



REFERENCE: 16/3/3/2/D5/15/0001/18
ENQUIRIES: Shireen Pullen
DATE: 03 APR 2019

The Board of Directors
Katlou Boerdery (Pty) Ltd
PO Box 300
BREDASDORP
7280

Attention: Mr. PJ Burger

Tel.: (028) 424 2950

Fax: (028) 4242954

Dear Sir

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014: PROPOSED CONSTRUCTION OF A WATER STORAGE DAM FOR KATLOU BOERDERY (PTY) LTD ON PORTION 1 OF KAMPS HOOGTE NO. 138, RIVERSDALE

1. With reference to the above application, the Department hereby notifies you of its decision to **grant** Environmental Authorisation, attached herewith, together with the reasons for the decision.
2. In terms of Regulation 4 of the Environmental Impact Assessment Regulations, 2014, you are instructed to ensure, within 14 days of the date of the Environmental Authorisation, that all registered interested and affected parties ("I&APs") are provided with access to and reasons for the decision, and that all registered I&APs are notified of their right to appeal.
3. Your attention is drawn to Chapter 2 of the Appeal Regulations, 2014, which prescribes the appeal procedure to be followed. This procedure is summarized in the attached Environmental Authorisation.

Yours faithfully

DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 3)
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

CC: (1) Ms. S. de Kock (EAP)
(2) Mr. S. Carelse (Hessequa Municipality)

Fax: 087 234 3434
Fax: (028) 713 4361



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Dear Sir

ENVIRONMENTAL AUTHORISATION

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014: PROPOSED CONSTRUCTION OF A WATER STORAGE DAM FOR KATLOU BOERDERY (PTY) LTD ON PORTION 1 OF KAMPS HOOGTE NO. 138, RIVERSDALE

With reference to your application for the abovementioned, find below the outcome with respect to this application.

DECISION

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and the Environmental Impact Assessment ("EIA") Regulations, 2014, the Competent Authority herewith **grants** Environmental Authorisation (EA) to the applicant to undertake the listed activities specified in section B below with respect to the preferred alternative, described in the Final Environmental Impact Assessment Report (EIAR) dated 11 September 2018.

The applicant for this Environmental Authorisation is required to comply with the conditions set out in section E below.

A. DETAILS OF THE APPLICANT FOR THIS ENVIRONMENTAL AUTHORISATION

The Board of Directors
Katla Boerdery (Pty) Ltd
Mr. PJ Burger

PO Box 300
BREDASDORP
 7280

Tel.: (028) 424 2950
 Fax: (028) 4242954

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

B. LIST OF ACTIVITIES AUTHORISED

Listed Activities	Activity/Project Description
<p>Government Notice No. 983 of 4 December 2014 (as amended)- Activity Number: 12 Activity Description: <i>The development of –</i></p> <ul style="list-style-type: none"> <i>(i) Dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres in size</i> <i>(ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—</i> <ul style="list-style-type: none"> <i>(a) within a watercourse;</i> <i>(b) in front of a development setback; or</i> <i>(c) if a development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;- excluding—</i> <ul style="list-style-type: none"> <i>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</i> <i>(bb) where such development activities are related to the development of a port or a harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</i> <i>(cc) where activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</i> <i>(dd) where such development occurs within an urban area; or</i> <i>(ee) where such development occurs within existing roads or road reserves.</i> 	<p><i>The proposal entails the construction of an in-stream dam with a water surface area of bigger than 100m².</i></p>

<p>(ff) The development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p>	
<p>Activity Number: 19 Activity Description: 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 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>	<p>Due to the location of the dam within the Klein River tributary, the construction of the dam will result in the dredging and excavation of more than 10 cubic metres of sand from a watercourse.</p>
<p>Activity 27 Activity Description: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for – (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The construction of the dam will result in the removal of more than 1 hectare of indigenous vegetation.</p>
<p>Government Notice No. 984 of 4 December 2014 - Activity Number: 16 Activity Description: 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 5metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.</p>	<p>The dam wall of the proposed dam will be higher than 5 metres.</p>

<p>Government Notice No. 985 of 4 December 2014 - Activity Number: 14 Activity Description: The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p> <p>i. Western Cape i. Outside urban areas: (aa) A protected area identified in terms of NEMPAA excluding conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ee) Sites or areas listed in terms of an international convention; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (gg) Core areas in biosphere reserves; or (hh) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.</p>	<p>The proposal is for the construction of a dam within a water course.</p>
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The abovementioned list is hereinafter referred to as "**the listed activities**". The holder is herein authorised to undertake the following alternative that includes the listed activities as it relates to the development:

Location & Design Alternative (Preferred Alternative -Annexure 2)

The preferred alternative entails the construction of an in-stream dam with a storage capacity of approximately 233 700m³. The full supply level surface area is estimated at 4ha (40 000m²)

and the dam wall will be a maximum of 17.5m high as measured from the outside toe of the dam wall. The affected area or disturbed area will include the downstream end of the embankment with an additional approximately of 0.5ha. The proposal also includes an offset conservation area of approximately 88 hectares, which will be managed by Cape Nature in terms of a stewardship agreement. CapeNature has confirmed their willingness to enter in such agreement.

Upstream face of the dam

The upstream face of the embankment will have a slope of 3 horizontal : 1 vertical while the downstream face has a slope of 2 horizontal : 1 vertical. Rock rip-rap will be placed on the upstream face of the embankment to protect the slope against wind induced wave action.

The crest of the dam

The crest of the dam will be 4m wide approximately 120m long, with a 1V:3H upstream embankment slope and 1V:2H downstream embankment slope. It will be covered with a gravel layer to prevent erosion of the surface material and will have a 2% slope towards the upstream end. Settlement markers will be placed along the crest of the dam with its intervals to be confirmed.

