowledge for alternatives: 1. What would the geological impact be on excavating a new proposed dam? 2. What will the finical implications be and would it have been financially feasible for a new farmer? 3. The dam has already been excavated what the cost to the applicant will be to rehabilitate and construct a new off stream dam while losing very valuable agricultural potential soil. 4. Alternative dam designs - where would the required basin fill be sourced from and what will the environmental impacts be of the borrow pit if required off site. 5. Economical viability of planting other types of crops and cost associated that would negatively impact on the property owners.
There is limited knowledge of the environment prior to any earthworks.
The knowledge of the state of the environment is purely from information conveyed to the EAP by the applicant, literature, GIS mapping, and specialist assessments.
It is assumed that all the information conveyed to the EAP by the applicant and specialists are correct. The management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of a detailed Environmental Management Programme.

(d) Please describe the underlying assumptions.

It is assumed that all the information conveyed to the EAP by the applicant and specialists are correct. The management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of a detailed Environmental Management Programme.

(e) Please describe the uncertainties.

There are no identified uncertainties.

SECTION H: RECOMMENDATIONS OF THE EAP TO BE COMPLETED IN FINAL APPLICATION

In my view (EAP), the information contained in the Application and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for.	YES✓	~~NO~~

If "NO", list the aspects that should be further assessed through additional specialist input/assessment:		
If "YES", please indicate below whether in your opinion the applicant should be directed to cease the activity or if it should be authorised:		
Applicant should be directed to cease the activity:	~~YES~~	NO✓
Please provide reasons for your opinion		
The EAP concur with the specialist's conclusion and findings.		
If you are of the opinion that the activity should be authorised, then please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an authorisation.		
To be completed after final round of PPP.		

SECTION I: REPRESENTATIONS – RESPONSE TO AN INCIDENT OR EMERGENCY SITUATION

This section is only applicable to instances where Section 49A (2) of NEMA applies. Please list all steps that where taken in response to the incident or emergency situation.
N/A

Please note:

Section 30 of NEMA deals with the procedures to be followed for the control of emergency incidents and Section 30A deals with procedures to the followed in the case of emergency situations.

SECTION J: PUBLIC PARTICIPATION

1. PUBLIC PARTICIPATION PROCESS TO BE FOLLOWED

1.1 THE PUBLIC PARTICIPATION PROCESS IN TERMS OF THE SECTION 24G FINE REGULATIONS, 2017

Regulation 8 of the Section 24G Fine Regulations require that all applicants must conduct public participation **prior to submission** of a section 24G application (as outlined in Annexure A of the Section 24G Fine Regulations - Section D: Preliminary Advertisement).

"The applicant must place a preliminary advertisement in-
(1) A local newspaper in circulation in the area in which the activity was, or activities were, commenced; and on the applicant's website, if any.
(2) This advertisement must comply with the requirements set out in Annexure A, Section D of the Section 24G Fine Regulations, 2017.
(3) The applicant must open and maintain of a register of interested and affected parties.
*(4) The **register must be attached to the application form and included in the report**, or form part of the information submitted in terms of section 24G(1) of the Act, which the register must, as a minimum, contain the names, contact details and addresses of-* *(a) all persons who, as a consequence of the public participation process conducted in respect of the application, have submitted written comments or attended meetings with the applicant or any environmental assessment practitioner or other specialist appointed by the applicant to assist with the application;* *(b) all persons who have requested the applicant, in writing, to place their names on the register; and* *(c) all organs of state that have jurisdiction in respect of the activity to which application relates."*

STATE DEPARTMENTS			
Name	**Contact Person**	**Contact Details**	**Email**
Dept of Environmental Affairs & Development Planning (DEA & DP)	Danie Swanepoel	Private Bag x6509, George, 6530 044 805 8602 (T) 044 805 8650 (F)	Danie.Swanepoel@westerncape.gov.za
Department of Health	Nathan Jacobs	Private Bag x6592, George, 6530 044-803 2727 (T) 044-873 5929 (F)	Nathan.Jacobs@westerncape.gov.za
Heritage Western Cape	Noluvo Toto Stephanie Barnardt	Private Bag x9067, Cape Town, 8000 021-483 9729 (T) 021-483 9845 (F)	Noluvo.Toto@westerncape.gov.za Stephanie.barnardt@westerncape.gov.za
Provincial Roads Dept	Azni November Dirk Prinsloo	Private Bag x617, Oudtshoorn, 6620 044 272 6071 (T) 044 272 7243 (F)	Azni.November@westerncape.gov.za Dirk.Prinsloo@westerncape.gov.za

