WATER USE AUTHORISATION REPORT JVR BOERDERY (PTY) LTD

Report prepared by: Hester Lyons
Contact number: 082 809 5866
E-mail: hesterdoroleeu@gmail.com
Date: November 2022

CONTENTS

ABBREVIATIONS AND ACRONYMS:

APP	Approved Professional Person
B-BBBEE	Broad-Based Black Economic Empowerment
BO/D CMA	Berg Olifants/Doorn Catchment Management Agency
CMA	Catchment Management Agency/Area
DEA&DP	Department of Environmental Affairs & Development Planning
DSO	Dam Safety Office
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ELU	Existing Lawful Water Use
GA	General Authorisation
GN	Government Notice
GWCA	Government Water Control Area
IB	Irrigation Board
NWA, 1998	National Water Act, 1998 (Act 36 of 1998)
RMMP	Rivier Maintenance Management Plan
V&V	Verification and Validation
WARMS	Water Use Registration Management System
WUA	Water Users Association
WULA	Water Use Licence Application

1. INTRODUCTION TO APPLICATION

1.1 Background

On 25 May 1984 the catchment areas of the Stompdrift and Kamanassie Dams were proclaimed and controlled in terms of the abstraction and use of public water in terms of Section 62(2)(A) of the Water Act ,1956(Act 54 of 1956). GN 1075 dated 25 May 1984 has provided restrictions to ensure effective control of the water use in the Olifants Rivier (Oudtshoorn) GWCA. The area was extended with GN 1248 on 1 July 1988 to include more properties that form part of the Olifants River (Oudtshoorn) GWCA.

According to the Olifants River (Oudtshoorn) GWCA proclamation certain control measured were published. A Field Survey done by Schoeman & Associate in 1984 on the water uses that was exercised prior to the proclamation is currently available and this field survey form the baseline of the water that can be regarded as ELU.

The CSIR was appointed to assist the BGCMA with the V&V project in this area and to determine the water uses that can be regarded as ELU. This process is not yet concluded, however a preliminary determination based on the field survey performed by Schoeman & Associates was confirmed as the possible ELU on the property related to this application.

The property related to the application is Portion 42 of farm Buffels Rivier 46, George and it falls within the Olifants Rivier (Oudtshoorn) GWCA.

Table 1: Property detail

Property Owner	Property	District	Extent (ha)	Title Deed
JVR Boerdery Pty Ltd	Portion 42 of farm Buffels Rivier 46	George	288.4629	T70801/2016

Since the property falls within the upper catchment area of the Stompdrift/Kammanassie Dam and it was controlled by means of proclamation published in GN 428 dated 23 December 1960, the water management rules published as part of the Olifants Rivier (Oudtshoorn) GWCA were used as baseline during the assessment of this application.

The relevant water management information pertaining to the property is summarised below:

Table 2: Detail applicable to application

Item	Description
Water Management Area	Gouritz WMA
Government Water Control Area- Surface Water	Olifants River (Oudtshoorn) GWCS
Government Water Control Area- Groundwater	None
Irrigation Board/Water Users Association	Stompdrift/Kammanassie WUA
Quaternary Drainage Area	J34C

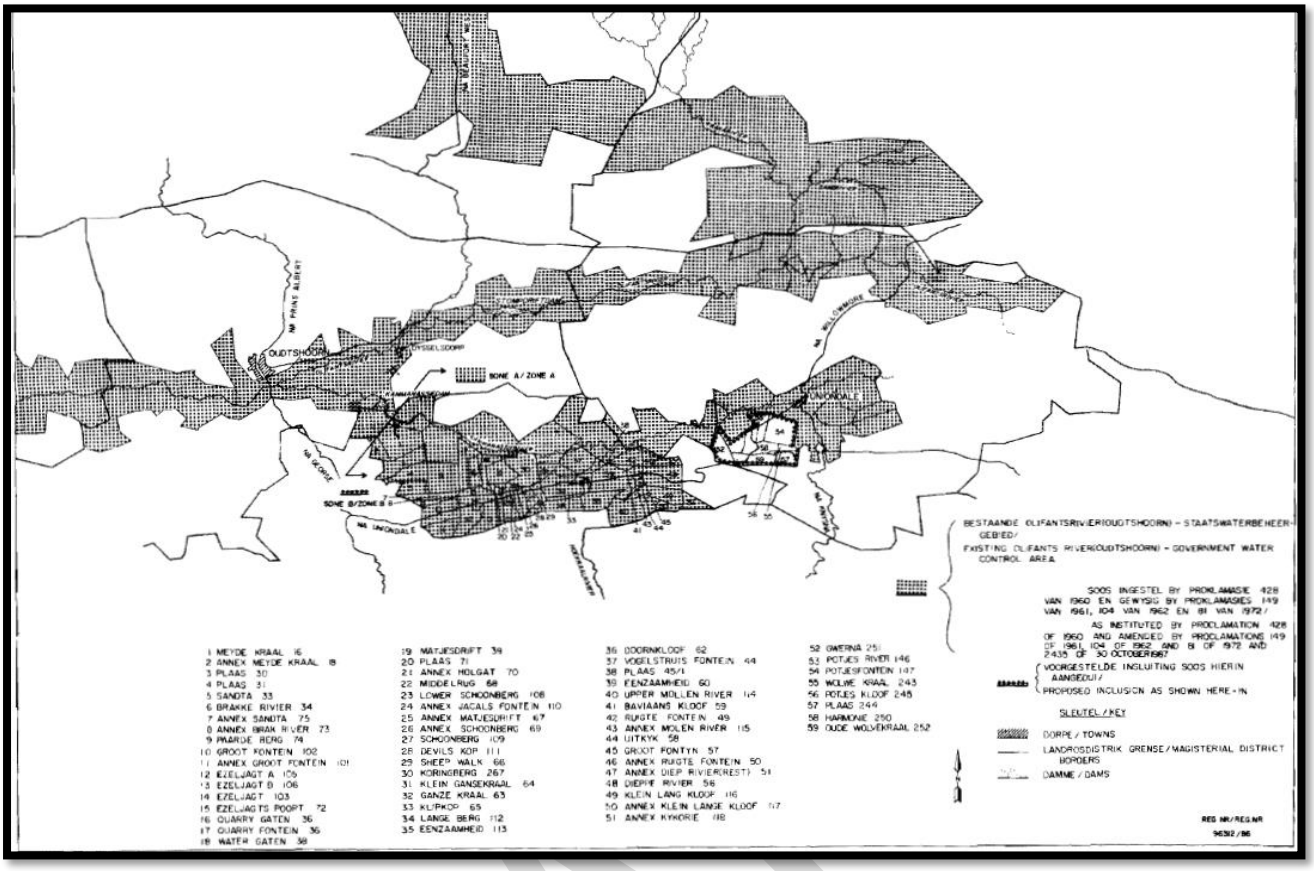

Figure 1: Area that form part of the Olifants River (Oudtshoorn) GWCA

The control of surface water sources in the Olifants River (Oudtshoorn) GWCA was published in terms of GN 2180 dated 2 October 1987. In terms of this notice the following is applicable from date of inclusion as published to control the catchment areas of Stompdrift Dam and Kammanassie Dam:

1. Existing irrigation on a property may continue, but the water use may not increase without a permit to alter or enlarge;
2. If no irrigation or an area of less than 10ha has taken place on date of inclusion, a person may take water for the development of 10ha for the irrigation of the potentially irrigable area. Irrigation area may not exceed 10ha;
3. A maximum quantity of 5 000m^3/ha/a of public water may be taken for the irrigation of each hectare irrigated;
4. No new water works may be constructed and no existing water works may be altered or enlarged without a permit;
5. An authorisation must be issued for construction of new storage works or alteration or enlargement of existing storage works. Notice 2180 dated 2 October 1987 allows for maximum of 50 000m^3 of storage per property if no storage was available at time of publication;
6. Subdivision of land after date of inclusion of properties to Olifants River (Oudtshoorn) GWCA must be transferred with an agreement on the water as reached between the property owners.

The catchment areas of the Stompdrift Dam and Kammanassie Dam were protected in terms of limiting the storage capacity of dams to 50 000m^3 per property for any new dams. Any

new dam constructed after promulgation of GWCA will require an authorisation in terms of Section 62(2H)(a) of Water Act 54, 1956, however since the NWA, 1998 was introduced, no further/new directions for further development was initiated. It is therefore assumed that a water use licence has replaced the requirement of a Permit issued in terms Section 62(2H)(a) of Water Act 54, 1956 and that the same rules will still be applicable.