Spillway

The spillway will be located on the right flank (looking downstream) and will be excavated into the natural material forming the valley side. The spillway will be uncontrolled and will discharge into the river downstream of the embankment toe. A 500 mm diameter outlet pipe will be provided below the embankment. A surface water draw-off system consisting of a 500 mm diameter pipe, sieve inlet and floating box, will be installed on the upstream end. The control valve and emergency scour outlet will be provided on the downstream end.

The associated infrastructure includes the following (Annexure 3):

The proposal also includes the construction of 3 additional pipelines and a pump station of approximately 3mX3m downstream of the dam wall.

The dam will be constructed approximate to Drawing No. CC137800-L02 (Revision A), dated February 2017 and drawn by H. Botha and Checked by C. Lawry.

C. SITE DESCRIPTION AND LOCATION

The listed activities will be undertaken on Portion 1 of the Farm Kamps Hoogte 138, Riversdale. The farm is located about 15km northeast of Riversdale and the overall size of the property is approximately 800ha.

The stream in which the dam is proposed is an unnamed tributary of the Klein River in the Goukou River System. The tributary joins the Klein River approximately 500m downstream of the proposed site for the dam wall.

The SG digit code is: C03900010000013800000

The co-ordinates for the dam are: 34° 0.634' S
 21° 23.188'E

Co-ordinates for the pipelines:

Pipeline	Positioning of pipeline	Longitude	Latitude
Green	Beginning	34° 00' 51.76"	21° 22' 54.97"
	Corner A	34° 00' 49.53"	21° 22' 51.05"
	Corner B	34° 00' 45.73"	21° 22' 49.48"
	End	34° 00' 45.73"	21° 22' 56.52"
Yellow	Beginning	34° 00' 51.76"	21° 22' 54.97"
	End	34° 00' 53.16"	21° 22' 44.17"
Red	Beginning	34° 00' 39.59"	21° 23' 27.03"
	Corner A	34° 00' 54.09"	21° 22' 18.00"
	End	34° 00' 50.02"	21° 22' 24.62"

Refer to Annexure 1: Locality Plan and Annexure 2 (2.1 and 2.2): Site Plan. The above is hereinafter referred to as "**the site**".

D. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

The Director
 Cederberg Environmental Assessment Practice
 % Ms. S. de Kock
 PO Box 367
PRIESKA
 8940

Tel: 082 679 6780
 Fax: 087 234 3434

E. CONDITIONS OF AUTHORISATION

Scope of authorization

1. The holder is authorised to undertake the listed activities specified in Section B above in accordance with and restricted to the preferred alternative described in the Final EIAR dated 11 September 2018 on the site as described in Section C above.
2. The Environmental Authorisation is valid for a period of **five (5) years** from the date of issue within which commencement must occur and the construction phase must be concluded within **two (2) years** from the date of commencement of the first listed activity.
3. The holder shall be responsible for ensuring compliance with the conditions of this EA by any person acting on his/her behalf, including an agent, sub-contractor, employee or any person rendering a service to the holder.
4. Any changes to, or deviations from the scope of the alternative described in section B 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 in order 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.

Written notice to the Competent Authority

5. Seven calendar days' notice, in writing, must be given to the Competent Authority before commencement of construction activities.
 - 5.1 The notice must make clear reference to the site details and EIA Reference number given above.
 - 5.2 The notice must also include proof of compliance with the following conditions described herein:

Conditions: 7, 8, 9, 17, 18 and 20

Notification and administration of appeal

6. The holder must in writing, within 14 (fourteen) calendar days of the date of this decision—
 - 6.1 notify all registered Interested and Affected Parties ("I&APs") of –
 - 6.1.1 the decision reached on the application;
 - 6.1.2 the reasons for the decision as included in Annexure 3;
 - 6.1.3 the date of the decision; and
 - 6.1.4 the date when the decision was issued.
 - 6.2 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 Appeal Regulations, 2014 (as amended) detailed in Section G below;
 - 6.3 draw the attention of all registered I&APs to the manner in which they may access the decision;
 - 6.4 provide the registered I&APs with the:
 - 6.4.1 name of the holder (entity) of this Environmental Authorisation,
 - 6.4.2 name of the responsible person for this Environmental Authorisation,
 - 6.4.3 postal address of the holder,
 - 6.4.4 telephonic and fax details of the holder,
 - 6.4.5 e-mail address, if any, of the holder,
 - 6.4.6 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 2014 National Appeals Regulations (as amended).
7. The listed activities, including site preparation, must not commence within 39 (thirty-nine) calendar days from the date of issue of this Environmental Authorisation. In the event that an appeal is lodged with the Appeal Authority, the effect of this Environmental Authorisation is suspended until the appeal is decided (i.e. the listed activities, including site preparation, must not commence until the appeal is decided).

Monitoring of the activity

8. The holder must appoint a suitably experienced environmental control officer ("ECO") for the duration of the construction phase of implementation contained herein.
9. The ECO must—
 - 9.1 be appointed prior to commencement of any construction activities commencing;

- 9.2 ensure compliance with the EMPr and the conditions contained herein;
 - 9.3 keep record of all activities on site; problems identified; transgressions noted and a task schedule of tasks undertaken by the ECO, and where applicable the ESO;
 - 9.4 compile and submit a written environmental compliance monitoring report to the Competent Authority once a month for the duration of the period in which the construction, rehabilitation and post-construction monitoring requirements are finalised.
 Note: The monthly Environmental Compliance Monitoring Report(s) prepared by the ECO differ from Environmental Audit Report(s) required in condition 18 below;
 - 9.5 remain employed until all development activities are concluded and the post construction and monitoring requirements are finalised.
 - 9.6 inspect the site at least twice-a-month, unless an Environmental Site Officer (ESO) is employed, in which case the frequency of site inspections by the ECO may be reduced to once a month.
- 10. A copy of the Environmental Authorisation, EMPr, audit reports and compliance monitoring reports must be kept at the site of the authorised activities, and must be made available to anyone on request.
 - 11. Access to the site referred to in Section C above 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.

