

Our reference: WC/WC/1/19

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Attention: Anthony Mader

**BASIC ASSESSMENT REPORT: RE & PTN 8 ZWARTFONTEIN 792; DIVISION  
MALMESBURY; SWARTLAND MUNICIPALITY:**

In principle; the Department of Agriculture supports agricultural development that is sustainable in the long term and is regulated in terms of the applicable legislation.

**General:**

The farming unit of **Zwartfontein** is 435 hectares and consists of the following Farm Portions:

- Remainder ZWARTFONTEIN 792: Malmesbury: 237.7340Ha
- Portion 7 ZWARTFONTEIN 792: Malmesbury: 101.5743Ha
- Portion 8 ZWARTFONTEIN 792: Malmesbury: 95.8493Ha

The farm is registered in the name of Black Orchid Farming (Pty) Ltd according to T70698/2015.

**Background:**

This application is for the expansion of an in-stream irrigation dam with a gross storage capacity of 915 000m<sup>3</sup> and with a surface area of approximately 10.9 hectares. The dam wall will be 22.5 meters in height.

It is stated that no new water will be abstracted additionally. Zwartfontein must therefore comply with the existing water use allocation as listed under the Berg River Irrigation Board and the curtailments which are associated with the listed use as determined by the competent authority from time to time.

The proposed enlarged dam will overlap both farming portions of the Remainder and Portion 8. The dam is located within a non-perennial stream and on a site that will impact on existing approximately 7.3 hectares of perennial crops. It can be argued that the site for the proposed development will impact on High and Unique Potential Agricultural Land (HUAL).

### **Fresh water Report:**

In the report the following is stated:

- *"The pumping of seepage and return flow back into the dam is commended and should be expanded if volumes increase."*

What is the quality of this seepage and return flow? Is there a possibility that this will contaminate the water quality in the dam if the seepage and subsurface drainage is saline?

- *"There is no need for mitigation to address the eventuality of the dam overflowing when more than full. The catchment above the dam is only 130ha. Even with a rainfall event of 60mm in a single day, when 78 000m<sup>3</sup> of storm water falls on the catchment, it is puny if compared to the 915 000m<sup>3</sup> capacity of the dam. It is unlikely that the dam would overflow because of high rainfall events."*

The dam will be filled up to 100% capacity in late winter when the Berg River water levels are high. The winter is also the time when rain can be expected in the winter rainfall area of the Swartland. Although the catchment is only 130 hectares all the drainage lines and storm water management systems will flow in an event of a rainstorm. If the dam is filled to 100% and a rainstorm occur the dam will no longer be a buffer against runoff. The dam must have a spillway that is protected against erosion. The slope in this constructed canal will be higher than the natural slope of the original drainage line. Energy and flow velocity in the spillway will be higher than that in the natural drainage lines. Erosion may occur where the spillway disperse its water into downstream drainage line. **These downstream drainage lines on this property and the one downstream, must not be altered or closed-up with the assumption that no runoff will ever occur in future again.**

**Site inspection:**

No site inspection was conducted yet.

**Information required:**

The proposed development will impact on approximately 7.3ha HUAL.

- What is the potential of the land that will be lost?
- What is the actual impact on production and loss of jobs?
- How, when and where will the existing perennial crops be replaced?
- Is there enough HUAL farm land on the farming unit to do the replacement?
- Is the Bonathaba dam and Zwartfontein dam seen as an integrated irrigation water management system?

Please note:

The Western Cape Department of Agriculture reserves the right to request further information and revise initial comments based on any additional information that might be received.

Yours sincerely



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**SUSTAINABLE RESOURCE MANAGEMENT**

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