



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

WATER USE LICENCE APPLICATION SUMMARY REPORT WISTERIA BOERDERY PORTION 2 OF 180 BUFFELSHOEK FARM AND PORTION 46 (REMAINING EXTENT) OF 436 FARM LOERIES RIVER, EASTERN CAPE PROVINCE.

Reference: WU21091 (L90C)

NAME OF APPLICANT

WISTERIA BOERDERY (PTY) LTD



Prepared by: Greenmined Environmental Tel: 076 792 6327 Email: Murchellin.S@greenmined.co.za	Prepared for: Wisteria Boerdery (Pty) Ltd Contact person: Deleen Du Preez Postal Address: Po box 254 Cell phone number: 083 235 6587 Office number: 041 000 1515 E-mail address: deleen@wisteriafarm.co.za
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EAP Company Details	Report Writer	Signature	Date
Greenmined Environmental Environmental Assessment Practitioner Number is 2021/4203	Mrs Murchellin Saal		November 2022

1. Applicant details

Name of applicant: Wisteria Boerdery

Postal address:

Po box 254

Cell phone number: 083 6533358

Office number: 041 000 1515

E-mail address: Margrey@wisteriafarm.co.za

2. Person submitting application

Greenmined Environmental (Pty) Ltd was appointed by Wisteria Boerdery (Pty) Ltd to conduct a Water Use Authorisation Application (WUAA) process and obtain an authorisation for the existing farm water uses, Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.

The EAP (Mrs Murchellin Saal) that compiled the Water Use Licence Report is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA). The Registered Environmental Assessment Practitioner Number 2021/4203

Murchellin Saal – Number 2021/4203

3. Background and purpose

3.1 Background

The applicant Wisteria Boerdery (Pty) Ltd, submitted a water use licence application for abstracting water from boreholes and storing in dams less than 50 000m³, water will be used for irrigation purposes on the following properties:

Wisteria 2 Reference: WU21091 (L90C)

Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.

- DW760 Section 21 (a): Taking water from a water recourse (5 x boreholes)
- DW762 Section 21 (b): Storing Water (1 x Dams- 20 000m³)

As such, a Water Use Authorisation Application (WUAA) is required in accordance with the National Water Act (NWA), 1998 (Act No. 36 of 1998) in terms of Section 21. This document forms part of the WUAA.

The water uses which will be applied for in terms of Section 21 of the NWA (Act 36 of 1998) include:

- DW760 Section 21 (a): Taking water from a water recourse (5 x boreholes)
- DW762 Section 21 (b): Storing Water (1 x Dams- 20 000m³)

Need and Desirability for the Project

Wisteria Boerdery (Pty) Ltd provides development and employment opportunities to the surrounding area. Thus, the authorising of the various water uses being applied for on Magalies Farm will have a beneficial impact on the surrounding environment and people through the provision of employment opportunities and accommodation. Provided the mitigation measures are implemented there is likely to minimal impact on surrounding water users.

If approved, the farms will continue to provide work to local residents. It is proposed that the farms will contribute to the local economy of the area, both directly and through the multiplier effect that its presence will create. Equipment and supplies will be purchased locally, and wages will be spent at local businesses, generating both jobs and income in the area. Magalies farm will provide a benefit to the general society in that it will contribute to the agricultural economy. Citrus farms contribute to food security in South Africa

3.2 Location of water uses

Wisteria 2 Reference: WU21091 (L90C)

Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.



Figure: Magalies Farm (Borehole 1-3 and borehole 1 – spoorbrug and borehole 2 spoorbrug, Magalies farm Dam).

The water use will take place on Loerie Farm 436 portion 46, and Buffelshoek Farm portion 2, Uitenhage rd, Eastern Cape Province.

- Borehole 1: 33°54'23.68"S; 24 57'19.59"E
- Borehole 2: 33°54'11.41"S; 24 57'08.17"E
- Borehole 3; 33°52'49.37"S;25 00'02.66"E

- Borehole 1 - Spoorbrug :33°54'44.00"S;24°57'13.00"E
- Borehole 2 Spoorbrug : 33°54'27.00"S;24°57'21.00"E

- Magalies Farm dam: 33 54'23.36"S; 24 57'01.35"E

Table 1: Property details

Property description	Title number	Deed	Owner
Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	T5635/1907		Wisteria Boerdery (Pty) Ltd
Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	T13286/1936		Wisteria Boerdery (Pty) Ltd