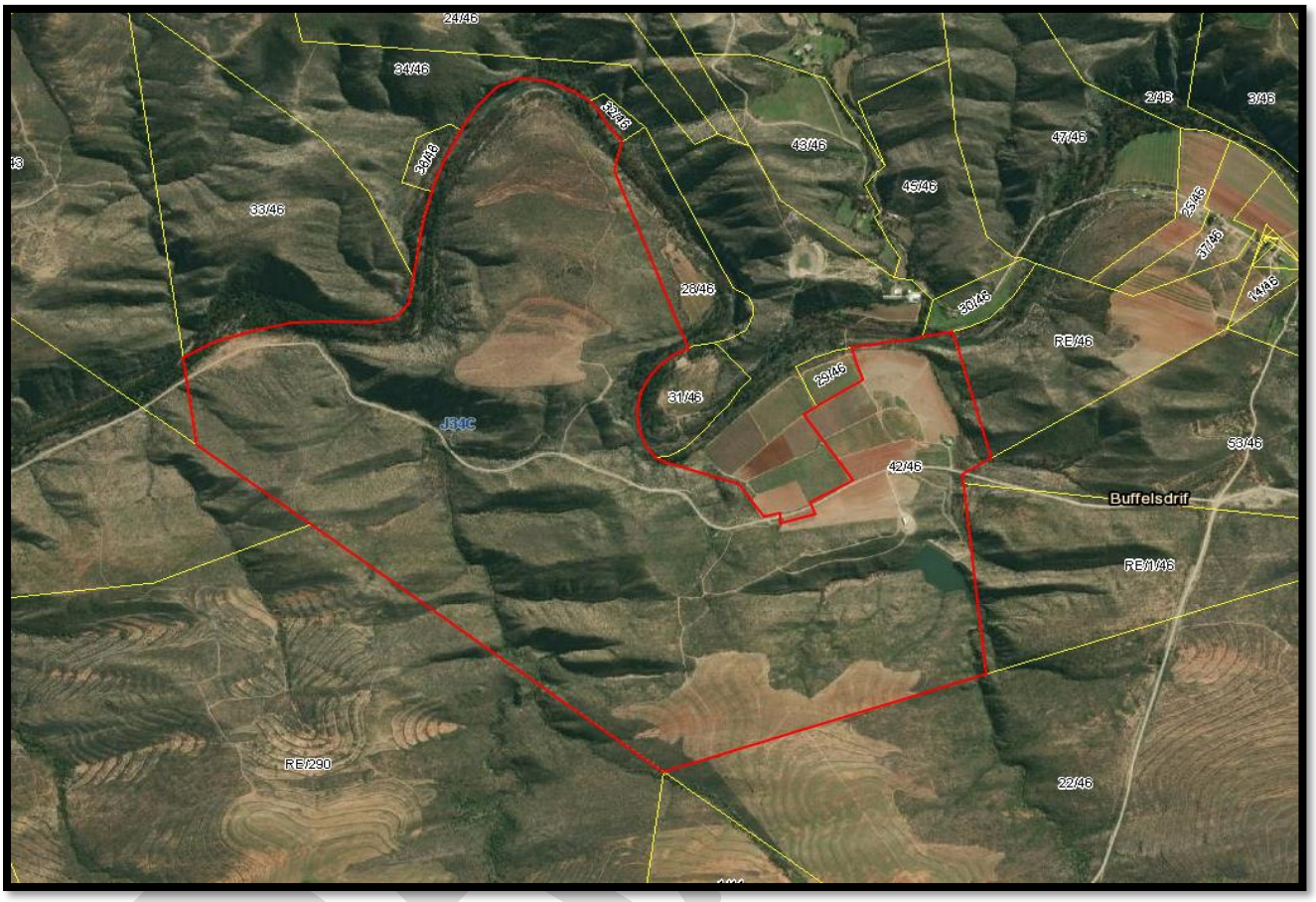

Figure 2: Location map of property Portion 42 of farm Buffels Rivier 46, George owned by JVR Boerdery Pty Ltd

This application is done for the authorisation of the Groot Dam. The Groot Dam is an in-stream dam and it replaced two existing small storage dams in the same stream.

The purpose of the application is to increase water security. The water to fill the Groot Dam can be regarded as ELU and it is taken via a historic "sloot" shared allocation from the Klein Rivier. 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 861m^3 of winter water in the Groot Dam to utilise it in the summer and providing surety of water supply.

Although the Groot Dam is constructed in-stream, it was not intended to use run-off water from the stream to fill the dam, however the historic two dams that already obstructed the stream flow were combined into the Groot Dam. The small dam D2 still exists, however the outlet pipe allows for a constant flow and it is no longer connected to the irrigation reticulation system.

1.2 Details of the applicant

The applicant is JvR Boerdery (Pty) Ltd which currently owns the property related to this application. JvR Boerdery is represented by Mr. JC Janse van Rensburg and detail on the water user is as follows:

Table 3: Detail of Applicant

Applicant	JvR Boerdery (Pty) Ltd
Represented person	Mr. JC Janse van Rensburg
Trading company	JvR Boerdery (Pty) Ltd
Street Address	Buffelsdrift Farm, Uniondale, 6460
Postal Address	PO Box 125, Uniondale, 6460
Contact Number (Office)	044-745 1091
Alternative Contact details	079 840 5881
E-mail	otterswem@hilbert.co.za

Figure 3: Quaternary catchment area J34C in which project fall

1.3 Location of the project

Portion 42 of farm Buffels Rivier 46, George falls within the jurisdiction of the Olifants River (Oudtshoorn) GWCA was published in terms of GN 2180 dated 2 October 1987.

The property is situated 30km from Uniondale, however it falls within the jurisdiction of the George Administration district. The property can be reached from the N9 with a turn-off road to the Buffelsdrift-area.

The municipality in whose jurisdiction the proposed development is located is the George Municipality and the district municipality is Garden Route.

The project falls within the Breede/Gourits Water Management Area and within the J34C quaternary catchment.