Department of Water & Sanitation	John Roberts	Private Bag x16, Sanlamhof, 7532 021 941 6179 (T) 021 941 6082 (F)	RobertsJ@dwa.gov.za
Dept of Agriculture Land Use Management	Cor van der Walt	Private Bag x1, Elsenburg, 7601 021 808 5099 (T) 021 808 5092 (F)	Landuse.elsenburg@elsenburg.com corvdw@elsenburg.com
Coastal Management Unit, DEA&DP	Joy Ruiters	Private Bag x9086, Cape Town. 8000 021 483 4737 (T) 021 483 8326 (F)	Joy.ruiters@westerncape.gov.za
DAFF: Forestry Management	Melanie Koen	Private Bag x12, Knysna, 6570 044 302 6902 (T) 044 382 5461 (F)	MKoen@dffe.gov.za

ORGANS OF STATE			
Name	**Contact Person**	**Contact Details**	**Email**
Breede-Gouritz Catchment Management Agency	Andiswa Sam R Mphahlele	PO Box 1205, George, 6530 023 346 8000 (T) 023 347 2012 (F)	asam@bgcma.co.za mphahlele@bgcma.co.za
Cape Nature Land Use Advice	Colin Fordham	Private Bag x6546, George, 6530 044 802 5328 (T) 044 802 5313 (F)	landusegeorge@capenature.co.za
SANRAL	Nicole Abrahams	Private Bag x19, Bellville, 7530 021 957 4602 (T)	AbrahamsN@nra.co.za
Southern Cape Fire Protection Agency	Dirk Smit	Private Bag x12, Knysna, 6570 044 302 6912 (T) 086 616 1682 (F)	managerfpa@gmail.com
SANPARKS	Maretha Alant	PO Box 3542, Knysna, 6570 044 302 5600 (T) 044 382 4539 (F)	Maretha.alant@sanparks.org
South African Civil Aviation Authority	Lizell Stroh	011 545 1232 (T)	Strohl@caa.co.za

MUNICIPALITIES			
Name	**Contact Person**	**Contact Details**	**Email**
George Municipality	Town Planning Section Clinton Petersen	P.O. Box 19, George, 6530 044-8019477 (T) 08605299923 (F)	cpetersen@george.gov.za
George Municipality	Environmental Control Officer Priscilla Burgoyne	P.O. Box 19, George, 6530 (044) 801 9156 (T)	pburgoyne@george.gov.za
George Municipality	Ward 25 – Councillor Jacques Esau Uniondale		

Garden Route District Municipality	Mr. Lusanda Menze	P.O. Box 12, George, 6530 044-8031300 (T) 0865556303 (F)	info@gardenroute.gov.za
Garden Route District Municipality	Dr. Nina Viljoen	P.O. Box 12, George, 6530 044-8031300 (T) 0865556303 (F)	nina@gardenroute.gov.za

Please provide a summary of the steps followed where public participation was undertaken in accordance with Regulation 8 prior to submission of this Application Form. Ensure that proof of compliance with Regulation 8 is submitted with this Application Form, including, *inter alia*, proof of preliminary advertisement in a local newspaper.

1. The applicant has done the following prior to submission of the application –
    a. preliminary advertisement in a local newspaper in circulation in the area in which the activity was, or activities were, commenced; and on the applicant's website, if any. Notification to I&AP was placed in the Oudtshoorn Courant and on the Eco Route website for a 30-day Public Participant Process from 06/03/2023 to 06/04/2023.

2. This advertisement must comply with the requirements set out in Annexure A, Section D of the Section 24G Fine Regulations, 2017.