Auditing

- 12. The holder must, for the period during which the environmental authorisation and EMPr remain valid—
 - 12.1 ensure the compliance with the conditions of the environmental authorisation and the EMPr, is audited;
 - 12.2 during the construction phase, the holder must undertake bi-annual environmental audit(s) and submit these Environmental Audit Report(s) to the Competent Authority.
 - 12.3 the final construction phase Environmental Audit Report must be submitted to the Competent Authority within **six (6) months** of completion of construction;
 - 12.4 the environmental audit report must be prepared and submitted to the Competent Authority, by an independent person with the relevant environmental auditing expertise;
- 13. The Environmental Audit Report, must –
 - 13.1 provide verifiable findings, in a structured and systematic manner, on—
 - 13.1.1 the level of compliance with the conditions of the environmental authorisation and the EMPr and whether this is sufficient or not; and
 - 13.1.2 the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
 - 13.1.3 identify and assess any new impacts and risks as a result of undertaking the activity;
 - 13.1.4 evaluate the effectiveness of the EMPr;
 - 13.1.5 identify shortcomings in the EMPr;

- 13.1.6 identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr;
 - 13.1.7 indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation;
 - 13.1.8 indicate the date on which the operational phase was commenced with and the progress of the rehabilitation;
 - 13.1.9 include a photographic record of the site applicable to the audit; and
 - 13.1.10 be informed by the ECO reports.
14. The holder must, within 7 days of the submission of the audit report to the Competent Authority, notify all potential and registered I&APs of the submission.

Operational aspects

15. The holder must, for as long as the dam is operational, ensure that the operating rules stipulated in the "Operation Rules" document compiled by Ingerop South Africa *Inventing for tomorrow* and the provisions of the River Maintenance Plan submitted as part of this Final Environmental Impact Report is strictly adhered to.

Specific Conditions

16. No stocking of the proposed dam with fish should take place without permission being obtained from Cape Nature.
17. All remaining areas of the site (that are not approved for development) that have been identified as critically endangered in terms of conservation importance, should be formally conserved through CapeNature's stewardship programme (at the holder's own cost. A duly signed and dated Memorandum of Understanding between the holder and CapeNature's stewardship programme must be in place, prior to commencement of the listed activities. A copy of such agreement must be submitted to this Department for record purposes.
18. A conservation management plan must be drawn up for the approximately 88 hectares offset area, including monitoring and performance evaluation. This must include the recommendations given in the offset report. Such management plan must first be accepted by CapeNature, prior to commencement of the listed activities.
19. The offset must enable ecological connectivity, and at least 5.35ha (based on the basic offset ratio for this vegetation type's Endangered status, taking its degraded state into account) should comprise of Mossel Bay Shale Renosterveld.
20. An area of 100meters from the proposed dam must be kept undisturbed. This 100m area should be fenced off to keep disturbance to a minimum during the construction phase. This should be done with single strand wire strung from fence droppers, and marked at intervals with danger tape prior to commencement of the listed activities. This 100m section (other natural areas and around the dam and in the riverine corridor) must be included under a conservation agreement with CapeNature.
21. No further cultivation of the conservation areas referred to in conditions 17-20 above must take place.

22. The holder must fund the required offset activities, including the management, for a minimum of 30 years, as confirmed in the letter dated 31 January 2019 that was submitted to the competent authority.
23. Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape.
24. A qualified archaeologist and/or palaeontologist must be contracted where necessary (at the expense of the holder) to remove any heritage remains. Heritage remains can only be disturbed by a suitably qualified heritage specialist working under a directive from the relevant heritage resources authority.

F. GENERAL MATTERS

1. Notwithstanding this Environmental Authorisation, the holder must comply with any other statutory requirements that may be applicable when undertaking the listed activities.
2. Non-compliance with a condition of this Environmental Authorisation or any provision of the EMPr may render the holder liable to criminal prosecution.
3. If the holder does not commence with a listed activity within the period referred to in Section E, Condition 2, this Environmental Authorisation shall lapse for that activity, and a new application for Environmental Authorisation must be submitted to the relevant Competent Authority.

If the holder wishes to extend the validity period of the Environmental Authorisation, an application for amendment in this regard must be made to the relevant Competent Authority prior to the expiry date of the Environmental Authorisation.

Note:

- (a) Failure to lodge an application for amendment prior to the expiry of the validity period of the Environmental Authorisation may result in the lapsing of the Environmental Authorisation.;
 - (b) It is an offence in terms of Section 49A (1)(a) of 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 is required to 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.

In assessing whether to grant such approval or not, the Competent Authority may request information in order 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.

The onus is on the holder to verify whether such changes to the environmental authorisation must be approved in writing by the relevant competent authority prior to the implementation thereof.

5. The manner and frequency for updating the EMPr is as follows:
Any further amendments to the EMPr, other than those mentioned above, must be approved in writing by the relevant competent authority.

An application for amendment to the EMPr must be submitted to the Competent Authority if any amendments are to be made to the impact management outcomes or objectives of the EMPr. Such amendment(s) may only be implemented once the amended EMP has been approved by the competent authority.

The onus is however on the holder to confirm the legislative process requirements for the above scenarios at that time.

G. APPEALS

Appeals must comply with the provisions contained in the National Appeal Regulations 2014 (as amended).

