



**REFERENCE:** 14/2/4/2/1/F2/4/0023/18

**ENQUIRIES:** Ziyaad Allie

The Trustees

M & M Trust

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**CITRUSDAL**

7340

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Attention: Francois Bestbier

Dear Sir

**APPLICATION IN TERMS OF SECTION 24G OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) ("NEMA"): UNLAWFUL CONSTRUCTION OF WATER STORAGE DAM ON PORTION 43 OF FARM KLEIN VALLEY NO. 481, CLANWILLIAM**

With reference to your application dated 21 November 2018 and 23 April 2019 in terms of section 24G of the NEMA for the consequences of unlawful commencement of listed activities identified in terms of the NEMA, find below the decision in respect of your application.

**ENVIRONMENTAL AUTHORISATION**

**A. DECISION**

By virtue of the powers conferred by section 24G of the NEMA and the *Environmental Impact Assessment Regulations, 2014* ("EIA Regulations, 2014") (as amended), the competent authority herewith **grants environmental authorisation** to the applicant to continue with the listed activities specified in Section C below as described in the application and environmental assessment.

The granting of this Environmental Authorisation is for the continuation, conducting or undertaking of the listed activities as described in Section C below and is subject to compliance with the conditions set out in Section G. This Environmental Authorisation shall only take effect from the date on which it has been issued.

The Environmental Authorisation does not exempt the holder thereof from compliance with any other applicable legislation.

## B. DETAILS OF THE APPLICANT FOR THIS ENVIRONMENTAL AUTHORISATION

M&M Trust

c/o Mr Martin Esterhuyzen

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Email: [martin@nsfirstfruit.com](mailto:martin@nsfirstfruit.com)

The abovementioned applicant is the holder of this Environmental Authorisation and is hereinafter referred to as "the holder".

## C. LIST OF ACTIVITIES AUTHORISED

Listed Activities	Activity/Project Description
<p><i>Government Notice No. R. 983 of 4 December 2014</i></p> <p><b>Activity Number:</b> 12</p> <p>Activity Description: <i>The development of</i></p> <p><i>(i) canals exceeding 100 square metres in size;</i></p> <p><i>(ii) channels exceeding 100 square metres in size;</i></p> <p><i>(iii) bridges exceeding 100 square metres in size;</i></p>	<p>More than 5m<sup>3</sup> was excavated from the dam basin and used to construct the dam wall. According to the Freshwater Specialist, the Oukraal Dam is considered as an instream dam on a tributary of the Waterkloof River.</p>

<p>(iv) dams, where the dam, including infrastructure and water surface area, exceeds 100 square metres in size;</p> <p>(v) weirs, where the weir, including infrastructure and water surface area, exceeds 100 square metres in size;</p> <p>(vi) bulk storm water outlets structures exceeding 100 square metres in size;</p> <p>(xii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs –</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) in no development setback exists, within 21 metres of a watercourse, measured from the edge of a watercourse.</p>	
<p>Government Notice No. 984 of 4 December 2014 -</p> <p><b>Activity Number: 16</b></p> <p>Activity Description: <i>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 highwater mark of the dam covers an area of 10 hectares or more.</i></p>	<p>The dam has as a maximum wall height of 7m. The water surface at full supply level (FSL) is 2.7ha.</p>
<p>As similarly listed in Government Notice No. 327 of 2014</p> <p><b>Activity Number: 12</b></p> <p>Activity Description: <i>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) in no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.</i></p>	<p>The constructed dam has footprint of physical footprint of 36 035m<sup>2</sup> (thus, exceeding 100m<sup>2</sup>). According to the Freshwater Specialist, the Oukraal Dam is considered as an instream dam on a tributary of the Waterkloof River.</p>

<p>As similarly listed in Government Notice No. 327 of 2014</p> <p><b>Activity Number: 19</b></p> <p>Activity Description: <i>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 from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving -</i></p> <p><i>(a) will occur behind a development setback;</i></p> <p><i>(b) is for maintenance purposes undertaken in accordance with a management plan;</i></p> <p><i>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</i></p>	<p>More than 5m<sup>3</sup> was excavated from the dam basin and used to construct the dam wall. From the information provided by the appointed Freshwater Specialist, the Oukraal Dam is considered as an instream dam on a tributary of the Waterkloof River.</p>
<p>As similarly listed in Government Notice No. 325 of 2014</p> <p><b>Activity Number: 16</b></p> <p>Activity Description: <i>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.</i></p>	<p>The dam has as a maximum wall height of 7m. The water surface at full supply level (FSL) is 2.7ha.</p>

The abovementioned list is hereinafter referred to as “the listed activities”.