3. A register of interested and affected parties has been opened and will be maintained.

4. The register will be attached to the application form and included in the report, or form part of the information submitted in terms of section 24G(1) of the Act, which the register must, as a minimum, contain the names, contact details and addresses of-
    a. all persons who, as a consequence of the public participation process conducted in respect of the application, have submitted written comments or attended meetings with the applicant or any environmental assessment practitioner or other specialist appointed by the applicant to assist with the application;
    b. all persons who have requested the applicant, in writing, to place their names on the register; and
    c. all organs of state that have jurisdiction in respect of the activity to which application relates."

Please indicate whether the applicant has a website (please tick relevant box):	YES✓	~~NO~~

If yes, please note that the application information as specified above must have been advertised on such website and proof thereof must accompany this application.

Eco Route Environmental Consultancy website (www.ecoroute.co.za) was used to provide notification and to provide the Pre-Application S24G EIR to the public.

Please note: Annexure A: Section D attached to this Application form must be strictly adhered to.

1.2 THE PUBLIC PARTICIPATION PROCESS IN TERMS OF NEMA EIA REGULATIONS, 2014

As the applicant, you may be directed to conduct the public participation process that fulfils the requirements outlined in Chapter 6 of the EIA Regulations, 2014. In doing so, you must take into account any applicable guidelines published in terms of Section 24J of NEMA, the Department's Circular EADP 0028/2014 on the "One Environmental Management System" and the EIA Regulations, 2014 as well as any other guidance provided by the Department. Note that the public participation requirements are applicable to all proposed sites.

Please highlight the appropriate box below to indicate the public participation process that has been or will be undertaken to give notice of the application to all potential interested and affected parties, including deviations that may be agreed to by the competent authority:

1. In terms of regulation 41 of the EIA Regulations, 2014 -		
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -		
(i) the site where the activity to which the application relates is or is to be undertaken; and	YES✓	~~DEVIATION~~
(ii) any alternative site	~~YES~~	~~DEVIATION~~
(b) giving written notice, in any manner provided for in section 47D of the NEMA, to –		

(i) the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES✓	~~DEVIATION~~	~~N/A~~
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES✓	~~DEVIATION~~	
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES✓	~~DEVIATION~~	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES✓	~~DEVIATION~~	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES✓	~~DEVIATION~~	
(vi) any other party as required by the Department;	YES✓	~~DEVIATION~~	~~N/A~~
(c) placing an advertisement in -			
(i) one local newspaper; or	YES✓	~~DEVIATION~~	
(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	~~YES~~	~~DEVIATION~~	N/A✓
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken	~~YES~~	~~DEVIATION~~	N/A✓
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to— (i) illiteracy; (ii) disability; or (iii) any other disadvantage.	YES✓	~~DEVIATION~~	~~N/A~~
If you have indicated that "DEVIATION" applies to any of the above, then Section 2. below must be completed.			
NOTE: 2. The NEM: WA requires that a notice must be placed in at least two newspapers.			
If applicable, have/will an advertisement be placed in at least two newspapers?	~~YES~~	~~NO~~	
If "NO", then an application for exemption from the requirement must be applied for.			

1. **Provide a list of all the state departments that has been / will be consulted:**		
List of State Depts.	**Comment obtained (YES/NO)**	**If not, provide reasons**
George Municipality	No	PPP not completed yet.
DEA&DP	No	PPP not completed yet.
DFFE	No	PPP not completed yet.
CapeNature	No	PPP not completed yet.
SANParks	No	PPP not completed yet.
BGCMA	No	PPP not completed yet.

2. **Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues raised were incorporated, or the reasons for not being incorporated or addressed.**
(The details of the outcomes of this process, including supporting information must be included in the Comments and Report to be attached to this application as Appendix G.)

This is a Pre-Application S24G Application. All comments received will be incorporated into the Comments and Response Report.

3. **Provide a summary of any conditional aspects identified / highlighted by any Organs of State, which have jurisdiction in respect of any aspect of the relevant activity.**

This is a Pre-Application S24G Application. All comments received will be incorporated into the Comments and Response Report.