1. An appellant (if the holder of the decision) must, within 20 (twenty) calendar days from the date the notification of the decision was sent to the holder by the Competent Authority –
 - 1.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and
 - 1.2. Submit a copy of the appeal to any registered I&APs, any Organ of State with interest in the matter and the decision-maker i.e. the Competent Authority that issued the decision. -
2. An appellant (if NOT the holder of the decision) must, within 20 (twenty) calendar days from the date the holder of the decision sent notification of the decision to the registered I&APs–
 - 2.1. Submit an appeal in accordance with Regulation 4 of the National Appeal Regulations 2014 (as amended) to the Appeal Administrator; and
 - 2.2. Submit a copy of the appeal to the holder of the decision, any registered I&AP, any Organ of State with interest in the matter and the decision-maker i.e. the Competent Authority that issued the decision.
3. The holder of the decision (if not the appellant), the decision-maker that issued the decision, the registered I&AP and the 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. The appeal and the responding statement must be submitted to the address listed below:
By post: Western Cape Ministry of Local Government, Environmental Affairs
 and Development Planning
 Private Bag X9186
 CAPE TOWN
 8000

By facsimile: (021) 483 4174; or

By hand: Attention: Mr Jaap de Villiers (Tel: 021 483 3721)
Room 809
8th Floor Utilitas Building, 1 Dorp Street, Cape Town, 8001

Note: For purposes of electronic database management, you are also requested to submit electronic copies (Microsoft Word format) of the appeal, responding statement and any supporting documents to the Appeal Authority to the address listed above and/ or via e-mail to Jaap.DeVilliers@westerncape.gov.za.


5. A prescribed appeal form as well as assistance regarding the appeal processes is obtainable from Appeal Authority at: Tel. (021) 483 3721, E-mail Jaap.DeVilliers@westerncape.gov.za or URL <http://www.westerncape.gov.za/eadp>.

H. DISCLAIMER

The Western Cape Government, the Local Authority, 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.

Your interest in the future of our environment is appreciated.

Yours faithfully



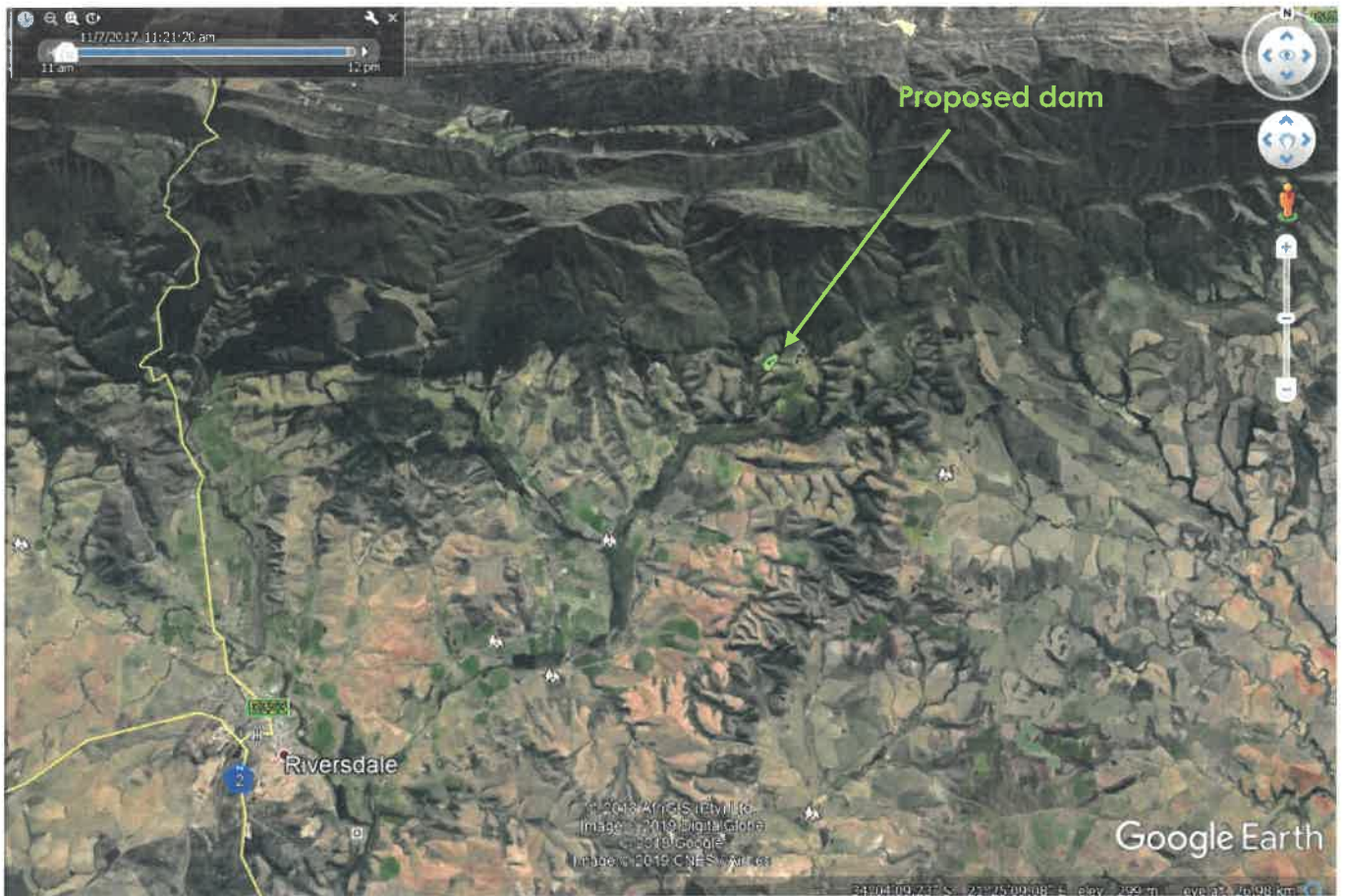
MR. GAVIN BENJAMIN
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 3)

DATE OF DECISION: 03/04/2019

Copy: (1) Ms. S. de Kock (EAP)
(2) Mr. S. Carelse (Hessequa Municipality)