#### **D. PROPERTY DESCRIPTION AND LOCATION**

The listed activities commenced on Portion 43 Klein Valley No. 481, Clanwilliam.

The SG digit code is: C02000000000048100043

The co-ordinates for the property boundary are:

Point	Latitude (S)	Longitude (E)
1	32° 40' 25.04" South	19° 1' 56.67" East
2	32° 39' 57.91" South	19° 2' 49.51" East
3	32° 39' 49.87" South	19° 2' 52.03" East
4	32° 39' 43.21" South	19° 3' 5.88" East

The co-ordinates for the site boundary are:

Point	Latitude (S)	Longitude (E)
1	32° 39' 45.18" South	19° 3' 4.08" East
2	32° 39' 47.78" South	19° 3' 5.94" East
3	32° 39' 50.28" South	19° 3' 5.91" East
4	32° 39' 52.73" South	19° 3' 5.20" East

Refer to Annexure 1: Locality Map  
Herein-after referred to as "the site".

## **E. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")**

Cederberg Environmental Practice

C/o Ms Susan de Kock

P.O. Box 367

PRIESKA

8940

Cell: (082) 679 6760

Email: [Susandk@telkomsa.net](mailto:Susandk@telkomsa.net)

## F. DETAILS OF THE ACTIVITIES UNDERTAKEN

The activities undertaken on the property entails the construction of an instream dam, "Oukraal Dam". The dam is located within the upper Olifants River Valley, within the channel of a minor tributary of the Waterkloof Tributary of the Olifants River. Water to fill the dam is abstracted from the Waterkloof and Olifants Rivers as well as from groundwater. There are no wetland areas within the area, only some valley bottom wetlands within the Waterkloof River in the kloof upstream of the Olifants River Valley as well as valley bottom wetlands in the wide braided channel of the Olifants River within the valley. There are a number of in- and off-channel dams that have been built in within the river valley.

The watercourses within the valley floor of the Olifants River near the site are all mostly in a significantly modified ecological state as a result of the surrounding agricultural activities, with only the upper reaches still being largely natural.

The construction of the instream dam has the following specifications:

- Storage depth 5.3m
- Water surface area at Full Supply Level 2.7ha
- Downstream dam wall slope 1V:2H
- Upstream dam wall slope 1V:3H
- Wall length 470m

The dam an elongate earth structure with a physical footprint of ca 36 035m<sup>2</sup> and a maximum wall height of 7m. The water surface at full supply level is 27 000m<sup>2</sup>. The dam has a total capacity of 122 200m<sup>3</sup>. The Applicant obtained permission from the local water users association, Citrusdal Water Users Association, to construct a dam with a capacity of 42 202m<sup>3</sup>. However, the dam had to be dug considerably deeper than planned, owing to the depth of base rock/clay. This resulted in far more sand and clay spoil than expected. The spoil was dumped on the dam and resulted in a doubling of the dam's intended capacity from 42 202m<sup>3</sup> to 122 200m<sup>3</sup>.

The completed Oukraal Dam is filled with registered water from 3 sources:

### Source 1

Surface water: ± 33% via an existing pipeline from an existing diversion weir on the Waterkloof River and an existing division structure outside the Waterkloof River. This is done under gravity and no electricity is required to feed water into the pipeline. The division structure as well as the northern section of the pipeline towards the Oukraal

Dam is located on the property adjacent west of Klein Valley 43/481. A servitude exists for the pipeline crossing this property towards 43/481, Clanwilliam.

#### Source 2

Surface water: ± 33% pumping from the Olifants River from an existing pump station via an existing pipeline. The existing pump station is situated on Farm 616, Clanwilliam, and located adjacent south east of Klein Valley 43/481. This property belongs to the Applicant. The pipeline from the pump station crosses Farm 616 and then enters Klein Valley 43/481.

#### Source 3

Groundwater: ± 33% from 2 registered boreholes both located on Klein Valley 43/481.

A total of 505 586m<sup>3</sup> on Portion 43 of Klein Valley 481, Clanwilliam. Two thirds of the surface water and one third of the groundwater is being used to fill the Oukraal Dam.