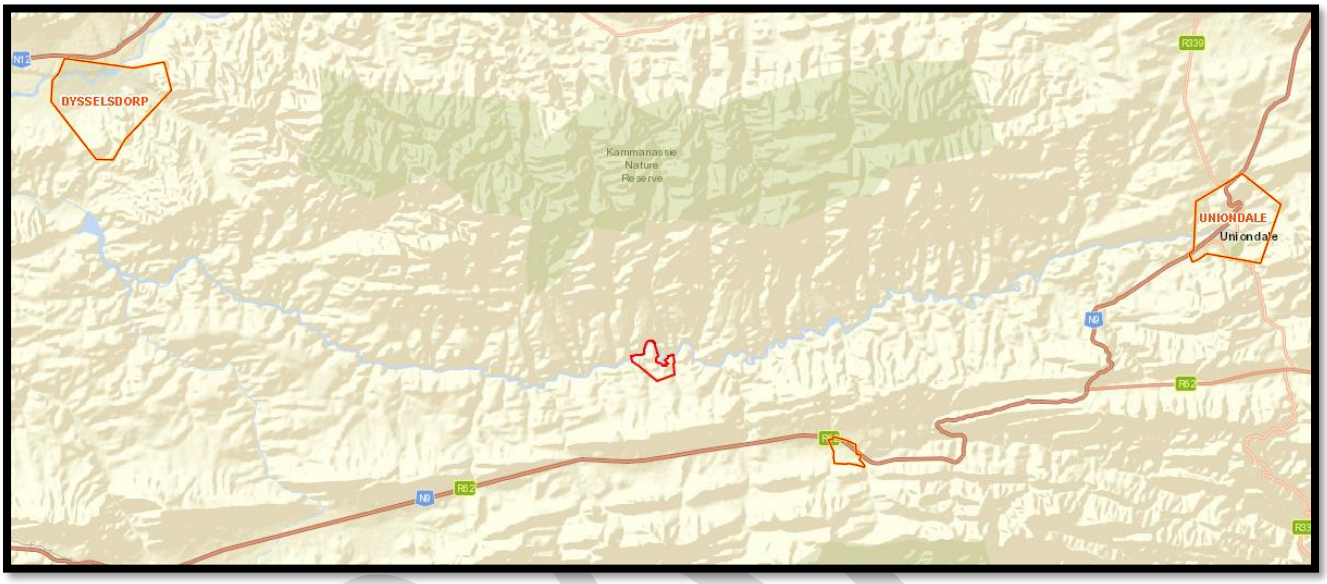

Figure 4: Locality of study area

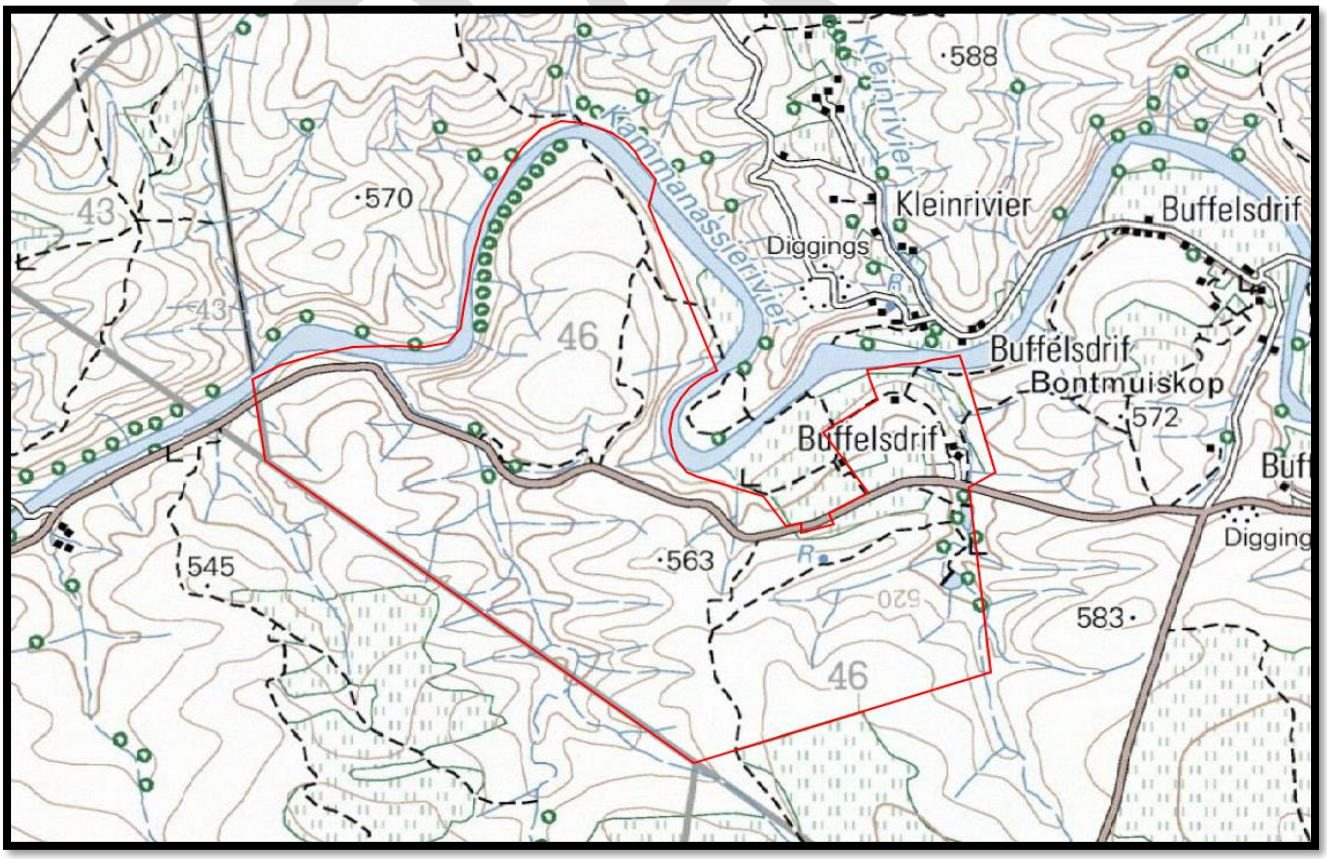

Figure 5: 1:50 000 Topo map of study area

HDL CONSULTING (PTY) LTD

2. ADMINISTATIVE DOCUMENTS SUBMITTED AND TECHNICAL REPORTS SUBMITTED BY APPLICANT

2.1 Administrative documents

The following administrative documents are submitted in support of application:

i. Proof of water use licence application fee
ii. Section 27 motivation
iii. Copy of Id
iv. Company Registration Certificate
v. Title Deed info
vi. Proxy to act on behalf of applicant

2.2 Technical Reports submitted

Table 4: List of Technical Reports

Date	Name of Report	Prepared by
2 September 2022	Dam Survey	Klein Karoo Agri
	S24G Environmental Report	Eco Route Environmental Consultancy
August 2022	Aquatic Specialist Assessment	Dr. Jackie Dabrowski Confluent Environmental (Pty) Ltd
November 2022	WULA Summary Report	HDL Consulting

3. PROJECT DESCRIPTION

The main activity in terms of the water uses to be authorised is the enlargement of the Groot Dam on Portion 42 of farm Buffels Rivier 46, George. The Groot Dam can be regarded as an in-stream dam and the impacts on the freshwater features were studied by Confluent Environmental (Pty) Ltd. The Freshwater Assessment has indicated that the watercourse PES has deteriorated from a Category C (Moderately Modified) to a Category D (Largely Modified) as a result of the dam enlargement.

The enlargement of the Groot Dam is motivated to store the water that can be regarded as ELU 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.

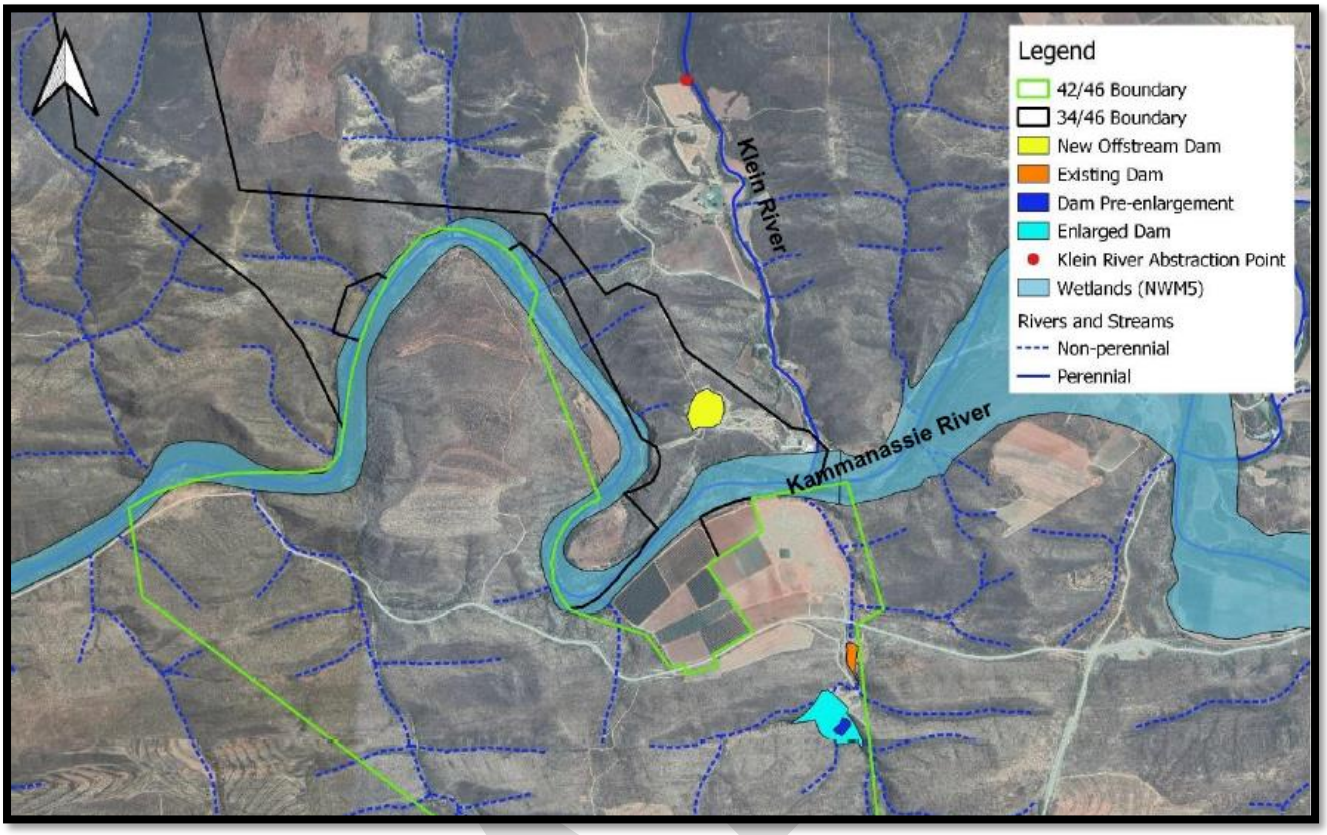

Figure 5: Project detail

4. WATER USES APPLIED FOR

The application includes the following water uses.

Table 5: Water uses applied for

Water Use		Property	Activity	Capacity (m3)	Latitude	Longitude
21(b)	Storing of water	Portion 42 of farm Buffels Rivier 46, George	Enlargement of Groot Dam	49 861	33°43'30.69"S	22°46'42.08"E
21(c)	Impeding of water			N/A		
21(i)	Altering and changing characteristics of water resource			N/A		

5. WATER DEMAND AND WATER SUPPLY

5.1 Water Requirements Analysis

This application is only for the storage of water that will increase the assurance of supply and will provide a water balance during specific growing periods to only take the legitimate water according to the allocation schedule.

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, George has a potential of irrigation area on the property of 48,8ha.

Table 6: Existing irrigation areas on Portion 42 of farm Buffels Rivier 46, George to determine water requirement

Crop Detail	Irrigation Area (ha)	Irrigation System	Crop/Water use requirement (m^3/ha/a)	Total annual water use (m^3/a)
Pomegranate	2.0	Micro	5 000	10 000
Nectarines	2.0	Micro	5 000	10 000
Summer Vegetables	16.0	Quick Coupling Sprinkler	9 250	148 000
Total	**20.0**			**168 000**