Please note:

- **A list of all the potential interested and affected parties, including the organs of State must be opened, maintained and made available to any person requesting access, in writing, to the register.**
- **All comments of interested and affected parties on the Application Form and Additional Information must be recorded, responded to and included in the Comments and Responses Report attached as Appendix G to the Application. The Comments and Responses Report must also include a description of the Public Participation Process followed.**

- **The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants must also be submitted as part of the public participation information to be attached to the additional information/Environmental Impact Report as Appendix G.**

- **<u>Proof</u> of all the notices given as indicated, as well as of notice to the interested and affected parties of the availability of the Application Form/Additional Information must be submitted as part of the public participation information to be attached to the application as Appendix G.**

2. REPRESENTATIONS REGARDING DEVIATION FROM PUBLIC PARTICIPATION REQUIREMENTS IN TERMS OF THE EIA REGULATIONS, 2014

Please provide detailed reasons (representations) as to why it would be appropriate not direct you to comply with all of the requirements and to deviate from the requirements of regulation 41 as indicated above.
N/A

3. LIST OF STATE DEPARTMENTS

Section 24(O)(2) obliges the relevant authority to consult with every State department that administers a law relating to a matter affecting the environment when such authority considers an application for an environmental authorisation.

Provide a list of all the State departments that will be/have been consulted, including the name and contact details of the relevant official.			
State Department	Name of person	Contact details	
BGCMA	Andiswa Sam	Tel	023 346 8000
		Fax	023 347 2012
		E-mail	asam@bgcma.co.za
CapeNature	Megan Simons	Tel	087 087 3060
		Fax	044 802 5313
		E-mail	msimons@capenature.co.ca
Heritage Western Cape	Stephanie Barnardt	Tel	021-483 9729
		Fax	021-483 9845
		E-mail	Stephanie.barnardt@westerncape.gov.za

Please note:

A State department consulted in terms of Section 24O(2) of NEMA and Regulations 3(4) and 43(2) must within 30 days from the date of the Department/EAP's request for comment, submit such comment in writing to the Department. The applicant/EAP is therefore required to inform this Department in writing when the application/relevant information is submitted to the relevant State Departments. Upon receipt of this confirmation, this Department will in accordance with Section 24O (2) & (3) of the NEMA inform the relevant State Departments of the commencement date of the 30-day commenting period.

PART 2 – ANNEXURE A TO THE SECTION 24G APPLICATION FORM

SECTION A: DIRECTIVES

Section 24G(1) of NEMA provides that on application by a person who has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1); or a person who has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20(b) of the National Environment Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") the Minister, the Minister responsible for mineral resources or the MEC concerned (or the official to which this power has been delegated), as the case may be, may direct the applicant to-

i	*immediately cease the activity pending a decision on the application submitted in terms of this subsection*	
ii	*investigate, evaluate and assess the impact of the activity on the environment*	
iii	*remedy any adverse effects of the activity on the environment*	
iv	*cease, modify or control any act, activity, process or omission causing pollution or environmental degradation*	
v	*contain or prevent the movement of pollution or degradation of the environment*	
vi	*eliminate any source of pollution or degradation*	
vii	*compile a report containing-*	
	aa	*a description of the need and desirability of the activity*
	bb	*an assessment of the nature, extent, duration and significance of the consequences for or impacts on the environment of the activity, including the cumulative effects and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity*
	cc	*a description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity*
	dd	*a description of the public participation process followed during the course of compiling the report, including all comments received from interested and affected parties and an indication of how the issues raised have been addressed*
	ee	*an environmental management programme*
viii	*provide such other information or undertake such further studies as the Minister, Minister responsible for mineral resources or MEC, as the case may be, may deem necessary.*	

You are hereby provided with an opportunity to make representations on any or all of the abovementioned instructions including where you are of the opinion that any of these instructions are not relevant for the purposes of your application setting out the reasons for your assertion. Kindly note further that after taking your representation into account a final directive may be issued.

Please Note:

Notwithstanding the above, subsequent to submission of the application form to the Department, you may be issued with a specific directive in terms of section 24G(1)(i) to (viii), and you will therefore be provided with an opportunity to make further representations as to the specific directive.

The appointed Environmental Assessment Practitioner, on behalf of the applicant, may be directed to compile and submit a report that meets the requirements of section 24G(vii)(aa)-(ee) as specified above.