### **G. CONDITIONS OF AUTHORISATION**

The following are conditions of authorisation that are set and must be implemented for this Environmental Authorisation.

#### **PART I**

##### **Scope of authorisation**

1. The holder is authorised to undertake the listed activities specified in Section C above in accordance with and restricted to the implemented Alternative described in the application and assessment report on the site as described in Section D above.
2. The holder shall be responsible for ensuring compliance with the conditions by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.
3. Any changes to, or deviations from the scope of the alternative described in Section F above must be accepted or approved, in writing, by the competent authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the competent authority may request information to evaluate the significance and impacts of such changes or

deviations, and it may be necessary for the holder to apply for further authorisation in terms of the applicable legislation.

## **PART II**

### **Written notice to the competent authority**

4. Seven (7) calendar days' notice, in writing, must be given to the competent authority before continuation of commencement of any construction related activities.

4.1 The notice must make clear reference to the site details and 24G Reference number given above.

## **PART III**

### **Notification and administration of an appeal**

5. The holder must in writing, within 14 (fourteen) calendar days of the date of this decision–

5.1 notify all registered Interested and Affected Parties ("I&APs") of –

5.1.1 the outcome of the application;

5.1.2 the reasons for the decision as included in Annexure 3;

5.1.3 the date of the decision; and

5.1.4 the date when the decision was issued.

5.2 draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the *National Appeals Regulations, 2014* detailed in Section I below.

5.3 draw the attention of all registered I&APs to the manner in which they may access the decision.

5.4 provide the registered I&APs with:

5.4.1 the name of the holder (entity) of this Environmental Authorisation;

5.4.2 name of the responsible person for this Environmental Authorisation;

5.4.3 postal address of the holder;

5.4.4 telephonic and fax details of the holder;



- 5.4.5 e-mail address, if any, of the holder; and
- 5.4.6 the contact details (postal and/or physical address, contact number, facsimile and e-mail address) of the decision-maker and all registered I&APs in the event that an appeal is lodged in terms of the *National Appeal Regulations, 2014*.

#### **PART IV**

##### **Management of the activity/development**

- 6. The draft Environmental Management Programme ("EMPr") dated 12 April 2019 compiled by Cederberg Environmental Assessment Practice and submitted as part of the application for environmental authorisation is hereby approved and must be implemented.
- 7. The EMPr must be included in all contract documentation for all phases of implementation.

#### **PART V**

##### **Monitoring**

- 8. A copy of the Environmental Authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, audit reports and compliance monitoring reports must be kept at the site of the authorised activity/ies, and must be made available to anyone on request, including a publicly accessible website (if applicable).
- 9. Access to the site referred to in Section D must be granted, and the environmental reports mentioned above must be produced, to any authorised official representing the competent authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein.

#### **PART VI**

##### **Auditing**

- 10. In terms of regulation 34 of the *EIA Regulations, 2014* the holder must conduct environmental audits to determine compliance with the conditions of the Environmental Authorisation, and the EMPr and submit Environmental Audit Reports to

the competent authority upon receiving such request in writing from the competent authority. The Audit Report must be prepared by an independent person and must consider all the information required in Appendix 7 of the *EIA Regulations, 2014*.

## **PART VII**

### **Activity/ Development Specific Conditions**

11. The Waterkloof River must be maintained so that it can continue to remain a corridor for the movement of biota between the Olifants River and the upper reaches of the river in the mountains.
12. Removal of any invasive alien plants and re-vegetation of cleared areas with suitable indigenous vegetation within the property should be undertaken. Follow up work should be carried out after rehabilitation to ensure that no invasive alien plants establish themselves within the riparian zone adjacent to the dam as well as downstream of the dam.
13. A river corridor of at least 20m should be maintained along the stretch of the watercourse within the property.

## **H. GENERAL MATTERS**

1. Notwithstanding this Environmental Authorisation, the holder must comply with any other statutory requirements that may be applicable when undertaking the listed activity/ies.
2. Non-compliance with a condition or term of this Environmental Authorisation or EMPr may render the holder liable to criminal prosecution.
3. An application for amendment must be made on condition that the environmental authorisation is valid on the date of receipt of such amendment application.