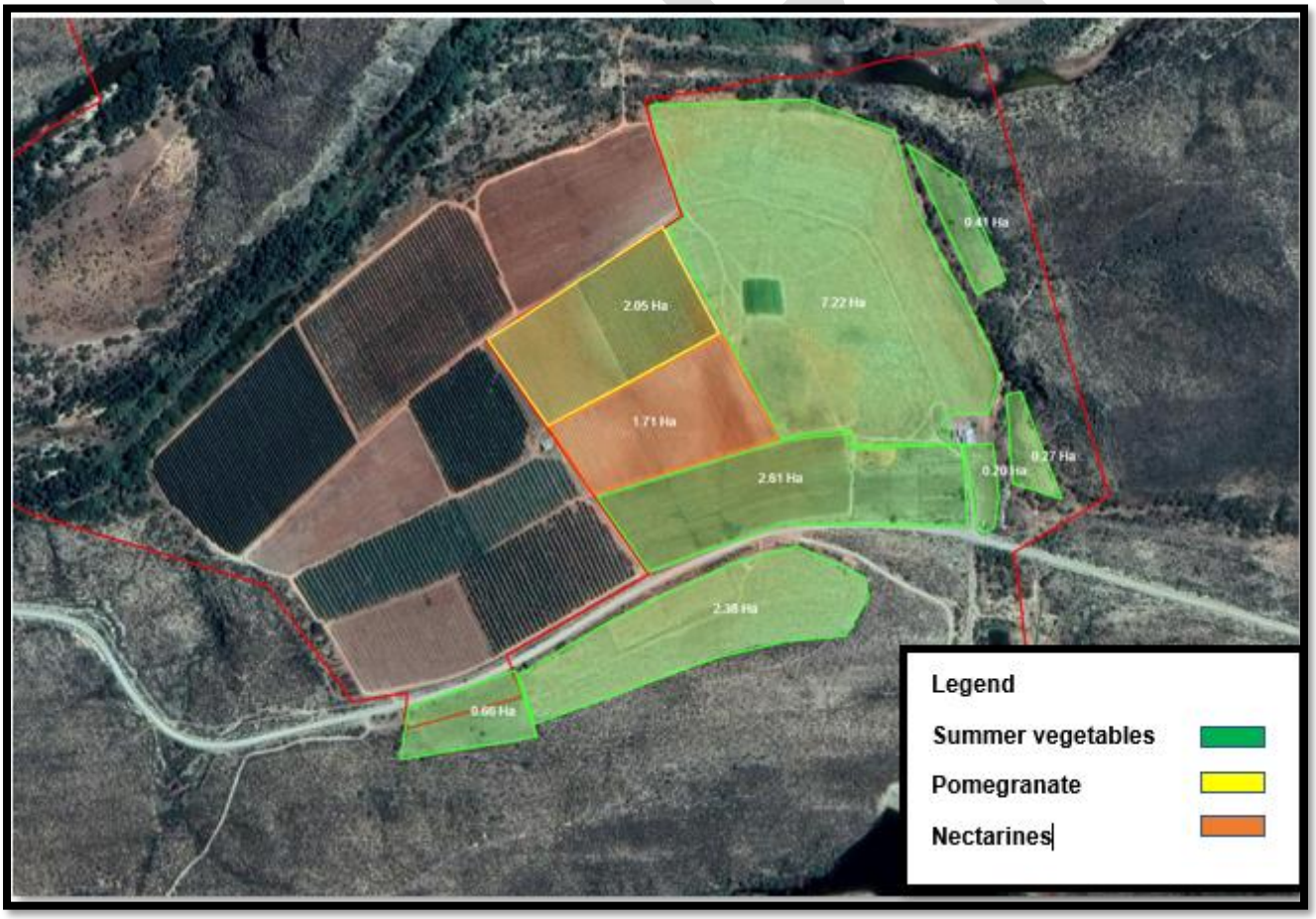

Figure 6: Existing irrigation fields on Portion 42 of farm Buffels Rivier 46, George

5.2 Water Supply Analysis for the intended activities

The preliminary ELU was determined on Portion 42 of farm Buffels Rivier 46, George. This was based on the field survey performed by Schoeman & Associates in 1984. The outcome of the water uses that can be regarded as ELU is summarised below:

Table 7: Preliminary finding of water uses that can be regarded as ELU Portion 42 of farm Buffels Rivier 46, George

Property	District	Water Use household (m^3/a)	Water use stock watering (m^3/a)	Water use irrigation (m^3/a)	Storage (m^3)
Portion 42 of farm Buffels Rivier 46	George	1 131	3 219	168 000	9 000
Total		**1 131**	**3 219**	**168 000**	**9 000**

It was indicated that an area of 21ha was irrigated during the qualifying window period.

The water assurance during periods of low flows in the Klein Rivier will provide buffer storage in the Groot Dam. The water will be taken from the "sloot" whereby a shared agreement allows for the taking of 168 000m^3/a.

5.3 Water Balance

The water requirement for the irrigation of the existing fruit trees and the summer vegetables are estimated at 168 000 m^3/a versus the water supply of 168 000 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 42 of farm Buffels Rivier 46, George. The irrigation area was identified during the field survey as 21ha and this area was increased, however the crop was changed from lucerne to fruit trees and summer vegetables.

Table 8: Water requirement versus water supply

Water requirement		**Water Supply**	
Irrigation 4 ha fruit trees and 16ha summer vegetables	168 000m^3/a	ELU -confirm in terms of Section 35(4) of NWA, 1998	168 000 m^3/a

6. ENGINEERING DETAIL ON PRELIMINARY DAM DESIGN

6.1 Catchment and Hydrology

No formal run-off calculation has been done; however, a hydrology assessment was performed during the field survey dated 1984 to confirm that each property in the catchment area of the Kamannasie/Stompdrift Dams can be allow a storage capacity of 50 000m^3.

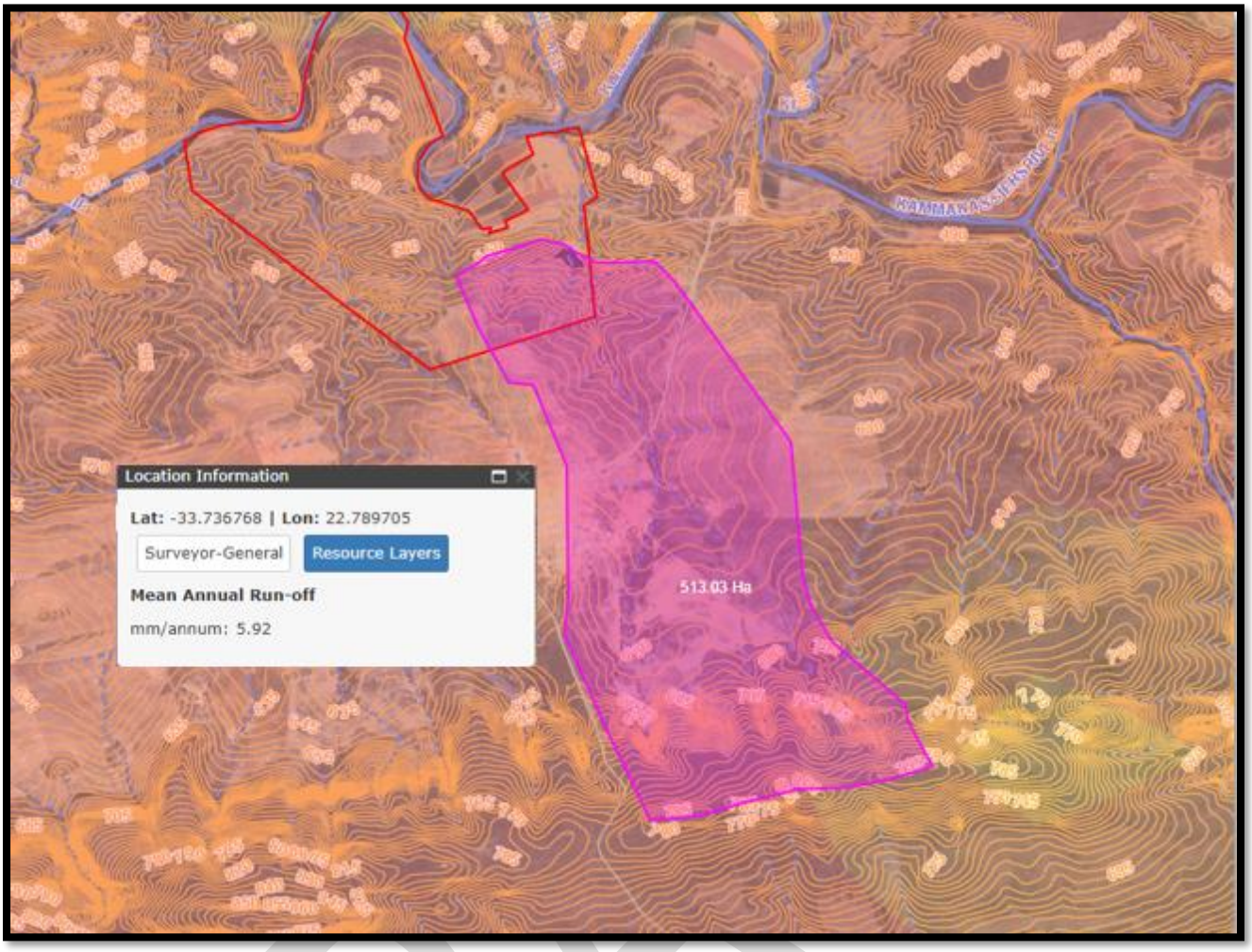

Figure 7: Catchment area of the Groot Dam and Mean Annual Run-off according to CFMapper

The catchment area in which the Groot Dam is located was determined to be 513.03ha and according to the Cape Farm Mapper the possible MAR will be 5.92mm/annum. The calculated NMAR will be approximately 30 371m^3/a.

It was estimated that the calculated NMAR of 30 371m^3/a was already taken as the two small dams has already impacted on the stream. The main water source to fill the Groot Dam is taken from the Klein Rivier according to a shared agreement.

The Freshwater Specialist confirmed that the Groot Dam is in-stream 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. The small dam Dam D2 located downstream of the enlarged Groot Dam has an outlet in the wall which is permanently open to ensure no water is being stored in the dam.