SECTION B: DEFERRAL OF THE APPLICATION

Section 24G(7) of the NEMA provides that if at any stage after the submission of an application it comes to the attention of the Minister, the Minister responsible for mineral resources or the MEC, that the applicant is under criminal investigation for the contravention of, or failure to comply with, section 24F(1) of the NEMA or section 20(b) of the NEM:WA, the Minister, Minister responsible for mineral resources or MEC may defer a decision to issue an environmental authorisation until such time as the investigation is concluded and-

(a) the National Prosecuting Authority has decided not to institute prosecution in respect of such contravention or failure;
(b) the applicant concerned is acquitted or found not guilty after prosecution in respect of which such contravention or failure has been instituted; or
(c) the applicant concerned has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant has in respect of the conviction exhausted all the recognised legal proceedings pertaining to appeal or review.

Kindly answer the following questions:

Are you, the applicant, being investigated for a contravention of section 24F(1) of the NEMA in respect of a matter that is not subject to this application and in any province in the Republic?	~~YES~~	NO ✓	~~UNCERTAIN~~
If yes provide details of the offence being investigated and authority conducting the investigation. *If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.*			
Are you, the applicant, being investigated for the contravention of section 20(b) of the NEMWA in respect of a matter that is not subject to this application and in any province in the Republic?	~~YES~~	✓	~~UNCERTAIN~~
If yes provide details of the offence being investigated and authority conducting the investigation. *If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.*			
Are you, the applicant, being investigated for an offence in terms of section 24F(1) of the NEMA or section 20(b) of the NEMWA in terms of which this application directly relates?	YES ✓	~~NO~~	~~UNCERTAIN~~
If yes provide details of the offence being investigated and authority conducting the investigation. *If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.*			
DEA&DP – Issued a Compliance Notice in terms of section 31L of the National Environmental Management Act, 1998 ("NEMA"). The Compliance Notice relates to non-compliance with the provisions of section 24F of the NEMA. No activity listed in the Environmental Impact Assessment ("EIA") Regulations Listing Notice 1 of 2014 may commence without environmental authorisation from the competent authority.			

If you have answered yes or uncertain to any of the above questions, you are hereby provided with an opportunity to make representations as to why the Minister, Minister responsible for mineral resources or MEC, as the case may be, should not defer the application as he or she is entitled to do under section 24G(7).

SECTION C: QUANTUM OF THE SECTION 24G FINE

In terms of section 24G(4) of the NEMA, it is mandatory for an applicant to pay an administrative fine as determined by the competent authority before the Minister, Minister responsible for mineral resource or MEC may take a decision on whether or not to grant an *ex post facto* environmental authorisation or a waste management licence as the case may be. The quantum of this fine may not exceed R5 million.

Having regard to the factors listed below, you are hereby afforded with an opportunity to make representations in respect of the quantum of the fine and as to why the competent authority should not issue a maximum fine of R5 million.

Please note that Part 1 of this section must be completed by an independent environmental assessment practitioner after conducting the necessary specialist studies, copies of which must be submitted with this completed application form.

Please also include in your representations whether or not the activities applied for in this application (if more than 1) are in your view interrelated and provide reasons therefor.

PART 1: THE IMPACTS OR POTENTIAL IMPACTS OF THE ACTIVITY/ACTIVITIES

Index	Socio Economic Impact Description of variable	Place an "x" in the appropriate box
	The activity is not giving, has not given and will not give rise to any negative socio-economic impacts	X
	The activity is giving, has given, or could give rise to negative socio-economic impacts, but highly localised	
	The activity is giving, has given, or could give rise to significant negative socio-economic and regionalized impacts	
	The activity is resulting, has resulted or could result in wide-scale negative socio-economic impacts.	
Motivation: The development will ensure that water will be used beneficially and effectively. The water surety will increase production in the cultivation of crops and it will contribute to the Gross Domestic Product of the country.		