Note that:

(1) In terms of regulation 28(1A) of the *EIA Regulations, 2014* the competent authority shall not accept or process an application for amendment of an environmental

authorisation if such environmental authorisation is not valid on the day of receipt of such amendment application, but may consider an application for environmental authorisation for the same development.

(2) In terms of regulation 28(1B) of the *EIA Regulations, 2014* an environmental authorisation which is the subject of an amendment application remains valid pending the finalisation of the amendment application.

(3) It is an offence in terms of section 49A(1)(a) of the NEMA for a person to commence with a listed activity if the competent authority has not granted an environmental authorisation for the undertaking of the activity.

4. The holder must submit an application for amendment of the Environmental Authorisation to the competent authority where any detail with respect to the Environmental Authorisation must be amended, added, substituted, corrected, removed or updated. If a new holder is proposed, an application for Amendment in terms of Part 1 of the *EIA Regulations, 2014* must be submitted.

Please note that an amendment is not required if there is a change in the contact details of the holder. In this case, the competent authority must only be notified of such changes.

5. The manner and frequency for updating the EMPr is as follows:  
Amendments to the EMPr must be done in accordance with regulations 35 to 37 of the *EIA Regulations, 2014* or any relevant legislation that may be applicable at the time.

## **I. APPEALS**

Appeals must comply with the provisions contained in the *National Appeal Regulations, 2014*.

1. An appellant (if the holder) must –
  - 1.1 submit an appeal in accordance with regulation 4 *National Appeal Regulations, 2014* to the Appeal Administrator and a copy of the appeal to any registered I&APs, any Organ of State with interest in the matter and the decision maker within 20 (twenty) calendar days from the date the holder was notified by the competent authority of this decision.

2. An appellant (if NOT the holder) must –
  - 2.1 submit an appeal in accordance with regulation 4 *National Appeal Regulations, 2014* to the Appeal Administrator, and a copy of the appeal to the holder, any registered I&APs, any Organ of State with interest in the matter and the decision maker within 20 (twenty) calendar days from the date the holder notified the registered I&APs of this decision.
3. The holder (if not the appellant), the decision-maker, I&APs and Organ of State must submit their responding statements, if any, to the Appeal Authority and the appellant within 20 (twenty) calendar days from the date of receipt of the appeal submission.
4. This appeal and responding statement must be submitted to the address listed below-

By post:                   Attention: Marius Venter  
Western Cape Ministry of Local Government, Environmental Affairs &  
Development Planning  
Private Bag X9186, Cape Town, 8000; or

By facsimile:           (021) 483 4174; or

By hand:                 Attention: Mr Marius Venter (Tel: 021-483 3721)  
Room 809, 8th floor Utilitas Building  
1 Dorp Street, Cape Town, 8000; or

By e-mail:               [DEADP.Appeals@westerncape.gov.za](mailto:DEADP.Appeals@westerncape.gov.za)

**Note:** You are also requested to submit an electronic copy (Microsoft Word format) of the appeal and any supporting documents to the Appeal Administrator to the address listed above and/ or via e-mail to [DEADP.Appeals@westerncape.gov.za](mailto:DEADP.Appeals@westerncape.gov.za).

5. A prescribed appeal form, as well as assistance regarding the appeal processes is obtainable from the office of the appeal authority/ at: Tel. (021) 483 3721, E-mail [DEADP.Appeals@westerncape.gov.za](mailto:DEADP.Appeals@westerncape.gov.za) or URL <http://www.westerncape.gov.za/eadp>.

## **J. CONSEQUENCES OF NON-COMPLIANCE WITH CONDITIONS**

Non-compliance with a condition or term of this Environmental Authorisation or EMPr may result in suspension or withdrawal of this Environmental Authorisation and may render the holder liable for criminal prosecution.

