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07 November 2023

JVR Boerdery Pty Ltd
PO Box 125
Uniondale
6460

Per Email: otterswem@hilbert.co.za

Dear Mr van Rensburg

CONFIRMATION ON THE APPOINTMENT TO PERFORM A PRELIMINARY DESIGN REPORT ON THE ALLEDGED UNLAWFUL GROOT DAM AS REQUIRED IN TERMS OF WATER USE LICENCE WU26462 - 27/2/1/J334/2/2 ON PORTION 42 OF FARM BUFFELS RIVIER 46, GEORGE

Your request for assistance to prepare a technical document in terms of water use licence application WU26462 - 27/2/1/J334/2/2, bears reference.

We are pleased to confirm our acceptance and our understanding of this engagement by means of this letter. A preliminary design report in terms of Section 21(b) of the NWA, 1998 for the storing of water in the Groot Dam will be compiled in line with the requirements provided by the Responsible Authority. The following list is an outline of the project scope in terms of the technical report:

- Dam location map;
- Dam plan layout;
- Contour survey and storage capacity curve as per the survey;
- Dam detail
- Runoff estimation;
- Dam classification (for dams greater than 5m and 50 000m^3)

It should be noted that the dam survey was performed by André Nel (KKK-Oudshoorn) and an “As Build Contour Plan” was compiled.

The dam classification was not done as the outcome of the water use licence will guide the Dam Safety classification process.

We look forward to working with you and to assist you with your Water Use Licence Application process.

Yours faithfully

HD. Lyons
HDL Consulting

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TECHNICAL REPORT ON THE EXISTING GROOT DAM LOCATED ON PORTION 42 OF THE FARM BUFFELS RIVIER 46, GEORGE: J V R BOERDERY PTY LTD

1. Introduction

The responsible authority has requested a concise technical report on the existing Groot Dam, which is constructed in-stream within a tributary of the Kammanassie River. The dam is located on Portion 42 of the farm Buffels River 46, George.

This report is based on a desktop study only after the existing Groot Dam was surveyed by André Nel (KKK-Oudshoorn) and an “As Build” Contour Plan was compiled.

The information in this technical report will be used for the evaluation to a Water Use Licence Application which was submitted on e-wulaas as WU 26462 on 25 August 2022.

It was found that this dam had been constructed after October 1998 and in terms of the NWA, 1998 it is deemed as being unauthorized. To ensure full compliance with the construction of the Groot Dam a rectification process in terms of Section 24G of NEMA was initiated.

1.2 Background

This property falls within the upper catchment area of the Stompdrift/Kammanassie Dams. This area was declared as a Government Water Controlled Area (GWCA) with proclamation 428 dated 23 December 1960 and several amendments.

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 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, but the water uses on Portion 42 of farm Buffels Rivier 46, George has been confirmed as ELU in terms of Section 35(4) of the NWA, 1998. It was confirmed that Portion 42 of farm Buffels Rivier 46, George has according to the field survey performed by Schoeman & Associates two existing storage dams with a total combined capacity of 9 000m^3.