Index	Biodiversity Impact Description of variable	Place an "x" in the appropriate box
	The activity is not giving, has not given and will not give rise to any impacts on biodiversity	
	The activity is giving, has given or could give rise to localised biodiversity impacts	X
	The activity is giving, has given or could give rise to significant biodiversity impacts	
	The activity is, has or is likely to permanently / irreversibly transform/ destroy a recognised biodiversity 'hot-spot' or threaten the existence of a species or sub-species.	
Motivation:		

Index	Sense of Place Impact and / or Heritage Impact Description of variable	Place an "x" in the appropriate box
	The activity is in keeping with the surrounding environment and / or does not negatively impact on the affected area's sense of place and /or heritage	X
	The activity is not in keeping with the surrounding environment and will have a localised impact on the affected area's sense of place and/or heritage	
	The activity is not in keeping with the surrounding environment and will have a significant impact on the affected area's sense of place and/ or heritage	
	The activity is completely out of keeping with the surrounding environment and will have a significant impact on the affected area's sense of place and/ or heritage	
Motivation:		

Index	Pollution Impact Description of variable	Place an "x" in the appropriate box
	The activity is not giving, has not given and will not give rise to any pollution	X
	The activity is giving, has given or could give rise to pollution with low impacts.	
	The activity is giving, has given or could give rise to pollution with moderate impacts.	
	The activity is giving, has given or could give rise to pollution with high impacts.	
	The activity is giving, has given or could give rise to pollution with major impacts.	
	Motivation:	

PART 2: COMPLIANCE HISTORY AND KNOWLEDGE OF THE APPLICANT

Index	Previous administrative action (i.e. administrative enforcement notices) issued to the applicant in respect of a contravention of section 24F(1) of the National Environmental Management Act and/or section 20(b) of the National Environmental Management Waste Act Description of variable	Place an "x" in the appropriate box
	Administrative action was previously taken against the applicant in respect of the abovementioned provisions.	
	No previous administrative action was taken against the applicant but previous administrative action was taken against a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time when the administrative action was taken.	
	Administrative action was **not** previously taken against the applicant in respect of the abovementioned provisions.	X
	Explanation of all previous administrative action taken in respect of the above:	

Index	Previous Convictions in terms of section 24F(1) of the National Environmental Management Act and/or section 20(b) of the National Environmental Management Waste Act Description of variable	Place an "x" in the appropriate box
	The applicant was previously convicted in terms of either or both of the abovementioned provisions.	
	No previous convictions have been secured against the applicant but a conviction has been secured against a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time; or a conviction was secured against a director of the applicant in his or her personal capacity.	
	The applicant has not previously been convicted in terms of either or both of the abovementioned provisions.	X
	Explanation of all previous convictions in respect of the above:	

Index	Number of section 24G applications previously submitted by the applicant Description of variable	Place an "x" in the appropriate box
	Previous applications in terms of section 24G of NEMA were submitted by the applicant.	
	No previous applications have been submitted by the applicant but a previous application(s) have been submitted by a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time.	
	No previous applications have been submitted by the applicant but the applicant sat on the board of a firm that previously submitted an application.	X
	Explanation in respect of all previous applications submitted in terms of section 24G:	

PART 3: APPLICANT'S PERSONAL CIRCUMSTANCES

Index	Applicant's legal persona Description of variable	Place an "x" in the appropriate box
	The applicant is a natural person.	X
	The applicant is a firm.	
	Describe the firm:	

Index	Any other relevant information that the applicant would like to be considered.
	Motivate and explain fully:

NOTE: An explanation as to why the applicant did not obtain an environmental authorisation and/or waste management licence must be attached to this application.

SECTION D: PRELIMINARY ADVERTISEMENT

When submitting this application form, the applicant must attach proof that the application has been advertised in at least one local newspaper in circulation in the area in which the activity was commenced, and on the applicant's website, if any.

The advertisement must state that the applicant commenced a listed or specified activity or activities or waste management activity or activities without the necessary environmental authorisation and/or waste management licence and is now applying for *ex post facto* approval. It must include the following:

- the date;
- the location;
- the applicable legislative provision contravened; and
- the activity or activities commenced with without the required authorisation.

Interested and affected parties must be provided with the details of where they can register as an interested and affected party and / or submit their comment. At least 20 days must be provided in which to do so.