Fax: 087 234 3434
Fax: (028) 713 4361

ANNEXURE 1: LOCALITY MAP

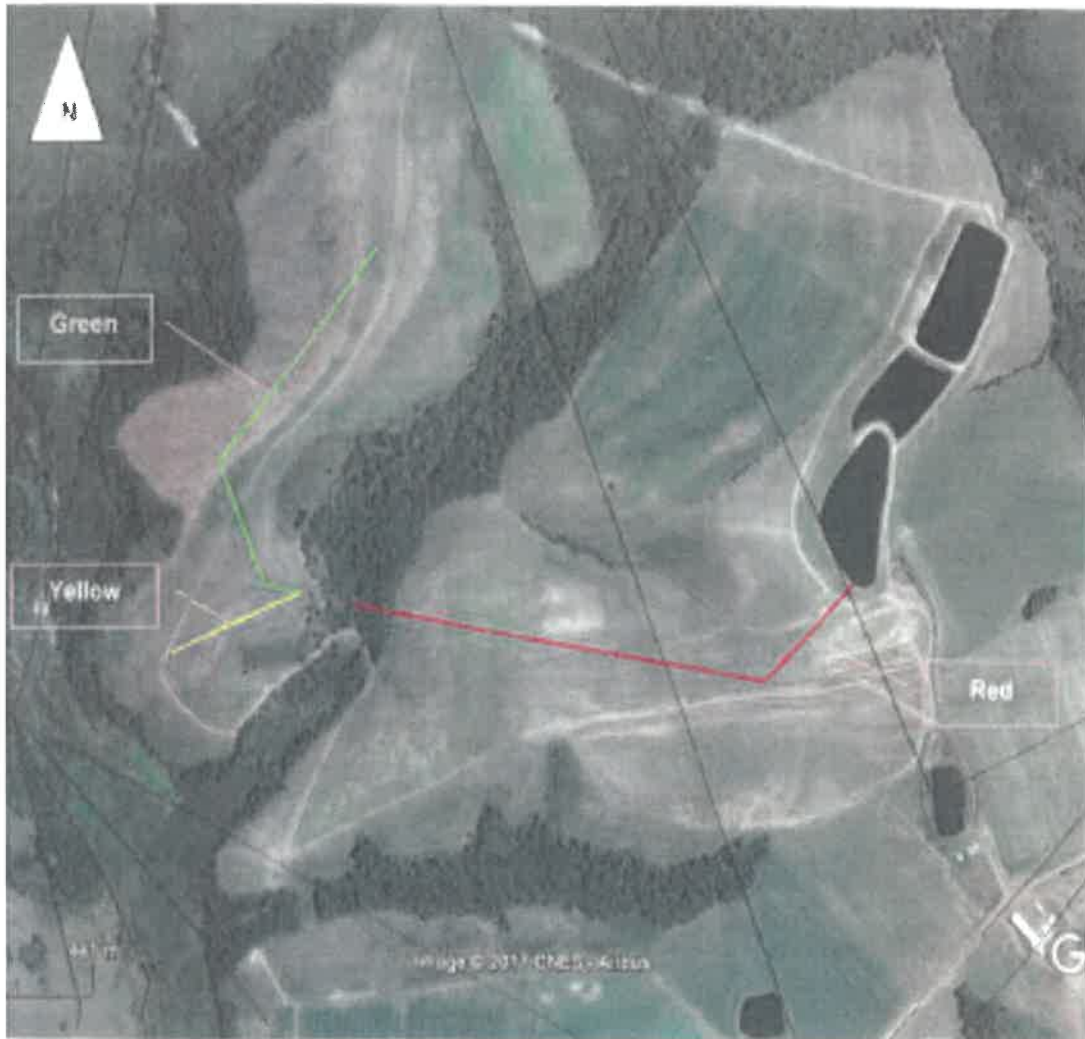


ANNEXURE 2: SITE DEVELOPMENT PLAN



DRAWING NO : **CC137800-L02 REVISION A**
DRAWN BY : **MR. H. BOTHA**
DRAWING CHECKED BY : **C. LAWRY**
DATE : **FEBRUARY 2017**

ANNEXURE 3: ASSOCIATED INFRASTRUCTURE (PIPELINES & PUMP STATION)



ANNEXURE 4: GROOTBOSCH DAM: OFFSET AREA



ANNEXURE 5: SITE ALTERNATIVES CONSIDERED



ANNEXURE 6: REASONS FOR THE DECISION

In reaching its decision, the Competent Authority considered, inter alia, the following:

- a) The information contained in the Application Form received by this Department 16 April 2018, the Final Environmental Impact Assessment Report (EIAR) dated 11 September 2018, as well as the Environmental Management Programme (EMPr) submitted together with the aforementioned final EIR;
- b) All relevant information contained in the Departmental information base, including the Guidelines on Public Participation, Alternatives (dated March 2013);
- c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998);
- d) The comments received from I&APs and responses to these, included in the aforementioned Final EIAR;
- e) The balancing of negative and positive impacts and proposed mitigation measures; and
- f) Information gathered after the process was suspended.

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 that were considered to be the most significant for the decision is set out below.

1. Public Participation

The public participation process included:

- identification of and engagement with Interested and Affected Parties (I&Aps);
- fixing a notice board on 29 September 2016 and 6 November 2017 at the site and any alternative site where the listed activities are to be undertaken;
- giving written notice on 4 May 2018 to the owners and occupiers of land adjacent to the site and any alternative site where the listed activities are to be undertaken, the municipality and ward councillor, and the various organs of state having jurisdiction in respect of any aspect of the listed activities;
- the placing of a newspaper advertisement in the Suidkaap Forum 30 September 2016;
- The SR was made available for public review and comment. I&APs had a 30-day comment period (29 September 2016- 29 October 2016 & 30 June 2017-30 July 2017) to submit comment on the proposal; and
- The draft Environmental Impact Report was made available for public review and comment. I&APs had a 30-day comment period (8 May 2018-8 June 2018) to submit comment on the proposal.

All the concerns raised by I&APs were responded to and adequately addressed during the public participation process and in the Final EIAR. Specific management and mitigation measures have been considered in this Environmental Authorisation and in the EMPr to adequately address the concerns raised.

CapeNature indicated that they do not support the preferred alternative, however, in a stewardship review committee meeting held on Friday, 23 November 2018 at Simonsberg Conservancy, Delvera, it was agreed that CapeNature will manage the proposed offset area if the applicant provides the funding.