4 Administrative documents and technical reports submitted by applicants

4.2 Administrative documents

4.2.1 Title Deeds

- 4.2.2 Certified Identity Document
- 4.2.3 Company Registration documents
- 4.2.4 Resolution document
- 4.2.5 Proof of payment
- 4.2.6 Equity and Gender Status
- 4.2.7 Proof of Listed water – Gamtoos
- 4.2.8 Title Deeds

4.3 Reports and other technical documents

Table 2: Technical Documents

Number	Report Title	Compiled by	Date of report
1	Proof of Public Participation Report	Greenmined Environmental	November 2022
	Proof of Advert		16 May 2021
	Notification of Specialist studies		November 2022
2	Section 27 Motivation	Greenmined Environmental	November 2022
3	Letter of Support from GIB	Gamtoos Irrigation Board	November 2021
4	Proof of Existing Authorisation	Greenmined Environmental	November 2022
5	Soil Suitability Report- DRDAR	DRDAR	November 2022
6	EA	Greenmined Environmental	November 2022
7	Proof of no Land claim	Greenmined Environmental	November 2021
8	Permit to cultivating virgin land	Greenmined Environmental	November 2021
9	Layout of Reticulation of water	Greenmined Environmental	November 2022

10	Project Description	Greenmined Environmental	November 2022
11	Geohydrological Report	DHS Groundwater Consulting Services	October 2022
12	Proof of Listed water - Gamtoos	Greenmined Environmental	October 2021
13	Dam Designs	Greenmined Environmental	August 2022
14	Borehole Tests	DHS Groundwater Consulting Services	May 2022
15	Water Quality Report	DHS Groundwater Consulting Services	April 2022
16	Supporting letter from Kouga Municipality	Kouga Municipality	November 2022
17	Notification of Specialist studies	Greenmined Environmental	November 2022
18	WULA summary report	Greenmined Environmental	November 2022

5 Project Description

Table 3: Project Description

Project Description -Wisteria 2 - Reference: WU21091 (L90C)		
Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.		
<ul style="list-style-type: none"> DW760 Section 21 (a): Taking water from a water recourse (5 x boreholes) DW762 Section 21 (b): Storing Water (1 x Dams- 20 000m³) 		
Hectares of land irrigated	150ha	10ha
Method of irrigation	Pivot	Drip
Type of crop planted	Maize, Wheat,Lusern	Citrus
Water demand require	Probes regulate water demand	Probes regulate water demand
Source of water supply	Borehole and Dam Scheme	Borehole and Dam Scheme
Fertiliser used	According to Soil analysis, the	

7 Water Uses applied for

Table 4: Water Use Applied for

Water use(s) activities	Purpose	Capacity/ Volume (m ³ , tonnes and/or m ³ /annum)/ dimension	Property Description	Co-ordinates
Section 21(a)				
Borehole 1	Irrigation of soft citrus fruits	64800m ³	Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33°54'23.68"S; 24 57'19.59"E
Borehole 2	Irrigation of soft citrus fruits	216000m ³	Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33°54'11.41"S; 24 57'08.17"E
Borehole 3	Irrigation of soft citrus fruits	86400m ³	Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33°52'49.37"S; 25 00'02.66"E
Borehole 1 - Spoorbrug	Irrigation of soft citrus fruits	216000m ³	Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33°54'44.00"S; 24°57'13.00"E
Borehole 2 Spoorbrug :	Irrigation of soft citrus fruits	216000m ³	Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33°54'27.00"S; 24°57'21.00"E
Section 21(b)				
Magalies Farm Dam	Listed water used for Irrigation of soft citrus Sorghum, Lucern.	20 000m ³ - Storage capacity	Portion 2 of 180 Buffelshoek farm and Portion 46 (Remaining extent) of 436 Farm Loeries River, Eastern Cape Province.	33 54'23.36"S 24 57'01.35"E