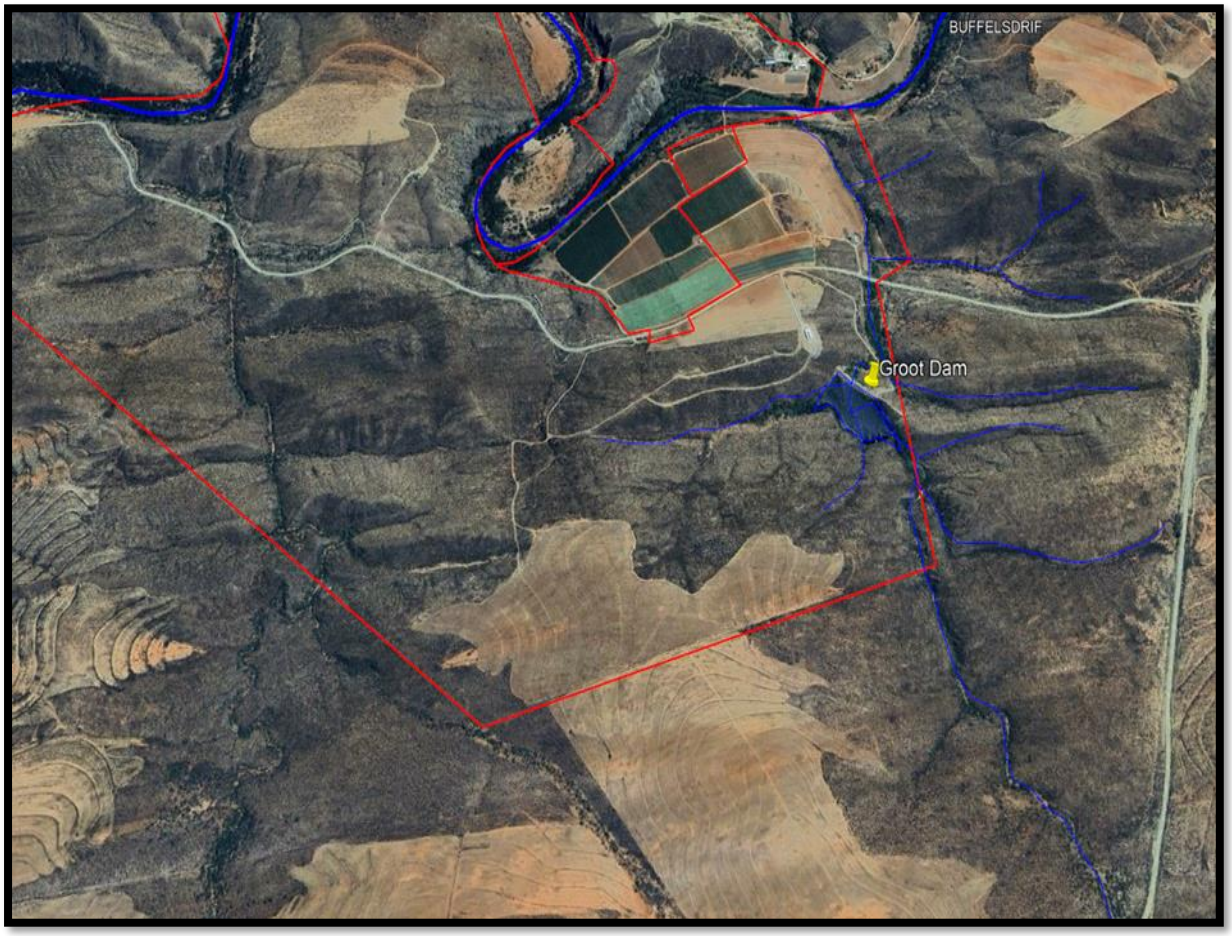

Figure 1: Location of Groot Dam situated on Portion 42 of farm Buffels Rivier 46, George

1.2.1 Historic water uses

Historic reports prepared by the former Department of Agriculture Technical Services, shows detail on the planning and design of two irrigation dams. These reports were dated October 1964, and it was recommended by the former Department of Water Affairs.

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:

i. Existing irrigation on a property may continue, but the water use may not increase without a permit to alter or enlarge;

ii. 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;
iii. A maximum quantity of 5 000m^3/ha/a of public water may be taken for the irrigation of each hectare irrigated;
iv. No new water works may be constructed, and no existing water works may be altered or enlarged without a permit;
v. 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;
vi. 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 was 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.

1.3 Detail on Groot Dam

The Groot Dam is located within the Quaternary Catchment Area J34C.

1.3.1 Hydrology

The Cape Farm Mapper Program was used to determine the catchment area and the MAR. The catchment area was determined as 5,28km^2. This digitised area was used in the run-off calculations.

The MAR as presented in the Cape Farm Mapper GIS 2.7 program was used to calculate the expected run-off from the catchment area. The MAR calculations that are available on the Cape Farm Mapper GIS 2.7 program is based on the Water Resources Assessment 2005 data (Middleton and Bailey 2009). This data represents the most used national mean annual runoff data used by DWS for water resources planning and management.

The MAR was indicated at 5.52 mm/a that will be applied on the total catchment area of 5.28km^2 that equates to 30 470 m^3/a.