A Water Use License Application (WULA) is also required, prior to the construction of the dam. At the date of this EA, the WULA process was still pending, however, the BGCMA

indicated in their comment on the application for environmental authorization that the smaller dam alternative could be supported. In light hereof, this Department approved the smaller dam (233 700m³) as the applicant's preferred location, as opposed to the 500 000m³ dam.

The Competent Authority concurs with the Environmental Assessment Practitioner's responses to the issues raised during the public participation process and as such has included appropriate conditions in this Environmental Authorisation and in the EMPr.

2. Alternatives

Activity and Property Alternatives

No activity or property alternatives were considered for the proposal, although three location alternatives within the property were considered, namely the Klein River, an adjacent river valley and the East West Valley.

According to the Final EIAR the adjacent valley alternative was screened out as it will require a costly long embankment, wetlands will be affected/lost by construction of the dam. It would also impact more on the river downstream. This alternative will also have a higher capital and operation costs to supply water in order to farm due to the location being further away from the area where the water is needed. According to the information provided in the aforementioned report, constructing a dam at this location would have a high potential impact on the aquatic ecosystems in the area and would also have a significant high impact on the downstream sensitive wetland areas. As such, this alternative is not supported by the Freshwater Ecologists.

The East West Valley alternative would be an off-stream storage dam and would have very little impact on the rivers in the region. It was further advised that this Alternative has a very small catchment and all water would be required to be transferred from other catchments, which makes this an even more costly option. In addition, this location alternative would only be able to accommodate a relatively small dam, which would not be able to satisfy the needs of the farm. Another dam would therefore have to be built elsewhere on the farm and for this reason, this alternative was not assessed any further in the EIA phase.

Only the **Klein River** (specifically an unnamed tributary of the Klein River) location was assessed in the EIA phase and is therefore the applicant's preferred alternative for the following reasons:

- The valley is well formed and has a section where it is relatively narrow and deep making this section ideal for the location of an embankment.
- The river slope is favourable for the creation of a dam basin.
- No loss of arable land is anticipated if the dam was located in this position.
- The geology suggested that suitable material would be found for construction purposes in what would become the dam basin.

Design Alternatives:

The EIAR submits that the only practical design makes provision for a dam wall at the lowest altitude so that water can be collected upstream, i.e. above the dam wall. No other design against the natural slope / topography will result in the collection of water.

Four design alternatives were considered, which entailed dams on the same locations but with different specifications pertaining to height of the dam walls and therefore different

storage capacity. Two design alternatives were comparatively assessed during the EIA phase, with a design capacity of 500 000m³ and the other one of 233 700 m³. The design capacity of 500 000m³ was the applicant's preferred alternative. However, the Breede-Gouritz Catchment Management Agency (BGCMA) indicated that, based on the calculations made by the BGCMA, a dam with this capacity cannot be supported. Instead the calculations determined that a dam with the capacity of **233 700 m³** can be supported as it will accommodate downstream users as well as future applications. The latter is therefore the approved design alternative.

Approved alternative

This alternative entails the construction of a 233 700m³ dam within an unnamed tributary of the Klein River, approximate to the site development plan contained in Annexure 2. The dam will have a full supply level of 196m, dam wall height of 17,5m, surface area at full supply level of 4 hectares, a wall and trench level volume at 42 000 and a water/wall ratio of 6,04. The valley where the dam will be constructed is well formed and has a section where it is relatively narrow and deep making this section ideal for the location of an embankment.

- The river slope is favourable for the creation of a dam basin.
- No loss of arable land is anticipated if the dam was located in this position.
- The geology suggested that suitable material would be found for construction purposes in what would become the dam basin.

Although the capacity of the dam that is approved is not the preferred alternative, it is still viable and satisfy the needs of the applicant (considering the applicant's willingness to include and assess the smaller dam as the preferred alternative), while benefitting the environment in the form of a biodiversity offset. The construction of the dam will allow an opportunity to improve the habitat through mandatory alien plant clearing and rehabilitation of the area. Although the dam will have some short term, local, negative effects, if mitigation measures are properly applied, the development could have also some positive benefits especially from an avifaunal and amphibian perspective with a water body that will hold water during periods of drought and low rainfall.

No-Go Alternative

This alternative implies that no dam is constructed, which would also imply that the flow in the river would not be altered. Although this is ecologically preferred, the need for a dam for storage for when its needed will not be satisfied.

3. Impact Assessment and Mitigation Measures

3.1 The Site

According to the Botanical specialist, Mr. Nick Helme, all of the site is a designated terrestrial Critical Biodiversity Area (CBA) (CBA1), with the primary reason for selection being that it helps meet the national conservation target in terms of the vegetation found on site. The vegetation found on site has been classified in the assessment as Mossel Bay Shale Renosterveld and Cape Lowland Freshwater Wetland Vegetation.

The botanical study further notes that the only areas of high botanical sensitivity were two patches that were located within 100m of the proposed dam, one of Mossel Bay Shale Renosterveld (west of dam wall) and one of Cape Lowland Freshwater Wetland (northeast of the upper part of dam). All other areas within 100m of the proposed dam are of Low botanical sensitivity, and are either cultivated or densely invaded by black wattle and of

low botanical diversity, with no plant Species of Conservation concern found at the time of the study.

According to the EIAR the primary construction phase impact is loss of natural and partly natural vegetation within the site development footprint (likely to be approximately 6,2ha). The dam will result in the permanent loss of all natural and partly vegetation within the approved development footprint. A degree of downstream siltation of aquatic habitats may also occur as a result of construction, which could be negative for various plant and faunal species.

Indirect botanical impacts are most likely to take place during the operational phase, but would occur during the construction phase and would include habitat fragmentation and loss of current ecological connectivity. Any disturbed areas not inundated are also likely to be readily invaded by alien black wattle (*Acacia mearnsii*).