8 Impacts and mitigation measures

Table 5: Summary of impacts and mitigation measures

Water Use activity	Possible causes of the impacts of the activities Impacts to the water resources	Possible Impacts to the water resource and other water users	Mitigation Measures
DW760 Section 21 (a): Taking water from a water recourse (5 x boreholes)	Over abstraction of groundwater from boreholes is likely to lead to depletion of the water levels in the area over time. This can cause damage to the aquifer and might impact on neighbouring and registered groundwater users that are reliant on the same source of water. Reduced baseflow to streams/rivers and groundwater dependent eco systems (wetlands).	Over abstraction of groundwater from boreholes is likely to lead to depletion of the water levels in the area over time. This can cause damage to the aquifer and might impact on neighbouring and registered groundwater users that are reliant on the same source of water. Reduced baseflow to streams/rivers and groundwater	(1) Yield testing of boreholes as per "SANS 10299-4:2003" standards. Do not exceed calculated sustainable yield of boreholes. (2) Groundwater level monitoring - reduce abstraction in the event of anomolous lowering of groundwater levels. (3) Take "Ecological Water Reserve" into account during water balance.
DW762 Section 21 (b): Storing Water	Magalies Farm Dam receives listed water from Gamtoos Irrigation Board.		

9 Water demand and water supply

Table 6: Water demand



Geohydrological Characteristics	Farm Buffels Hoek 180 and Loerie River 436
Geology:	Enon and Kirkwood Formations of the Uitenhage Group. The Enon conglomerates are overlain by Kirkwood Formation mudstone and sandstone and both overlain by river gravel terraces. The regional scale Gamtoos fault (trending northwest-southeast) is located + 8.5km to the north east of the site
Aquifer Types:	Hard rock/Secondary fractured aquifers.
Aquifer Classification:	Major Aquifer System
Borehole Yields:	0.91 – 10.49 L/s
Depth to Water Table:	4.10 – 31.44 meters below ground level
Groundwater Quality:	All the major ions and the majority of trace elements comply with (SANS 241-1:2015, edition 2) drinking water standards. The levels of Fe and Mn are notable elevated. TDS of 390 - 691 mg/l.
Regional Groundwater Use:	Agriculture (Irrigation & stock watering)
Mean Annual Rainfall:	587 mm/a
Recharge:	25 - 37 mm/a (4.3% - 6.3% of MAP)
Groundwater available for abstraction from GRU:	0.961 Mm ³ /a
Geohydrological Characteristics	Farm Buffels Hoek 180 and Loerie River 436
Water Demand:	0.799 Mm ³ /a
Cumulative Sustainable Yield from tested borehole(s):	0.887 Mm ³ /a
Volume to be applied for:	0.799 Mm ³ /a

Table 7: Water supply

Borehole(s)	Objective
MBH1, MBH2, SBH1, SBH2 & BH3	Impact Monitoring

Class	Parameter	Frequency	Motivation
Physical	Static groundwater levels	Monthly	Time dependant data is required to understand the regional groundwater flow dynamics. A lowering in the static water levels may indicate that the aquifer is utilised in an unsustainable way and abstraction rates need to be decreased. Conditions of the Water Use Licence.
	Groundwater abstraction volumes	Monthly	Calculate monthly & annual abstraction volumes. Conditions of the Water Use Licence.
Chemical	Major ions and trace elements.	Bi-annually	Changes in chemical and microbial composition may indicate areas of groundwater contamination and be used as an early warning system to implement management/remedial actions. To determine whether the water is fit for the intended use. Conditions of the Water Use Licence.

Groundwater from the site will have an overall “negligible – negative” impact on the investigated geohydrological environment after implementation of appropriate mitigation measures. During the rating and ranking procedure of impacts, all identified impacts could be countered by appropriate mitigation.

Based on the water balance results, the applied allocation of 0.799 Mm³/annum places the application in a Category B abstraction (medium scale abstractions 60-100% recharge to the GRU). The tested boreholes will be able to supply in 100% of the demand, as well as the applied volume.

From a water quality point of view, elevated Iron and Manganese exceeding SANS241-1:2015 drinking water limits were reported in the boreholes located within the site as well as two other boreholes located outside the site sampled during the hydrocensus. Although the major elements are within the recommended drinking water limits, the elevated Iron and Manganese levels deem the groundwater unfit for human consumption.

It is the assessor’s professional opinion that adequate information was available to appropriately assess the impact of groundwater abstraction from the production boreholes on the geohydrological environment. Based on the results, it is recommended that the application be approved. It is however imperative that the applicant implements the proposed “Environmental Management & Groundwater Monitoring Program”. Production boreholes should be equipped as follow:

- Installation of a 32 mm LDPE observation pipe from the pump depth to the surface, open at the bottom. This allows for a ‘window’ of access down the borehole which enables manual water level monitoring and can house an electronic water level logger if required.
- Installation of a sampling tap (to monitor water quality).
- Installation of a flow volume meter (to monitor abstraction rates and volumes).
- The appropriate borehole pump must be installed, i.e., not an over-sized pump that is choked with a gate valve. If the monitoring shows that more water can be abstracted, then duty cycles (i.e., the duration of pumping time) may be increased, and not the flow rate.