## **K. DISCLAIMER**

The Western Cape Government, the Municipality, committees or any other public authority or organisation appointed in terms of the conditions of this Environmental Authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Yours faithfully

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**ADV. CHARMAINE MARÉ**  
**DIRECTOR: ENVIRONMENTAL GOVERNANCE**

DATE OF DECISION: 27 August 2020

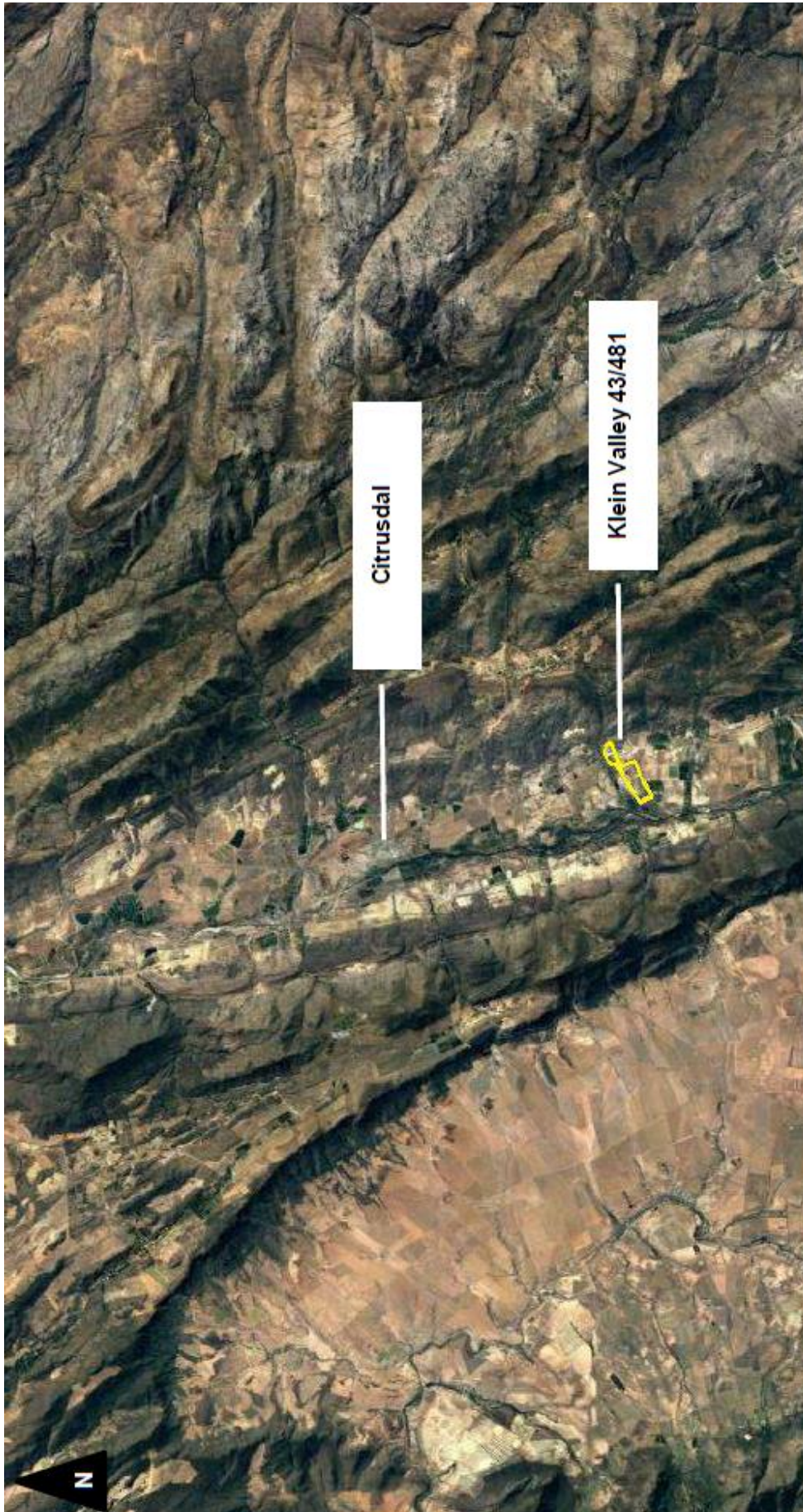
CC: (1) Susan de Kock (EAP)

Fax: (087) 234 3434

Email: [susandk@telkomsa.net](mailto:susandk@telkomsa.net)



**ANNEXURE 1: LOCALITY MAP**







## **ANNEXURE 2: REASONS FOR THE DECISION**

This Environmental Authorisation is in respect of the consequences of commencement of the afore-mentioned illegal activities. An Environmental Assessment Practitioner ("EAP") was appointed to submit a section 24G Environmental Impact Assessment ("EIA") to the Department to obtain this Environmental Authorisation. The EIA was considered adequate for informed decision-making. In addition, the holder paid an administrative fine of R125 000 (One hundred and Twenty-five thousand Rand). to meet the requirements of section 24G of the *National Environmental Management Act, 1998* ("NEMA").