3.2 On-Site Biodiversity Offset

An area of approximately 88ha will be set-aside as an on-site offset. This will include the high sensitivity areas within 100m of the proposed dam and the conservation area of 88 hectares as indicated in Annexure 4.

According to the final EIAR, the total construction disturbance footprint will be approximately 7.1ha. The site is heavily invaded and 10-20% of the dam site is Mossel Bay Shale Renosterveld with a conservation status of endangered and less than 58% converted and < 1% conserved. 80-90% of the vegetation on the proposed site is Cape Lowland Freshwater Wetland Vegetation with a conservation status of least threatened.

The site is in a terrestrial Critical Biodiversity Area (CBA) chosen for connectivity/ corridor plus edaphic interface. The dam is proposed in an Aquatic CBA, which is in a priority sub-catchment. The site is in a small tributary of the Klein River in the Goukou River System, which contributes 16% of the flow in the lower Klein River. The catchment above the proposed dam forms approximately 2% of the catchment area of the Klein River. According to the EIAR the Veldmansvlei wetland system is located in the Klein River at the confluence of these two rivers.

The measures for impact minimisation, rehabilitation restoration (removal of invasive alien plants) in both the botanical and freshwater specialists' reports are comprehensive and adequate to reduce impacts to an acceptable level. Invasive alien plant clearing would contribute to improved catchment runoff feeding the river and wetland systems of the Klein River. The offset will enable ecological connectivity by containing at least 5.35ha of Mossel Bay Shale Renosterveld vegetation.

Furthermore, the offset will be governed by a stewardship agreement between the holder of the EA and CapeNature, before commencement of any of the listed activities.

3.3 Freshwater

According to the Freshwater Specialist Report, compiled by Blue Science, the unnamed tributary of the Klein River in which the dam is proposed to be constructed can be considered to be in a largely natural to moderately modified ecological state, which is largely modified within its riparian zone. The aforementioned report further states that the tributary of the Klein River in its lower reaches can be considered to have a largely natural instream habitat and a moderately modified riparian area.

The unnamed tributary is considered to have a moderate ecological importance and sensitivity while the Klein River has a high ecological importance and sensitivity. Populations of *Cape galaxias*, *Cape Kurper* and *Burchell's redfin* occur within the Goukou River near of the Klein River confluence.

According to the study, the off-stream alternative would have the least impact, however, the dam within the tributary of the Klein River could be mitigated such that the cumulative potential impacts would be low. All the mitigation measures made by the specialist is included in this authorisation.

3.4 Socio-economic

The proposed development carries significant economic implications (benefits and costs) for the Applicant/Holder of EA and the community. The local community will benefit on all levels from this development as the realization of economic benefits is often utilized as a key motivation behind private developments, as in this case. Direct, indirect and induced impacts on employment, income and production are anticipated to be positive. According to the final EIAR, current jobs will be secured and additional employment opportunities will be created for the local community, which will contribute to the on-going sustainability of the farming operation.

The socio-economic impact in terms of the previously disadvantaged individuals and how they would benefit from the approval of the proposed development is silent. This is also a requirement in terms of Section 27 (1) of the National Water Act, which is the reason why the Water Use Licencing process could not be finalised.

3.5 Activity need and desirability

There currently exist a need for water storage and the improvement of the quality of the pastures on the farm in this area. The Hessequa area receives winter rainfall between May and August with the driest month in this area being mid-summer. With the growing agricultural activities in this area, the need for storage of water for availability for the irrigation of pastures throughout the year is also increasing. Whilst the farm has access to sufficient quantities of water, it is not always available when needed.

The EIAR submits that it is anticipated that the economical sustainability of the property will increase by the approval of the proposal. This will give effect to one of the objectives of the National Development Plan (NDP) – 2030: South Africa's rural communities should have greater opportunities to participate fully in the economic, social and political life of the country, supported by good-quality education, health care, transport and other basic services. Successful land reform, job creation and rising agricultural production will contribute to the development of an inclusive rural economy.

Irrigated pastures will also ensure that optimal production is possible even during the dry summer months or the occasional droughts that the area is facing from time to time. It thereby also provides greater certainty for livestock production/diversification. Irrigation can also result in better quality pastures with the irrigated pastures responding better to fertiliser application. All in all, the irrigation of pasture will lead to a better socio economic development of the region.

3.6 Visual Impact

According to the EIAR the potential visual impact of the development on the receiving environment was taken into consideration for the siting thereof in terms of the potential visual exposure, critical view sheds, viewing distances and visual absorption capacity. The

visual impact was considered within the context of the current nature of the affected environment, i.e. an intensively farmed agricultural area.

The visibility or visual exposure and absorption of the proposed dam is minimal as the approved alternative is situated high up in a kloof and away from any main roads or towns. The proposed dam is also consistent with existing developments in the area and therefore will blend in with the surroundings.

3.7 Soil Pollution

The EIAR submits that soil pollution is possible during the construction phase. Oil spills or fuel leaks from construction machinery will however be mitigated by strict adherence to the provisions stipulated in the Environmental Management Programme.

3.8 Water Pollution:

There is potential for water pollution during the construction phase, largely as a result of vegetation that will be removed and sediment deposits. Contamination of the stream may also occur as a result of other pollutants during the construction phase. This will however be addressed by the strict implementation of the mitigation measures stipulated in the EMPr.

3.9 Impact on Terrestrial Fauna

The EIAR notes that during the construction phase, the presence of construction machinery, as well as the actual construction activities will have a negative impact on the existing fauna of the proposed site. The species that are currently occupying the proposed areas mainly include small antelope, mammals, reptiles, invertebrates and avi-fauna which will vacate the construction site. The dam site is located between natural corridors such as the mountain catchment, kloofs and wetland/river corridors that will ensure easy movement of fauna without having to go into developed areas. According to the EIAR the dam will also provide a new aquatic habitat for fauna such as otters and water mongoose and therefore the construction of the dam may favour the population distribution/size of these mammals.

