

**APPENDIX K2:**

DRAFT EIA REPORT

## Donavan Henning

---

**From:** Ackerman Pieter <AckermanP@dws.gov.za>  
**Sent:** 04 July 2016 02:17 PM  
**To:** Donovan Henning  
**Cc:** Meulenbeld Paul; Mulaudzi Nkhumbudzeni; Kuse Lumka; Roets Wietsche; Mazwi Raquel Nomathemba; Ramudzuli Arinao (NSP); Naidoo Lasantha  
**Subject:** RE: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Donovan,

Our Section's input for the meeting:

Almost the same principles apply as with any WULA's.

The Modifications to flow drivers and responses of donating stream and receiving stream must be investigated and reported upon?

What are the hierarchy of impacts and alternatives (Groundwater/ desalination)?

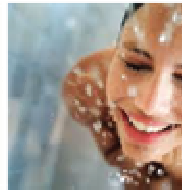
Is the planning not 20 year old?

Regards

Pieter Ackerman (PrLArch)  
Chief Landscape Architect  
Department of Water and Sanitation (DWS), South Africa  
Sub Directorate Instream Water Use  
Tel: 012 336 8217  
Cell: 082 807 3512  
Fax: 012 336 6608



**Taking a five-minute shower a day  
instead of a bath, will use a third  
of the water, saving up to 400 liters  
of water a week.**



---

**From:** Donovan Henning [<mailto:DonavanH@nemai.co.za>]  
**Sent:** 01 July 2016 01:41 PM  
**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Sir / Madam

This serves as notification of the review of the Draft Environmental Impact Assessment (EIA) Reports for proposed **uMkhomazi Water Project Phase 1** (uMWP-1) Raw Water and Potable Water components, as well as the upcoming public meetings that will be held to present the findings of the EIA phase for the overall project. Please refer to the attached Notification Letter in this regard.

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<b>Date:</b>	14 July 2016	14 July 2016
<b>Time:</b>	09h00 - 12h00	14h00 - 17h00
<b>Venue:</b>	Baynesfield Club	Vans Hotel, Lot 40 Umlaas Road

Targeted meetings will also be held with Traditional Authorities, landowners, stakeholders and other I&APs, as required.

You are welcome to contact me for any related queries. Kindly forward this correspondence to any parties who you may deem relevant to this process.

Regards  
Donavan Henning

**Nemai Consulting**

Tel : (011) 781 1730

Fax : (011) 781 1731

Mobile : 082 891 0604

Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)

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## Donavan Henning

---

**From:** Judy Bell <judybell@mweb.co.za>  
**Sent:** 04 July 2016 12:51 PM  
**To:** Donovan Henning  
**Cc:** 'Doug Burden'; 'Rod Bulman'; 'Coastwatch'; 'Carolyn'; kevanzunckel@gmail.com; 'Francois Talbot'; 'Susan Carter-Brown'; 'Nikki Brighton'; 'Dela Maiwald'; 'Pandora Long'; sithembiso@duct.co.za; sanele@duct.org.za; sviljoen@wwf.org.za; 'nicky mcleod'; 'Sissie Matela'; Sinegugu Zukulu; 'Bobby Peek'; 'Intern'; 'Rob Crankshaw'  
**Subject:** RE: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Donovan

Thanks for this notification. Please would you record my concerns relating to the damming of this strategic river as follows:

- I find it difficult to understand how an on-stream dam is being considered as a means of providing water, when the impacts from this project will lead to deterioration of the very resource on which so many people rely for their lives and livelihoods. The EIA has failed to effectively look at alternatives to dealing with the water supply issue – only at the “business as usual” approach to water supply – build a dam and pipe the water! The world has moved on, our planet is struggling to cope to support our lives, so surely we have learnt to do things differently, including water storage and supply?
- How and by whom will the catchment be rehabilitated and restored to ensure that the dam does not fill up with silt and quickly lose capacity and thus become fruitless and wasteful expenditure of public funds?
- For how many years will this catchment management budget be allocated and how much money will be provided?
- How will the river downstream of the dam be able to function to achieve the objectives and classification that are in the process of being gazetted for the river and the estuary?
- How will the downstream users be assured of a water supply when they currently have their lives and livelihoods affected by the regular drought low flow situations?
- Please refer to the DUCT and uMzimvubu Catchment Management Partnership Programme for workable models for rehabilitating and restoring catchments.

Thanks  
Judy



**Judy Bell**  
Environmental Consultant  
*MSc. Environmental Management*

Phone: +27 (0)33 940 0150  
Cell: +27 (0)83 639 1657  
e-mail: judybell@mweb.co.za  
Skype: judybell1



**From:** Donovan Henning [<mailto:DonovanH@nemai.co.za>]  
**Sent:** Friday, July 1, 2016 1:41 PM  
**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Sir / Madam

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**Venue:**

Baynesfield  
Club

Vans  
Hotel,  
Lot 40  
Umlaas  
Road

Targeted meetings will also be held with Traditional Authorities, landowners, stakeholders and other I&APs, as required.

You are welcome to contact me for any related queries. Kindly forward this correspondence to any parties who you may deem relevant to this process.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



## Donavan Henning

---

**From:** Rob Crankshaw <rob.crankshaw@amamarketing.co.za>  
**Sent:** 05 July 2016 06:36 AM  
**To:** 'Judy Bell'; Donovan Henning  
**Cc:** 'Doug Burden'; 'Carolyn'; 'Nikki Brighton'; 'Pandora Long'; 'nicky mcleod'; dinky@kznca.co.za; 'Paolo Candotti'  
**Subject:** RE: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Judy,

Thanks for this. I'm a bit ignorant here but I see that what you are saying is important.