While the Groot Dam was primarily enlarged to store water from the Klein River allocation it has the potential to increase storage volume. The pre-enlarged storage dam has already led to reduced flows reaching the downstream. The permanent outlet opening of the lower small Dam D2 is now allowing water from its small catchment to permanently drain downstream,

which did not happen historically. The enlarged dam is therefore believed to only have a small impact in terms of abstraction and flow to a minor degree.

6.2 Detail on preliminary dam design

No formal investigation and design of the Groot Dam is available. The dam was however survey to determine the exact storage capacity and to determine the requirements in terms of Dam Safety Legislation.

The survey of the Groot Dam confirmed a storage capacity of only 49 861m^3.

Details on the enlarged Groot Dam is summarised below:

Table 9: Enlargement detail on Groot Dam

Dam name	Wall height (m)	Free Board (m)	Crest Length (m)	Surface area (ha)	Capacity (m^3)
Groot Dam(D1)	9.0	1.0	150	1.96	49 861

6.3 Dam Safety requirements

The criteria of the Groot Dam are below the threshold to qualify for a dam with a safety risk and will NOT need to comply with the Dam Safety Regulation R 139 dated 24 February 2012.

7. CONSIDERATION AND ASSESSMENT CRITERIA

7.1 Impacts of Activities on water resources and mitigation measures

7.1.1 Taking of surface water

This application does not include the taking of more surface water and the application is motivated to only make use of the water that can be regarded as ELU.

The water to fill the Groot Dam is taken from the Klein Rivier according to a historic share agreement and it can be regarded as ELU. The allocation of 168 000m^3/a will be taken according to the existing shared agreement as diverted by means of a gravity “sloot”. The water taken will be monitor and metered according to the published metering Regulation.

There will be no impact in terms of surface water and no mitigation measures are required.

7.1.2 Enlargement of Groot Dam

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.

The impacts during the construction phase were therefor be considered in retrospect:

1. 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.
2. Stockpiling of soil (3-4 m3) was done along the banks and partially into the wetland downstream of the enlarged dam next to the spillway.
3. 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.
4. Riparian zones upstream of the dam consist primarily of indigenous vegetation and have little to no disturbance.
5. Downstream of the existing dam towards the Kammanassie River, the riparian zone is minimal and agricultural fields have historically replaced areas of riparian vegetation.
6. 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.

Mitigation measures:

In retrospect the enlargement of the Groot Dam did not considering viable alternatives. The minimum footprint of disturbance and environmental sensitivity was not considered. The impact to instream and riparian habitat could not as a precaution be mitigated, however the riparian habitat has been recovered.

The vegetation clearing was already done without taking the major breeding seasons into account of the biota. The disturbance and injury to biota could be prevented if the construction season could be specified. The biota was recovered after construction.

The erosion risk due to excavation of the dam basin was not managed, however the 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.

The water uses on the property, including the monthly volumes of water stored and utilised from the dam, should be metered and recorded.

7.1.3 Wetlands downstream of Groot Dam and small dam

The Present Ecological State (PES) of the small unchanneled valley-bottom wetland was assessed using the WET-Health method developed by Macfarlane (2008).

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 according to historic aerial photos and the existing small 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 Groot Dam 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.

Mitigation measures:
The soil discarded into the wetland must be carefully removed by hand and indigenous vegetation rehabilitated.

The small storage must not store water; however, it was confirmed during the site visit that the outlet infrastructure was removed and no irrigation reticulation connection is evident in the small dam.

8. Public Participation

The Public Participation Process for the S24G Environmental Process will include and integrate the WUL process. A copy of the WUL related documentation is therefore included in the S24G Report for I&AP to review and comment in terms of Section 41(4) of the National Water Act and WULA Regulations (2017).

Comments received from I&APs will be collated and responded to in a Comments and Response Report and all water related comments will be available during the assessment of the WUL.

9. Other authorisations applicable to the activity

9.1 Environmental Impact Assessment

The project was evaluated against NEMA EIA regulations dated 7 April 2017. Since the construction of the Groot Dam has been done without prior authorisation in terms of NEMA, 1998, and retrospect environmental authorisation process in terms of S24G is in process.

Eco Route Environmental Consultancy were appointed to drive the Environmental Process.

9.2 Motivation in terms of Section 27 of NWA

Consideration was given to all aspects as listed in terms of Section 27 of the NWA.

A separate report to motivate in terms of Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) was prepared and will be submitted in Phase 2 of the e-wulaas process.

10. CONCLUSION

This WUL serves as motivation to enlarge the Groot Dam to a capacity of 49 861 m^3. 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.

Application Status

Water User

J V R BOERDERY PTY LTD

Application

WU26462 - Construction of storage dam with capacity of 50 000m3 by combined two exis

Duration: Day 0 of 90

Current Status: Pre Application Enquiry

#	Date	Applicant	Department	Duration in Days
1	Sep 9 2022 3:21PM		Pre Application Enquiry	17 Day(s) (Current)
2	Sep 9 2022 1:42PM		Pre Application Enquiry	1 Day(s)
3	Aug 25 2022 2:12PM	Applicant : Prepares Pre-application for submission		12 Day(s)

WATER USE AUTHORISATION REPORT ELLA DORETIA JANSE VAN RENSBURG

Report prepared by: Hester Lyons
Contact number: 082 809 5866
E-mail: hesterdoroleeu@gmail.com
Date: November 2022

CONTENTS

ABBREVIATIONS AND ACRONYMS:

APP	Approved Professional Person
B-BBBEE	Broad-Based Black Economic Empowerment
BO/D CMA	Berg Olifants/Doorn Catchment Management Agency
CMA	Catchment Management Agency/Area
DEA&DP	Department of Environmental Affairs & Development Planning
DSO	Dam Safety Office
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ELU	Existing Lawful Water Use
GA	General Authorisation
GN	Government Notice
GWCA	Government Water Control Area
IB	Irrigation Board
NWA, 1998	National Water Act, 1998 (Act 36 of 1998)
RMMP	Rivier Maintenance Management Plan
V&V	Verification and Validation
WARMS	Water Use Registration Management System
WUA	Water Users Association
WULA	Water Use Licence Application

1. INTRODUCTION TO APPLICATION

1.1 Background

On 25 May 1984 the catchment areas of the Stompdrift and Kamanassie Dams were proclaimed and controlled in terms of the abstraction and use of public water in terms of Section 62(2)(A) of the Water Act ,1956(Act 54 of 1956). GN 1075 dated 25 May 1984 has provided restrictions to ensure effective control of the water use in the Olifants Rivier (Oudtshoorn) GWCA. The area was extended with GN 1248 on 1 July 1988 to include more properties that form part of the Olifants River (Oudtshoorn) GWCA.

According to the Olifants River (Oudtshoorn) GWCA proclamation certain control measured were published. A Field Survey done by Schoeman & Associate in 1984 on the water uses that was exercised prior to the proclamation is currently available and this field survey form the baseline of the water that can be regarded as ELU.

The CSIR was appointed to assist the BGCMA with the V&V project in this area and to determine the water uses that can be regarded as ELU. This process is not yet concluded, however a preliminary determination based on the field survey performed by Schoeman & Associates was confirmed as the possible ELU on the property related to this application.

The property related to the application is Portion 34 of farm Buffels Rivier 46, George and it falls within the Olifants Rivier (Oudtshoorn) GWCA.

Table 1: Property detail

Property Owner	Property	District	Extent (ha)	Title Deed
Ella Doretia Janse van Rensburg Jakobus Christo Janse van Rensburg	Portion 34 of farm Buffels Rivier 46	George	210.7069	T5786/2010

Since the property falls within the upper catchment area of the Stompdrift/Kammanassie Dam and it was controlled by means of proclamation published in GN 428 dated 23 December 1960, the water management rules published as part of the Olifants Rivier (Oudtshoorn) GWCA were used as baseline during the assessment of this application.