3.10 Loss of aquatic biota

According to the EIAR the construction of the proposed dam will have a small potential to impact on biota within the tributary in which it will be built, as well as within the larger Klein and Goukou Rivers. This is as a result of the altered flow, water quality and aquatic habitat, as well as the potential stocking of the dam with alien invasive fish species and the dam wall that will create a barrier and affect the movement of biota.

3.11 Loss of Aquatic habitat

The proposed dam is regarded as an in-channel dam of the small tributary of the Klein River in the Goukou River System. The direct impact of the instream dam will be the direct loss of instream and riparian habitat within the proposed dam basin, as well as the potential loss of aquatic habitat downstream of the proposed dam site. The downstream aquatic habitat are the large valley bottom wetland areas in the Klein and Goukou Rivers, which is of particular importance.

According to the EIAR, prior to mitigation, a long term negative impact of medium significance could be expected due to the ecological importance of the downstream wetland habitat. The EIAR further notes that after the implementation of mitigation measures the impact significance rating will lower to medium - low significance at the dam site and on the habitat integrity downstream of the dam site.

3.12 Loss of Terrestrial Ecological Connectivity

According to the EIAR the construction of the proposed dam will not have a significant impact on the loss of ecological connectivity in this area. This is due to the location of a parallel valley some 400m to the northwest, which could theoretically offer similar connectivity towards the mountain from the valley, at least if properly cleared of alien invasive vegetation.

The EIAR further notes that both sides of the proposed dam are currently cultivated and thus offer limited ecological connectivity (i.e. the dam would not be likely to break any major existing ecological corridors in the east – west direction). The loss of the north south linkage is somewhat mitigated by the valley to the northwest, provided that it is properly managed and appropriately cleared and kept free of alien vegetation. Loss of populations of plant Species of Conservation Concern and consequent reductions in viability of regional populations of these species is not likely to be a factor on this site as approved.

The aforementioned report concludes that the loss of ecological connectivity within this valley is likely to be Low negative at a regional scale before mitigation, and very low negative impact after mitigation, and can be effectively offset by conservation management of the offset area to the northwest. This Department concurs with the aforementioned statements and is of the opinion that the loss of ecological corridors/linkages will be insignificant and that the mitigation described above the impacts can be considered negligible.

3.13 Impact on Flow

The EIAR states that a probable direct impact of the proposed dam would be the change in the flow pattern in the lower reaches of the unnamed tributary, as well as in the Klein River. The tributary contributes approximately 14% of the flow in the lower Klein River and approximately 6% towards the flow in the Goukou River at the Klein River confluence. The mitigation measures proposed in the Freshwater Assessment Report will address the potential impacts on the flow regime of the river and ensure that the proposed dam does not adversely affect the environment (i.e. inundation of wetland habitats; abstraction of groundwater flows to the wetland etc). This Department is of the opinion that the impact had been adequately assessed and is convince that with the implementation of the mitigation measures stipulated in the Freshwater Assessment and which will be incorporated into the EMPr, the impact will be within acceptable limits.

3.14 Cumulative Impacts

Cumulatively, the construction of the proposed dam will have a Medium to Low overall negative impact on the unnamed tributary of the Klein River, subject to strict implementation of the mitigation measures stipulated in the EMPr. According to EIAR the lower reach of the stream that is considered for the potential dam site has already been significantly impacted by existing activities and is dominated by invasive alien black wattle trees. This impact is largely due to the fact that approximately 12.5% of the entire river length will be inundated by the dam with the associated loss of instream and riparian habitat.

The aforementioned report further states that the flow in the river will also be impeded in the dam, with approximately 45% being allowed to continue to flow downstream of the dam. The water that will be impeded by the dam will comprise largely of winter water. Only 500m of aquatic habitat occurs downstream of the dam that would be impacted by this flow modification. Considering the highly seasonal flow in the tributary, it is unlikely that fish species migrate far up this tributary. The recommended removal of alien invasive trees from the riparian zones of the stream, and the rehabilitation of buffer areas would however provide a better corridor for the movement of biota that can pass over the dam wall.

3.15 Increased Abstraction

Another cumulative impact of the proposed development is the increased abstraction and storage of water on the larger Klein and Goukou River Systems. The key impact in terms of the larger Klein River system is flow modification. In order to address the potential cumulative impact of abstraction and storage on the larger Klein and Goukou River Systems and associated wetland areas, it is recommended that the environmental water requirements for the proposed dam be determined and implemented for an AB (largely natural) category stream. This requires that at least 40% of the flow in the river be allowed to continue downstream and not be impeded by the dam. This aspect has been addressed and included as a condition of approval of this authorisation.

The EIAR further recommends as a mitigation measure that the dam to be constructed in the tributary should not be greater than 75% of the MAR for that tributary, should a higher confidence MAR be determined to ensure that the high flows are allowed to spill over the dam wall.

It is submitted in the EIAR that the tributary contributes approximately 13% to the total flow in the Klein River at the Veldmansvlei Wetland. A 45% flow reduction in the tributary would result in an approximate reduction of about 5% to the wetland area where the bulk of the flow contribution to the wetland is from the main stem of the river, which is still in a largely natural condition and is located within the Kleinberg Mountains.

The impact of the proposed dam on the downstream Veldsmanvlei Wetland is thus likely to be insignificant. It is however important that the dense growth of invasive alien black wattle be removed from the Klein River and its tributaries adjacent to the wetland area.

4. National Environmental Management Act 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;
- identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in Chapter 2 of NEMA.
- ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and

- identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.
- 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.

The development will result in both negative and positive impacts. All negative impacts can be mitigated to an acceptable level.

5. Conclusion

In view of the above, the NEMA principles, compliance with the conditions stipulated in this Environmental Authorisation, and compliance with the provisions of the EMPr, the Competent Authority is satisfied that the proposed listed activities will not conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and that any potentially detrimental environmental impacts resulting from the listed activities can be mitigated to acceptable levels.

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