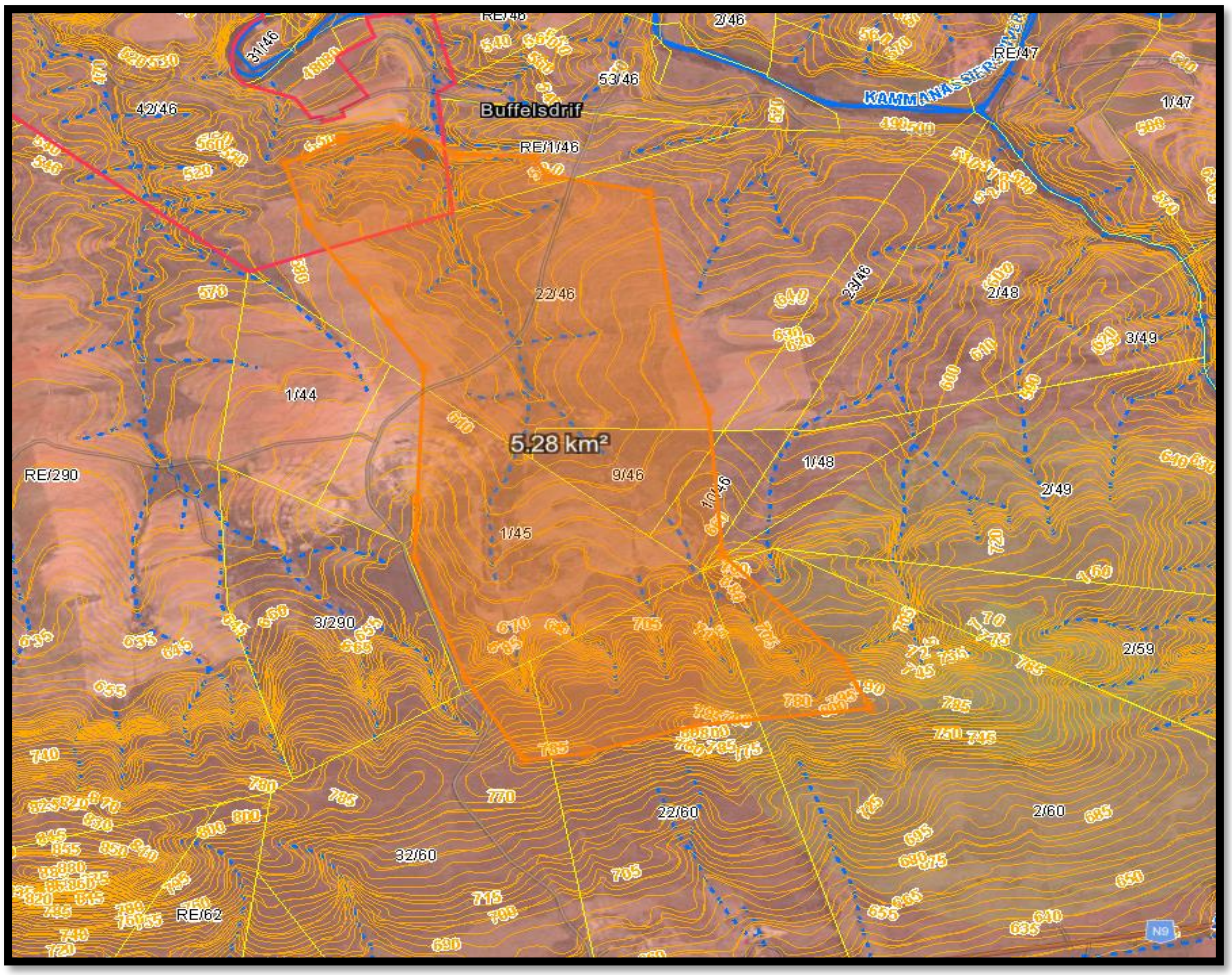

Figure 2: Detail on catchment area applicable to MAR calculations.