In reaching its decision, the competent authority, *inter alia*, considered the following:

- a) The information contained in the application form dated 21 November 2018 and 23 April 2019 and the Environmental Management Programme submitted together with the application.
- b) Relevant information contained in the Departmental information base, including, the Guidelines on Public Participation and Alternatives.
- c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the NEMA.
- d) The comments received from Interested and Affected Parties ("I&APs") and the responses provided thereto.
- e) The sense of balance of the negative and positive impacts and proposed mitigation measures.
- f) The site visit conducted on 16 October 2019 attended by officials from this Department.

All information presented to the competent authority was taken into account in the consideration of the application for environmental authorisation. A summary of the issues which, according to the competent authority, were the most significant reasons for the decision is set out below.



## 1. Public Participation Process

In terms of section 24G(1)(vii)(dd) of the NEMA, "...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 ...", is required.

The public participation process conducted by the EAP comprised of the following:

- An advertisement was placed in the **Ons Kontrei** newspaper on 5 October 2018;
- Letters were sent to interested and affected parties ("I&APs") and the municipal ward councillor on 5 March 2019 and 6 March 2019 to provide comments on the application.

### 1.1 Consultation with organs of state in terms of section 24O of the NEMA

The following organ of state provided comment on the application:

- CapeNature

The Waterkloof River has been severely modified over a long period of time but it has been determined as an Ecological Support Area category 2 (ESA2) which are areas that should ideally be restored or managed to reduce impacts on ecological processes and ecological infrastructure functioning and allow for faunal movement. The cumulative impact of the many instream dams on the tributaries of the Olifants River in terms of reducing flow was raised as a high concern.

CapeNature supported the freshwater specialists' recommendations with regard to environmental flow requirements. It was stated that the environmental low flow requirements should be implemented and water from the Waterkloof River should only be abstracted to fill the dam in winter, when the environmental flow requirements have been met. It was further stated that allowing the recommended environmental flow requirements will be of benefit to downstream aquatic ecosystems in the Waterkloof and Olifants Rivers.

Recommendations include rehabilitation of the riparian areas along the Waterkloof River and withdrawing orchards in a phased approach, to allow for a larger buffer area. CapeNature questioned whether at least some of the low flow requirements could possibly be released from the dam if sufficient water was stored during the wetter winter months. Ingerop SA (Consulting Engineers)

responded that the Waterkloof River diversion comprises of a diversion weir on the river and division structure outside the river, and that the applicant receives 10% of the water diverted. If the applicant stops their summer diversion, the water will be usurped by other parties. So, changes to the division will not create summer flow in the river. It was highlighted that the Waterkloof River diversion is a minor source of surface water to the farm, as pumping from the Olifants River is primarily done.

The competent authority concurs with the EAP's responses to the issues raised during the public participation process and has included appropriate conditions in this Environmental Authorisation and in the EMPr.

## **2. Alternatives**

### 2.1 Site/Activity Alternatives

#### Alternative 1 (Herewith authorised)

This entails the construction of an instream dam with the following specifications.

- Storage depth 5.3m
- Water surface area at Full Supply Level 2.7ha
- Downstream dam wall slope 1V:2H
- Upstream dam wall slope 1V:3H
- Wall length 470m

The dam, an elongate earth structure with a physical footprint of ca 36 035m<sup>2</sup> and a maximum wall height of 7m. The water surface at full supply level is 27 000m<sup>2</sup>. The dam has a total capacity of 122 200m<sup>3</sup>.

The location where the dam was constructed was chosen for a number of reasons. The area was a very old citrus orchard which did not produce its full capacity. Housing and stores are located on the area east of the tarred road and the small area which could possibly be used for the dam is covered with natural vegetation. This area is also too small to accommodate a water storage dam. The area adjacent south of Divisional Road 2176 is located the highest above sea level of the available options as the topography slopes down in a western direction towards the Olifants River. The fact that the water storage dam is located higher than the citrus aid in more cost-effective irrigation.

## 2.2 The option of not implementing or continuing with the activity ("No-Go" Alternative)

The no-go alternative would imply that the current water use pattern would continue, that is, to obtain the water required for irrigation from the Waterkloof River in summer. This places stress on the water resources in the area during the drier months of the year when flow in the rivers is low. Increasing the capacity to store water in winter for use in summer is thus preferred. The No-Go Option is therefore not preferred.