The relevant water management information pertaining to the property is summarised below:

Table 2: Detail applicable to application

Item	Description
Water Management Area	Gouritz WMA
Government Water Control Area- Surface Water	Olifants River (Oudtshoorn) GWCS
Government Water Control Area- Groundwater	None
Irrigation Board/Water Users Association	Stompdrift/Kammanassie WUA
Quaternary Drainage Area	J34C

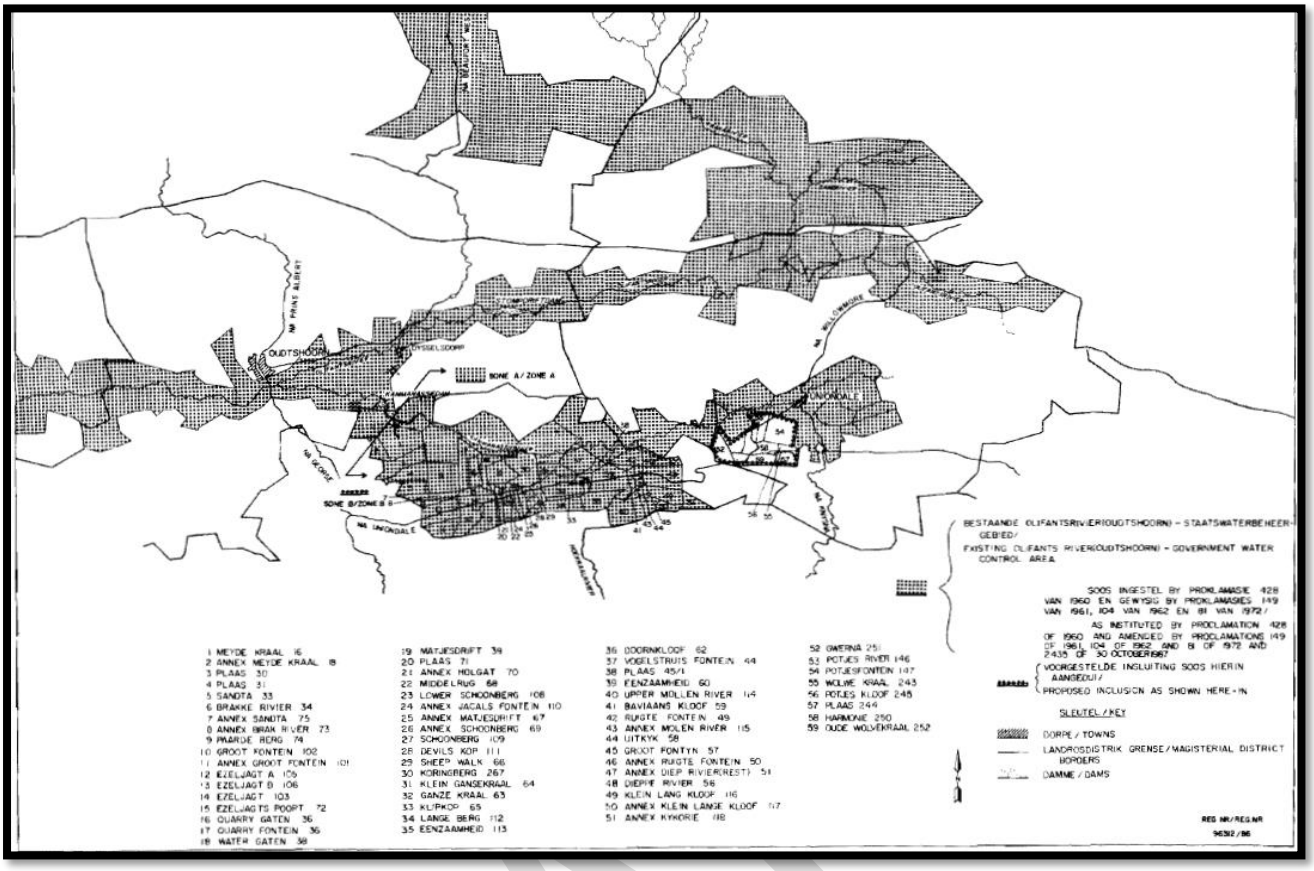

Figure 1: Area that form part of the Olifants River (Oudtshoorn) GWCA

The control of surface water sources in the Olifants River (Oudtshoorn) GWCA was published in terms of GN 2180 dated 2 October 1987. In terms of this notice the following is applicable from date of inclusion as published to control the catchment areas of Stompdrift Dam and Kammanassie Dam:

1. Existing irrigation on a property may continue, but the water use may not increase without a permit to alter or enlarge;
2. If no irrigation or an area of less than 10ha has taken place on date of inclusion, a person may take water for the development of 10ha for the irrigation of the potentially irrigable area. Irrigation area may not exceed 10ha;
3. A maximum quantity of 5 000m^3/ha/a of public water may be taken for the irrigation of each hectare irrigated;
4. No new water works may be constructed and no existing water works may be altered or enlarged without a permit;
5. An authorisation must be issued for construction of new storage works or alteration or enlargement of existing storage works. Notice 2180 dated 2 October 1987 allows for maximum of 50 000m^3 of storage per property if no storage was available at time of publication;
6. Subdivision of land after date of inclusion of properties to Olifants River (Oudtshoorn) GWCA must be transferred with an agreement on the water as reached between the property owners.

The catchment areas of the Stompdrift Dam and Kammanassie Dam were protected in terms of limiting the storage capacity of dams to 50 000m^3 per property for any new dams. Any

new dam constructed after promulgation of GWCA will require an authorisation in terms of Section 62(2H)(a) of Water Act 54, 1956, however since the NWA, 1998 was introduced, no further/new directions for further development was initiated. It is therefore assumed that a water use licence has replaced the requirement of a Permit issued in terms Section 62(2H)(a) of Water Act 54, 1956 and that the same rules will still be applicable.

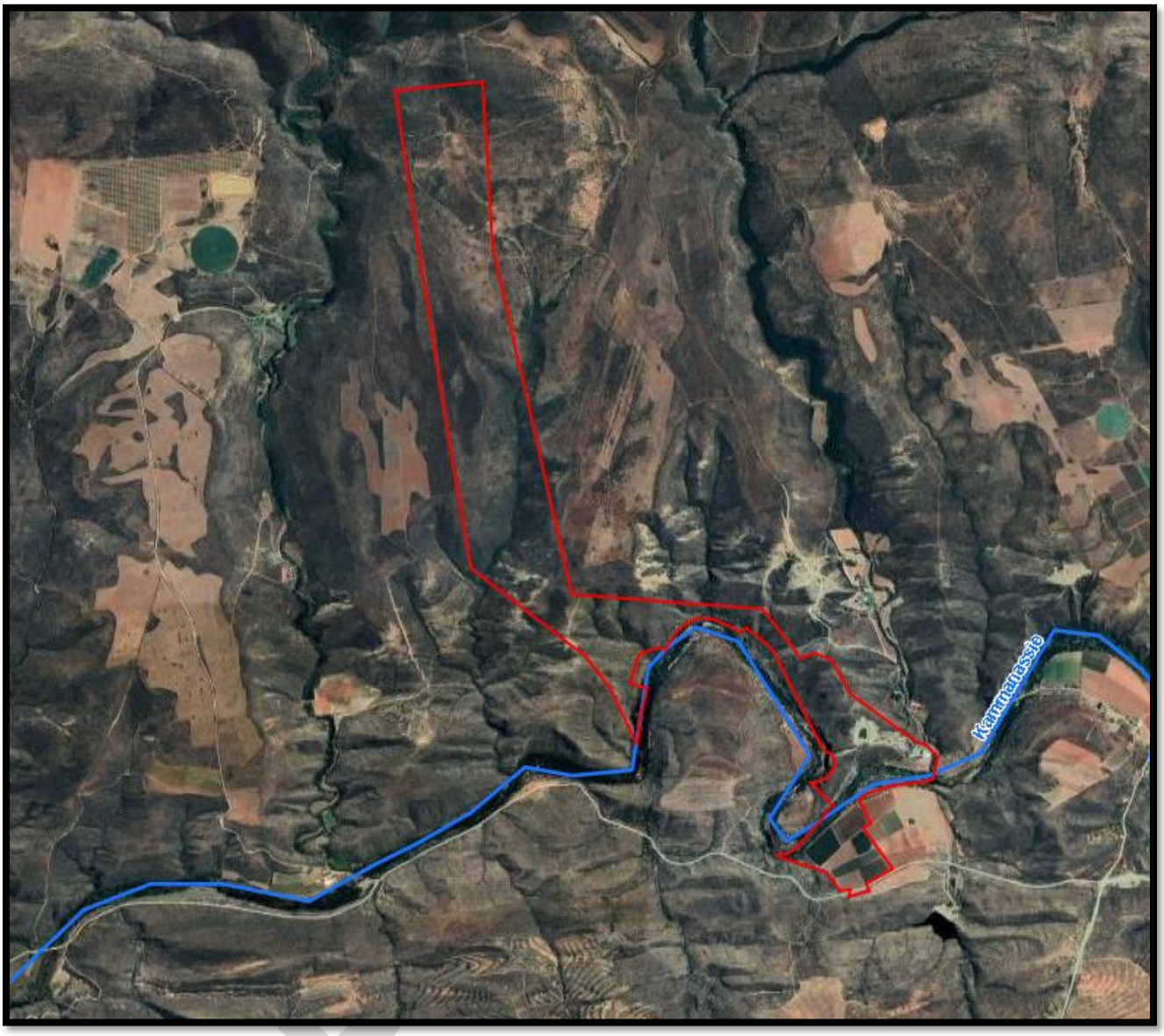

Figure 2: Location map of property Portion 34 of farm Buffels Rivier 46, George

This application is done for the authorisation of the Kop Dam. The Kop Dam can be regarded as an off-channel dam and has no impact on any freshwater features. The dam was constructed on a hill and do not have the potential to catch any run-off. Water to fill the dam is taken from the Kammanassie River according to the historic water use allocation that allow for the taking of 108 000m^3/a.

1.2 Details of the applicant

Portion 34 of farm Buffels Rivier 46, George is owned by Ella Doretia Janse Van Rensburg and Jakobus Christo Janse Van Rensburg.

The applicant for this application is Ella Doretia Janse van Rensburg. She own a 50% of the property and as a female white person she falls within the definition for an HDI as stated:
"A South African citizen who, due to the apartheid policy that had been in place, had no franchise in national elections prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act 110 of 1983) or the Constitution of the Republic of South Africa, 1993 (Act 200of 1993); and/or who is a female; and/or who has a disability, is deemed to be an HDI."