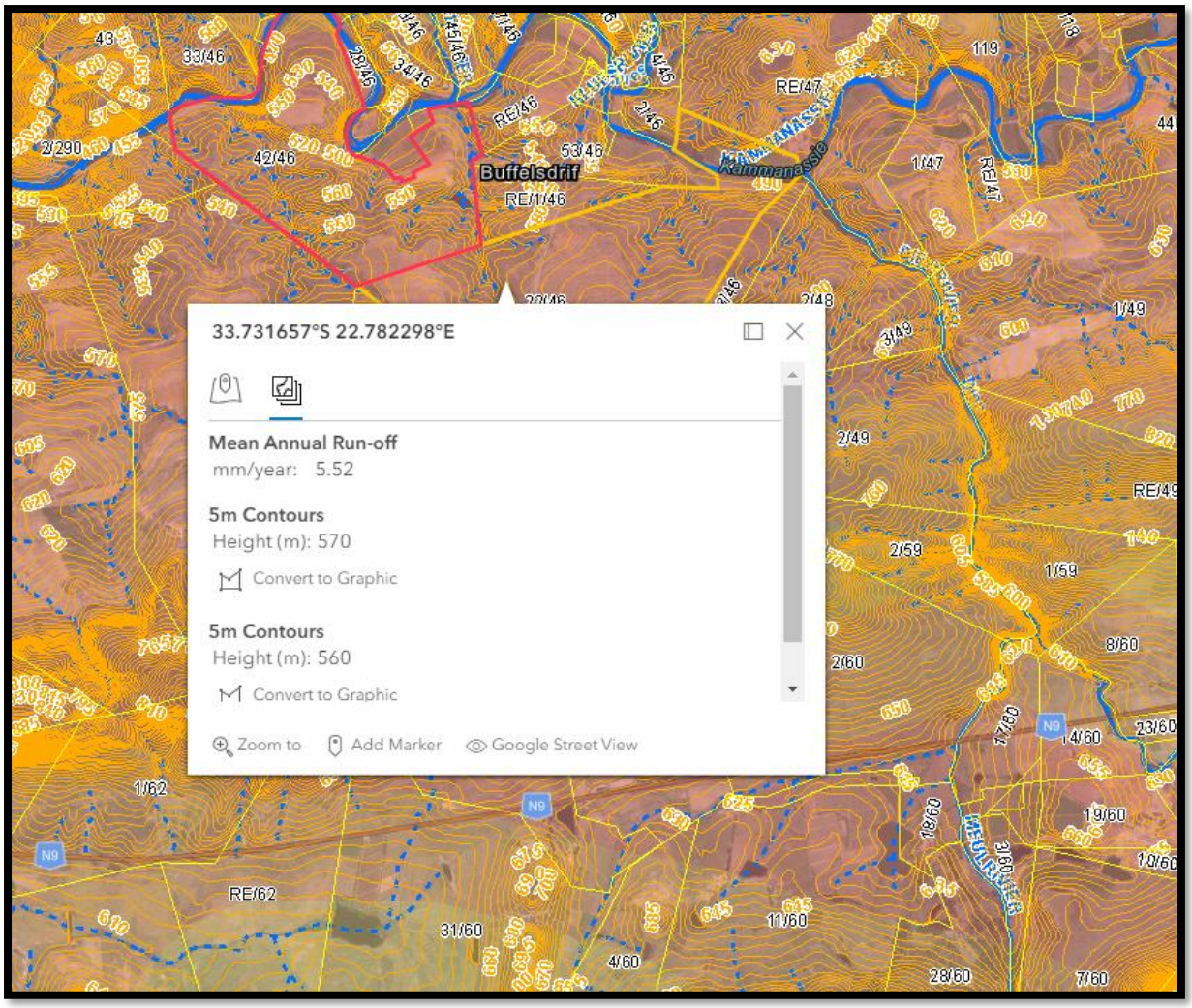

Figure 3: Mean annual Run-off

1.4 Dam Detail

The following had been determined from our desktop study inclusive of the “As Build” Contour Plan of the existing Groot Dam:
Technical Detail of the Dam:
Embankment slopes:
Upstream: 1: 2.6
Downstream: 1: 1.4
Crest Width: 4.5 m
Wall Length: ±106 m
Crest Level: RL 505.5 contour
Full Supply Level: RL 503.5 contour
Max. Height of Embankment above Natural Ground Level 11.8 m
Max. Water Depth: 10.5 m
Total Free Board: 2.0 m
Max. Storage Capacity: 80 000 m^3
Max Full Supply Area: 2.41 ha
Type & Length of Outlet Pipe: unknown
Width of existing Spillway: ±10.7 m