This advertisement shall be considered as a preliminary notification and the competent authority may direct the applicant to undertake further public participation and advertising after receipt of this application form.

NOTE: Unless protected by law, all information contained in and attached to this application form may become public information on receipt by the competent authority. This application must be attached to any documentation or information submitted by an applicant further to section 24G(1).

PART 3 -

APPENDICES

The following appendices must, where applicable, be attached to this form:

Appendix		Tick the box if Appendix is attached
Appendix A:	**Locality map**	✓
Appendix B:	**Site plan(s)**	✓
Appendix C:	**Building plans (if applicable)**	✓
Appendix D:	**Colour photographs**	✓
Appendix E:	**Biodiversity overlay map**	✓
Appendix F:	**Permit(s) / license(s) from any other organ of state including service letters from the municipality**	N/A
Appendix G:	**Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements, Land owner consent and any other public participation information as required in Section J above.**	To be completed in Final
Appendix H:	**Specialist Report(s), if any**	✓
Appendix I:	**Environmental Management Programme**	✓
Appendix J:	**Supporting documents relating to compliance/enforcement history of the applicant, including but not limited to, Pre-compliance/compliance notices, Pre-directives/directives etc.**	✓
Appendix K:	**Certified copy of Identity Document of Applicant**	✓
Appendix L:	**Certified copy of the title deed (or title deeds in the case of linear activities)**	✓
Appendix M:	**Any Other (if applicable) (describe)**	

Where an application has been made in terms of the waste management activities, please complete and annex Annexure 1 as in the following:

Annexures for waste listed activity/ies supporting information		Tick the box if Annexure is attached
Annexure 1	**Waste listed activities supporting information (as in prescribed attached form)**	
Other	(please list accordingly)	

DECLARATIONS

THE APPLICANT

Note: Duplicate this section where there is more than one applicant

- I ……., in my personal capacity or duly authorised as …… (state capacity)

  by ……..…… thereto hereby declare/affirm that all the information contained in this application to be true and correct, and that I:

- am fully aware of my responsibilities in terms of t the National Environmental Management Act of 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations") in terms of NEMA, the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") and all relevant specific environmental management Act(s), and that failure to comply with these requirements may constitute an offence in terms of the environmental legislation;
- appointed the environmental assessment practitioner as indicated above, which meet all the requirements in terms of Regulation 13 of the EIA Regulations to act as the independent Environmental Assessment Practitioner for this application;
- have provided the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- am aware that I may be issued with a directive and that I must comply with such a directive;
- am fully aware of the administrative fine to be paid before a decision, with respect to the continuation of the listed activity(ies), will be made;
- will be responsible for the costs incurred in complying with the environmental legislation including but not limited to –
  - costs incurred in connection with the appointment of the environmental assessment practitioner or any specialist appointed in terms of Regulation 13 of the EIA Regulations);
  - costs incurred in respect of the undertaking of any process required in terms of this application;
  - costs in respect of any prescribed fee payable in respect of this application;
  - costs in respect of specialist reviews, if the competent authority decides to recover costs;
  - the provision of security to ensure compliance with the applicable management and mitigation measures; and
  - fine costs
- am responsible for complying with the conditions that might be attached to any decision(s) issued by the competent authority;
- have the ability to implement the applicable management, mitigation and monitoring measures; and
- hereby indemnify, the government of the Republic of South Africa, the competent authority and all its officers, agents and employees, from any liability arising out of, inter alia, the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible.

  am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (

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

Signature of the applicant:

Name:

Name of Firm (if applicable):

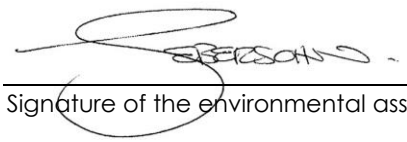
Date:

THE INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **Janet Ebersohn**, as the appointed independent environmental practitioner ("EAP") hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this application to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the the National Environmental Management Act of 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations") in terms of NEMA, the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") and the relevant specific environmental management Act(s);
- have and will not have any vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the EIA Regulations, the NEM:WA and any specific environmental management Act(s);
- am able to meet the responsibilities in terms of NEMA, the EIA Regulations (specifically in terms of Regulation 13 of the EIA Regulations, 2014) and any specific environmental management Act, and am fully aware that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process; and
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations

Note: The terms of reference must be attached.