### **3. Environmental Impact Assessment (EIA) and Mitigation Measures**

In reaching its decision, the competent authority, considered the following in respect of the EIA and mitigation measures:

#### 3.1. Activity Need and Desirability

Agriculture is the highest contributor to the Gross Domestic Product ("GDP") of the Cederberg area. The constructed dam development is expected to indirectly increase the productivity of the agricultural land. The intention of the dam construction aims to achieve certain outcomes e.g. alleviating stress on the Waterkloof River in summer, maintaining jobs; project support in the whole commodity value chain and food security, boosting GDP, local economic development and localisation.

#### 3.2. Regional/ Planning Context

The dam construction is a private initiative and is not applicable to any timeframes as set out by the Spatial Development Framework.

#### 3.3. Biophysical and Biodiversity Impacts

The tributary of the Waterkloof River both upstream and downstream of the Oukraal Dam has already been significantly modified. The tributary is considered to be of a low ecological importance and sensitivity due to the fact that the existing dam and agricultural activities have modified the corridor and habitats. Upstream of the Oukraal Dam, an instream dam has been constructed that impedes nearly all of the flow in the tributary. Between this dam and the Oukraal Dam, the watercourse becomes an earthen channel.

Downstream of Oukraal Dam, the watercourse is contained within a straightened 'furrow' for 400m, where it joins the Waterkloof River. According to the Freshwater Assessment compiled by Blue Science CC dated November 2018, no wetland areas were found within the study area, only some valley bottom wetlands were found upstream. The major impacts to the instream habitat integrity are physical disturbances to the river channel and bed. The other main disturbance is flow modification.

Both the Waterkloof River and its tributary have been subject to channel modification, with narrowing and straightening of the channel and removal of the riparian vegetation. According to the historical imagery, the stream was small and significantly modified more than 70 years ago. The Freshwater Assessment concluded that construction is unlikely to have impacted the stream habitat much, as most of the valley bottom wetland habitat associated with these watercourses has also been modified or lost. No mitigation measures were deemed necessary in the tributary; however, removal of invasive alien plants should be undertaken in conjunction with re-vegetation of cleared areas with suitable indigenous vegetation within the property.

According to the Freshwater Assessment, the dam has the potential to impact on flow in the watercourse downstream of the dam, as well as flow in the Waterkloof River, from which water will be abstracted. Abstraction for the dam nevertheless has the potential to alter this abstraction practice and provide opportunity to reduce the need to abstract flow in summer and to rather store and utilise more winter water. It is recommended that the environmental flow for low flow periods be implemented, where possible.

Graafwater Sandstone Fynbos vegetation was found, however there is little natural vegetation remaining at the site. Cape Lowland Freshwater Wetlands (considered to be Least Threatened) occurs along the Olifants River and along portions of the Waterkloof Tributary within the kloof upstream. The vegetation associated with the watercourse that drains through the dam comprise largely of exotic grasses, with patches of bulrushes (*Typha capensis*). The Oukraal Dam lies within a Fish Support Area river catchment, however, according to the Freshwater Assessment, the small tributary in which the dam was constructed is unlikely to have supported any fish populations.

#### 4. NEMA Principles

The National Environmental Management Principles (set out in section 2 of the NEMA), which apply to the actions of all organs of state, serve as guidelines by reference to which any organ of state must exercise any function when taking any decision, and which must guide the interpretation, administration and implementation of any other law concerned with the protection or management of the environment), *inter alia*, provides for:

- the effects of decisions on all aspects of the environment to be taken into account;
- the consideration, assessment and evaluation of the social, economic and environmental impacts of activities (disadvantages and benefits), and for decisions to be appropriate in the light of such consideration and assessment;
- the co-ordination and harmonisation of policies, legislation and actions relating to the environment;
- the resolving of actual or potential conflicts of interest between organs of state through conflict resolution procedures; and
- the selection of the best practicable environmental option.

In view of the above, the NEMA principles, compliance with the conditions stipulated in this Environmental Authorisation, and compliance with the EMPr, the competent authority is satisfied that the listed activities will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the NEMA and that any potentially detrimental environmental impacts resulting from the listed activities can be mitigated to acceptable levels.

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