This application will therefore add value in terms of the redress of the past gender discrimination. Me E. D. Janse van Rensburg is actively involved in the farming business.

Details on the applicant is summarised below:

Table 3: Detail of Applicant

Applicant	Ella Doretia Janse van Rensburg
Represented person	Mrs. E.D. Janse van Rensburg
Street Address	Buffelsdrift Farm, Uniondale, 6460
Postal Address	PO Box 125, Uniondale, 6460
Contact Number (Office)	044-745 1091
Alternative Contact details	082 922 3889
E-mail	otterswem@hilbert.co.za

1.3 Location of the project

Portion 34 of farm Buffels Rivier 46, George falls within the jurisdiction of the Olifants River (Oudtshoorn) GWCA was published in terms of GN 2180 dated 2 October 1987.

The property is situated 30km from Uniondale, however it falls within the jurisdiction of the George Administration district. The property can be reached from the N9 with a turn-off road to the Buffelsdrift-area.

The municipality in whose jurisdiction the proposed development is located is the George Municipality and the district municipality is Garden Route.

The project falls within the Breede/Gourits Water Management Area and within the J34C quaternary catchment.

Figure 3: Quaternary catchment area J34C in which project fall

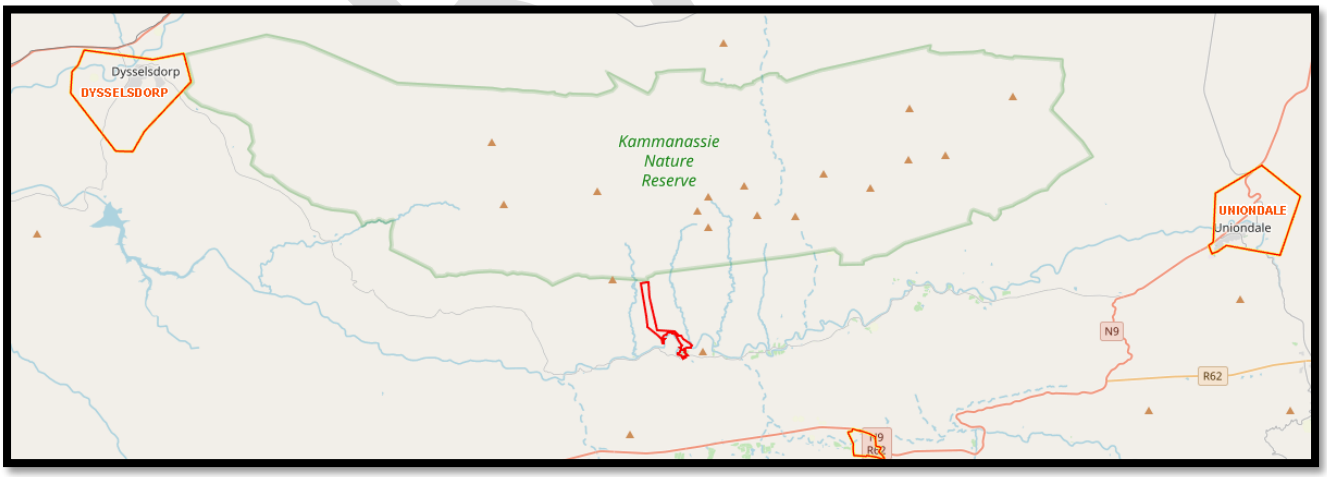

Figure 4: Street map of study area

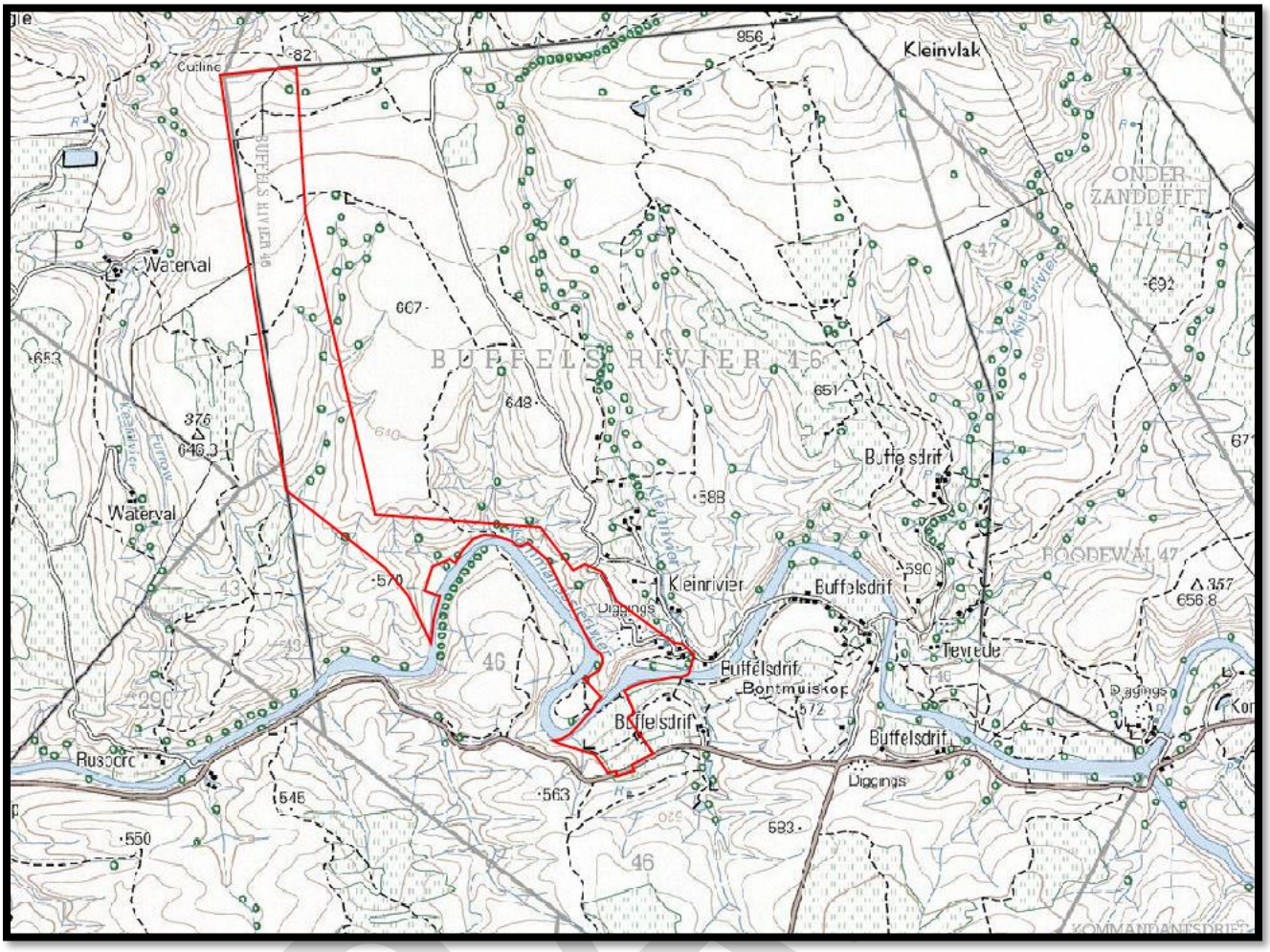

Figure 5: 1:50 000 Topo map of study area

2. ADMINISTATIVE DOCUMENTS SUBMITTED AND TECHNICAL REPORTS SUBMITTED BY APPLICANT

2.1 Administrative documents

The following administrative documents are submitted in support of application:

i. Proof of water use licence application fee
ii. Section 27 motivation
iii. Copy of Id
iv. Company Registration Certificate
v. Title Deed info
vi. Proxy to act on behalf of applicant

2.2 Technical Reports submitted

Table 4: List of Technical Reports

Date	Name of Report	Prepared by
2 September 2022	Dam Survey	Klein Karoo Agri
	S24G Environmental Report	Eco Route Environmental Consultancy
November 2022	WULA Summary Report	HDL Consulting

3. PROJECT DESCRIPTION

This application is for the construction of Kop Dam with a capacity of 20 145m^3. The construction of the storage dam has been completed. 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 abstraction of water from the Kammanassie falls within the water allocation that can be regarded as ELU. An allocation of 108 000m^3/a is allowed for irrigation on Portion 34 of farm Buffels Rivier 46, George.

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.

4. WATER USES APPLIED FOR

The application includes the following water uses.

Table 5: Water uses applied for

Water Use		Property	Activity	Capacity (m^3)	Latitude	Longitude
21(b)	Storing of water	Portion 34 of farm Buffels Rivier 46, George	Kop Dam	20 145	33°42'60.00"S	22°46'25.45"E

The Kop Dam is an off-stream dam and no the freshwater impacts will be impacted. This was confirmed by Jackie Dabrowski from Confluent Environmental (Pty) Ltd in terms of a Specialist Freshwater Consultant. The dam will be filled from an existing abstraction point on the Kammanassie River and the taking of water can be regarded as ELU.

5. WATER DEMAND AND WATER SUPPLY

5.1 Water Requirements Analysis

This application is only for the storage of water that will increase the assurance of supply and will provide a water balance during specific growing periods for the fruit trees cultivated on Portion 34 of farm Buffels Rivier 46, George.

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 13.5ha was irrigated during the field survey performed by Schoeman& Associates in 1984 and that Portion 34 of farm Buffels Rivier 46, George has a potential of irrigation area on the property of 41.5ha.