10 Public participation

Registration and commenting forms were sent via email to all Interested and Affected Parties on the 19th of May 2022. Registration forms were also placed on the Greenmined Environmental Website, www.greenmined.com. Site notifications were placed on the farm fence and Patensie post office on 19 May 2022. Advertisement was placed in the Kouga Express on the 19th of May 2022. An additional

email notifying the Registered I&AP's of the specialist studies are available on Greenmined website, was sent on the 4th of November 2022.

Table 8: Outcome of the public participation

Person who commented	Comments (support or object)	Reasons for objection	Applicant's response to the objection
No comments received			

10. Other authorisations applicable to the activity

10.1N/A

11. Section 27 (1)

The requirements contained in Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) have been considered and are discussed further below.

a) Existing lawful water uses

N/A

b) Need to redress the results of past racial and gender discrimination

Wisteria Boerdery (Pty) Ltd is wholly owned by Mr.Rayno Du Preez. Where possible, the procurement policies and procedures implemented by Wisteria Boerdery (Pty) Ltd will accommodate the six (6) elements associated with Broad-based Black Economic Empowerment (B-BEE), namely, management control, employment equity, skills development, preferential procurement, enterprise development and socioeconomic development.

c) Efficient and beneficial use of water in the public interest

Wisteria Boerdery (Pty) Ltd provides development and employment opportunities to the surrounding area. Thus, the authorising of the various water uses being applied for on Scott and Wisteria Farm will have a beneficial impact on the surrounding environment and people through the provision of employment opportunities and accommodation. Provided the mitigation measures are implemented there is likely to minimal impact on surrounding water users.

d) Socio-economic impact –

i) Of water use or uses if authorised:

If approved, the farms will continue to provide work to local residents. It is proposed that the farms will contribute to the local economy of the area, both directly and through the multiplier effect that its presence will create. Equipment and supplies will be purchased locally, and wages will be spent at local businesses, generating both jobs and income in the area. Both Scott and Wisteria farm will provide a benefit to the general society in that it will contribute to the agricultural economy. Citrus farms contribute to food security in South Africa

ii) Of the failure to authorise water use or uses:

Failure to authorise the water use will impend Scott and Wisteria Farm capacity to:

- Preserve jobs; and
- Have a positive impact on the local communities through economic development and sustainable social initiatives.

Wisteria Boerdery (Pty) Ltd currently employs 84 people from the local surrounding area

Wisteria and Scott farms are also currently employing 43 employees from the local surrounding area All of the above employees are based on the farming operations, which is directly linked to the availability of water

e) Any catchment management strategy applicable to the relevant water resource

Magalies Farm is situated in the Mzimvubu sub-water management area, and Quaternary Catchment L90C.

f) Likely effect of the water use to be authorized on the water resource and on other water users.

N/A

g) Class and the resource quality objectives of the water resource

N/A – Downstream water users are mostly farmers

h) Investments already made and to be made by the water user in respect of the water use in question

Approximately R 3 045 194.50 has already been invested in this project in terms of land acquisition, environmental processes, and research – this includes the boreholes, dams, irrigation equipment, water testing, etc.

i) Strategic importance of the water use to be authorised

The approved water application will enable Wisteria Boerdery (Pty) Ltd to produce citrus to the local industry which will contribute to the local economy of the area, both directly and through the multiplier effect that its presence will create. Equipment and supplies will be purchased locally, and wages will be spent at local businesses, generating both jobs and income in the area.

Creating and maintaining jobs;

Developing its people, and in so doing contributing to the transformation of the industry's leadership and skills base; and

By having a positive impact on the local communities through economic development and sustainable social initiatives.

j) The quality of water in the water resource which may be required for the Reserve and for meeting international obligations

N/A

k) Probable duration of any undertaking for which a water use is to be authorised

The Wisteria Boerdery Pty Ltd farms are private undertaking and as such is expected to last for the lifetime of the applicant and beyond (greater than 20 years).

11 Declaration by the applicant with signature confirming that the information submitted is correct

[END OF WATER USE LICENCE APPLICATION SUMMARY]