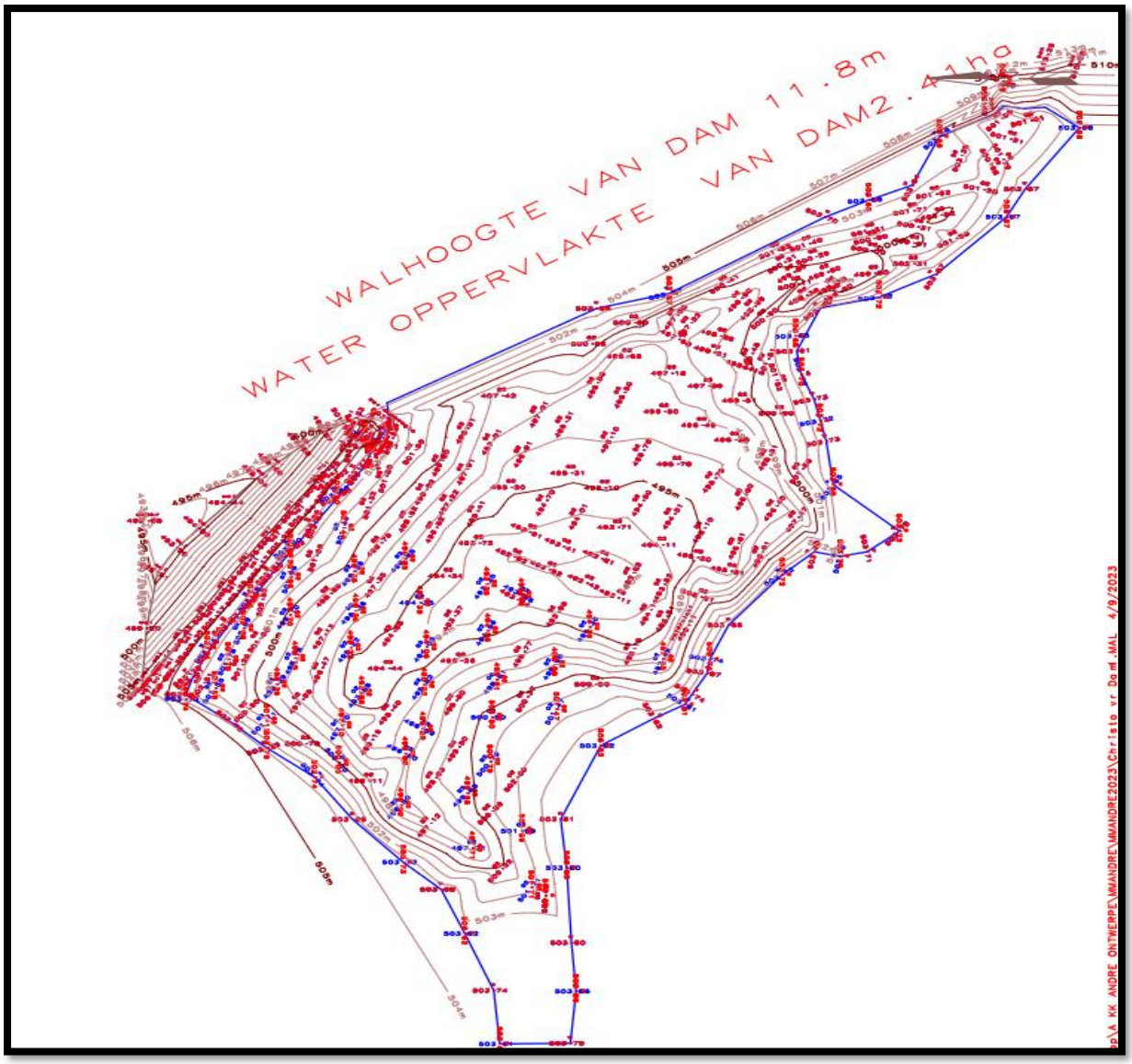

Figure 4: Survey Groot Dam

2. RECOMMENDATIONS

2.1 Dam Safety

2.1.1 The existing storage dam known as the Groot Dam, located on Portion 42 of farm Buffels Rivier 46, George falls within the category of a dam with a safety risk. It is therefore recommended that the dam should be registered and classified in terms of Dam Safety Legislation.

2.1.2 If the Groot Dam is not authorised with the full capacity, the dam capacity must be reduced to only store less than 50 000m^3. This will ensure that the Groot Dam do not fall within the category of a dam with a safety risk. Only dams with a capacity of more than 50 000m^3 **AND** a wall height of more than 5m is regarded as a dam with a safety risk.

Further to the reduced capacity, the Groot Dam will be in line with the proposal to allow storage facilities of only 50 000m^3 on each property according to the published restriction rules as published in the proclaimed Olifants River (Oudtshoorn) GWCA.

Compiled by: HD Lyons

HDL Consulting
Date: 9 October 2023

VAN DAM 1.8m
VAN DAM DAM 2
WATER OPPERVLAKTE VAN WALHOOGTE
C:\Users\Beproeing Ontwerp\Desktop\A KK ANDRE ONTWERPE\MMANDRE\MMANDRE2023\Christo vr Dam.MAL 4/9/2023

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BPK • LTD

To whom it may concern.

I can confirm that Mr. Jc Janse van Rensburg ordered a water-meter from us to be installed on his farm for logging his water usage data. We are expecting delivery from our supplier soon.

Regards
Wiehan van der Merwe
Technical adviser irrigation.