Signature of the environmental assessment practitioner:

Eco Route Environmental Consultancy

Name of company:

03/03/2023

Date:

PART 4 -

ANNEXURE B - SUPPORTING INFORMATION WHERE THE ACTIVITY BEING APPLIED FOR IS A LISTED WASTE MANAGEMENT ACTIVITY/IES (IF RELEVANT). N/A

1. WASTE QUANTITIES

Indicate or specify types of waste and list the estimated quantities (expected to be) managed daily (should you need more columns; you are advised to add more)

Note: In this case of hazardous waste, the National Department of Environmental Affairs is the relevant competent authority to consider the 24G application.

Non-hazardous waste	Total waste handled (tonnes per day)

Source of information supplied in the table above Mark with an "X"

Determined from volumes	
Determined with weighbridge/scale	
Estimated	

1.1. Recovery, Reuse, Recycling, treatment and disposal quantities:

Indicate the applicable waste types and quantities expected to be disposed of and salvaged annually:

TYPES OF WASTE	MAIN SOURCE (NAME OF COMPANY)	QUANTITIES		ON-SITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE DISPOSAL
		Tons/ Month	M^3/ Month	Method & Location	Method & Location and Contractor details	

2. GENERAL

Prevailing wind direction (e.g. NWW)

November – April	
May - October	

The size of population to be served by the facility:

	Mark with "X"	Comment
0-499		
500-9,999		
10,000-199,999		
200,000 upwards		

LANDFILL PARAMETERS (If applicable)

The method of disposal of waste:

Land-building ☐ Land-filling ☐ Both ☐

The dimensions of the disposal site in metres

	At commencement	**After rehabilitation**

The total volume for the disposal of waste on the site:

Volume Available	Mark with "X"	Source of information (Determined by surveyor/ Estimated)
Up to 99		
100-34 999		
35 000- 3,5 million		
>3,5 million		

The total volume already used for waste disposal on the site:

(a) Will the waste body be covered daily	Yes	No
(b) Is sufficient cover material available	Yes	No
(c) Will waste be compacted daily	No	No

If the answers (a) and/or (b) are No, what measures will be employed to prevent the problems of burning or smouldering of waste and the generation of nuisance?

The Salvage method

Mark with an "X" the method to be used.

At source	
Recycling installation	
Formal salvaging	
Contractor	
No salvaging planned	

Fatal flaws for the site:
Indicate which of the following apply to the facility for a waste management activity:

Within a 3000m radius of the end of an airport landing strip	Yes	No
Within the 1 in 50-year flood line of any watercourse	Yes	No
Within an unstable area (fault zone, seismic zone, dolomitic area, sinkholes)	Yes	No
Within the drainage area or within 5 km of water source	Yes	No
Within the drainage area or within 5 km of water source	Yes	No
Within an area adjacent to or above an aquifer	Yes	No
Within an area with shallow bedrock and limited available cover material	Yes	No

Within 100 m of the source of surface water	Yes	No
Within 1km from the wetland	Yes	No

Indicate the distance to the boundary of the nearest residential area metres
Indicate the distance to the boundary of the industrial area metres

Wettest six months of the year

November- April
May -October

For the wettest six-month period indicated above, indicate the following for the preceding 30 years

	Total rainfall for 6 months	**Total rainfall for 6 months**	**Total rainfall for 6 months**
For the 1st wettest year			
For the 2nd wettest year			
For the 3rd wettest year			
For the 4th wettest year			
For the 5th wettest year			
For the 6th wettest year			
For the 7th wettest year			
For the 8th wettest year			
For the 9th wettest year			
For the 10th wettest year			

Location and depth of ground water monitoring boreholes:

Codes of the boreholes	**Borehole locality**	**Depth (m)**	**Latitude**	**Longitude**
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "

Location and depth of landfill gas monitoring test pit:

Codes of the boreholes	**Borehole locality**	**Latitude**	**Longitude**
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "

		° ' "	° ' "