Table 6: Existing irrigation areas on Portion 34 of farm Buffels Rivier 46, George to determine water requirement

Crop Detail	Irrigation Area (ha)	Irrigation System	Crop/Water use requirement (m^3/ha/a)	Total annual water use (m^3/a)
Fruit trees	11.5	Micro	5 000	57 500
Total	**11.5**			**57 500**

Figure 5: Existing irrigation fields on Portion 42 of farm Buffels Rivier 46, George

5.2 Water Supply Analysis for the intended activities

The preliminary ELU was determined on Portion 34 of farm Buffels Rivier 46, George. This was based on the field survey performed by Schoeman & Associates in 1984. The outcome of the water uses that can be regarded as ELU is summarised below:

Table 7: Field survey date that can be regarded as ELU on Portion 34 of farm Buffels Rivier 46, George

Property	District	Water Use household (m^3/a)	Water use stock watering (m^3/a)	Water use irrigation (m^3/a)	Storage (m^3)
Portion 34 of farm Buffels Rivier 46	George	1 131	4 058.8	108 000	0
Total		**1 131**	**4 058.8**	**108 000**	**0**

It was indicated that an area of 13.5ha was irrigated during the qualifying window period.

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 145m3 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.

5.3 Water Balance

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 crop was changed from lucerne to fruit trees.

Table 8: Water requirement versus water supply

Water requirement		**Water Supply**	
Irrigation 11.5 ha fruit trees	57 500m^3/a	ELU -confirm in terms of Section 35(4) of NWA, 1998	108 000 m^3/a

6. ENGINEERING DETAIL ON PRELIMINARY DAM DESIGN

6.1 Catchment and Hydrology

No run-off calculation has been done as the 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 be increased or changed.

A hydrology assessment was performed during the field survey dated 1984 to confirm that each property in the catchment area of the Kamannasie/Stompdrift Dams can be allow a storage capacity of 50 000m^3.

6.2 Detail on preliminary dam design

No formal investigation and design of the Kop Dam is available. The dam was however survey to determine the exact storage capacity and to determine the requirements in terms of Dam Safety Legislation.

The survey of the Groot Dam confirmed a storage capacity of only 20 144m^3.

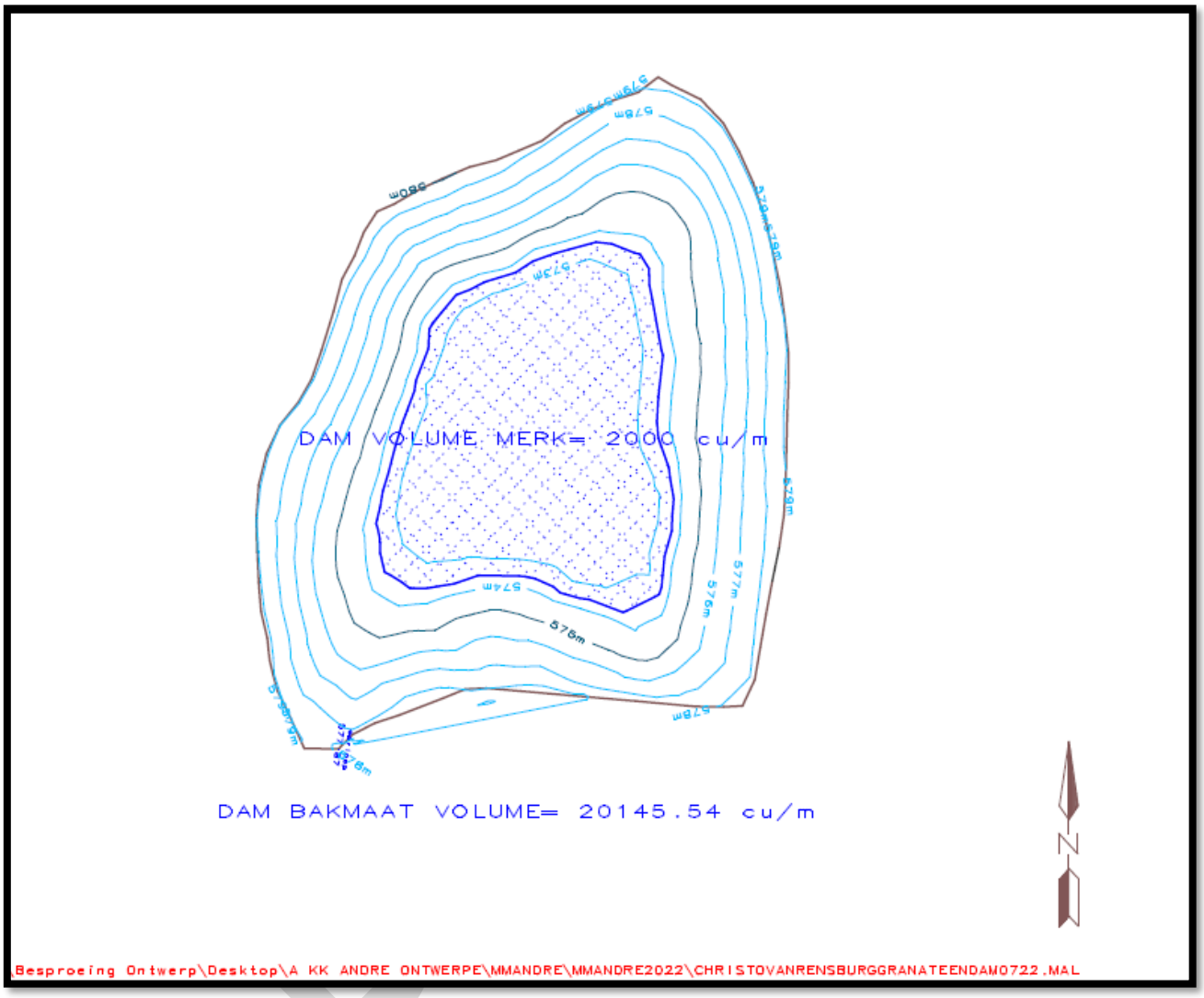

Figure 6: Survey detail of Kop Dam

Details on the enlarged Kop Dam is summarised below:

Table 9: Enlargement detail on Kop Dam

Dam name	Wall height(m)	Crest Length(m)	Surface area(ha)	Capacity (m^3)
Kop Dam	4.8	360	0.84	20 145
Total				**20 145**

6.3 Dam Safety requirements

The criteria of the Kop Dam are below the threshold to qualify for a dam with a safety risk and will NOT need to comply with the Dam Safety Regulation R 139 dated 24 February 2012.

7. CONSIDERATION AND ASSESSMENT CRITERIA

7.1 Impacts of Activities on water resources and mitigation measures

7.1.1 Taking of surface water

This application does not include the taking of more surface water and the application is motivated to only make use of the water that can be regarded as ELU.

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 ELU.

The water taken will be monitor and metered according to the published metering Regulation.

There will be no impact in terms of surface water and no mitigation measures are required.

7.1.2 Construction of Kop Dam

The Kop Dam is off-channel and it was confirmed that no freshwater resources were impacted during the construction of the Kop Dam. The clearing of natural vegetation however required authorisation in terms of NEMA, 1998 and it will be included into the S24G process conducted by Eco Route Environmental Consultancy.

The outcome of the S24G Environmental process is not yet finalised; however, it should include any remediation of environmental damage that has been done should any be identified.

Reasonable measures to prevent pollution or degradation from occurring must be implemented. The continuing or recurring of any such action that can harm the environment must be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

8. Public Participation

The Public Participation Process for the S24G Environmental Process will include and integrate the WUL process. A copy of the WUL related documentation is therefore included in the S24G Report for I&AP to review and comment in terms of Section 41(4) of the National Water Act and WULA Regulations (2017).

Comments received from I&APs will be collated and responded to in a Comments and Response Report and all water related comments will be available during the assessment of the WUL.

9. Other authorisations applicable to the activity

9.1 Environmental Impact Assessment

The project was evaluated against NEMA EIA regulations dated 7 April 2017. Since the construction of the Kop Dam has been done without prior authorisation in terms of NEMA, 1998, and retrospect environmental authorisation process in terms of S24G is in process.

Eco Route Environmental Consultancy were appointed to drive the Environmental Process.

9.2 Motivation in terms of Section 27 of NWA

Consideration was given to all aspects as listed in terms of Section 27 of the NWA.

A separate report to motivate in terms of Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) was prepared and will be submitted in Phase 2 of the e-wulaas process.

10. CONCLUSION

This WUL serves as motivation to enlarge the Kop Dam to a capacity of 20 145 m^3. 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 000m^3 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 000m^3.

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 145m^3 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.

5. 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.

6. 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.

Application Status

Water User

RENSBURG ELLA DORETIA JANSE VAN

Application

WU26542 - Construction of Kop Dam with capacity of 21 000m3

Duration: Day 0 of 90

Current Status: Pre Application Enquiry

#	Date	Applicant	Department	Duration in Days
1	Sep 9 2022 3:19PM		Pre Application Enquiry	17 Day(s) (Current)
2	Sep 9 2022 2:18PM		Pre Application Enquiry	1 Day(s)
3	Aug 31 2022 2:08PM	Applicant : Prepares Pre-application for submission		8 Day(s)