- How does this EIA match up/integrate with the previous reports of 1999?  
<https://www.dwa.gov.za/Projects/uMkhomazi/Documents/Mkomazi%20Main%20Report.pdf>
- What part of Government or society, or organisation, in South Africa actually deals with *"The world has moved on, our planet is struggling to cope to support our lives, so surely we have learnt to do things differently, including water storage and supply?"*
- Are you referring to environmental management programmes like Ecosystem-based Adaptation, and are you saying DEA should be building (reference to) programmes like this into EIAs?
- The DUCT and Umzimvubu Catchment Management Partnership Programme was funded by CEPF, right? Are you saying this programme should follow a similar course and get outside funding?
- I would be interested to see the response from NEMA.

All the best,

Rob

---

**From:** Judy Bell [mailto:judybell@mweb.co.za]  
**Sent:** Monday, 04 July 2016 12:51 PM  
**To:** 'Donavan Henning' <DonavanH@nema.co.za>  
**Cc:** 'Doug Burden' <doug@duct.org.za>; 'Rod Bulman' <rod@phelamanga.co.za>; 'Coastwatch' <coastwatch@telkomsa.net>; 'Carolyn' <afromatz@telkomsa.net>; kevanzunckel@gmail.com; 'Francois Talbot' <francois@talbot.co.za>; 'Susan Carter-Brown' <susan@naturestamp.co.za>; 'Nikki Brighton' <nikki@cowfriend.co.za>; 'Dela Maiwald' <delamaiwald@gmail.com>; 'Pandora Long' <pandoral@mweb.co.za>; sithembiso@duct.co.za; sanele@duct.org.za; sviljoen@wwf.org.za; 'nicky mcleod' <nicky@enviros.co.za>; 'Sissie Matela' <sissie@enviros.co.za>; Sinegugu Zukulu <zukulusinegugu@gmail.com>; 'Bobby Peek' <bobby@groundwork.org.za>; 'Intern' <intern@groundwork.org.za>; 'Rob Crankshaw' <rob.crankshaw@amamarketing.co.za>  
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Thanks  
Judy



**Judy Bell**  
Environmental Consultant  
*MSc. Environmental Management*

Phone: +27 (0)33 940 0150  
Cell: +27 (0)83 639 1657  
e-mail: judybell@mweb.co.za  
Skype: judybell1

Safe fracking  
is a fairytale.



NO MINING THE KZN MIDLANDS

---

**From:** Donovan Henning [<mailto:DonovanH@nemai.co.za>]  
**Sent:** Friday, July 1, 2016 1:41 PM  
**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

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Regards  
Donavan Henning

**Nemai Consulting**  
 Tel : (011) 781 1730  
 Fax : (011) 781 1731  
 Mobile : 082 891 0604  
 Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)  
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 Postal Address : PO Box 1673, Sunninghill, 2157





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[www.avast.com](http://www.avast.com)

## Donavan Henning

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**From:** Judy Marx (ER) <MarxJ@nra.co.za>  
**Sent:** 06 July 2016 10:37 AM  
**To:** Donovan Henning  
**Cc:** Casper Landman (ER)  
**Subject:** FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

G'Day Donovan

SANRAL is not affected by this application.

Please in future submit your applications via normal mail in the address given below, a CD would be preferable.

**Please advise all your colleagues of SANRAL procedures in receiving these EIA's.**

**Ms Judy Marx**  
Statutory Control / IT

---

Eastern Region 58 Van Eck Place Mkondeni, Pietermaritzburg | P O Box 100410, Scottsville, 3209

+27 33 392 8123 📞 078 120 7452 📱 [✉️ Marxj@nra.co.za](mailto:Marxj@nra.co.za)

[www.nra.co.za](http://www.nra.co.za)



---

**From:** Casper Landman (ER)  
**Sent:** 05 July 2016 10:21 AM  
**To:** Judy Marx (ER) <MarxJ@nra.co.za>  
**Subject:** FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Please check whether we are affected. Open and we can look at it together.

---

**From:** Donovan Henning [<mailto:DonavanH@nema.co.za>]  
**Sent:** 01 July 2016 01:41 PM  
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Tel +27-(0)12 844 8000, [www.nra.co.za](http://www.nra.co.za).

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## Donavan Henning

---

**From:** Hawu <hawu.mbatha@gmail.com>  
**Sent:** 14 July 2016 11:11 PM  
**To:** Donovan Henning  
**Subject:** Re: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

At our meeting today I represented The Mbatha Family trust

1. I need to be contacted on Swallows Blue Crain and crown cranes also on other Bird species .
  - 2.i also understand it so that no implementation Will take place before I am compensated
  - 3.This project will not interfere with my present Water sources
  - 4.That I will be treated as an individual entity When negotiation begin on compensation
- Regards  
A.H. Mbatha  
The Mbatha Family trust

Sent from my iPhone

On 01 Jul 2016, at 1:43 PM, Donovan Henning <[DonavanH@nemai.co.za](mailto:DonavanH@nemai.co.za)> wrote:

Dear Sir / Madam

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<image002.png>	<b>Meeting 1</b>	<b>Meeting 2</b>
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<image001.jpg>

<10492 - 20160701 - Notification Letter - Review of uMWP-1 dEIRs.pdf>

<10492 - 20160701 - uMWP-1 Raw Water dEIR Executice Summary.pdf>

<10515 - 20160701 - uMWP-1 Potable Water dEIR Executive Summary.pdf>



## Donavan Henning

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**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 12 August 2016 12:27 PM  
**To:** Donovan Henning  
**Cc:** Lehlohonolo Ramphaka  
**Subject:** Re: Terrestrial Fauna and Flora report  
**Attachments:** Trewirgie flora pg 3.jpg

Dear Donovan

In addition to the previous flora lists from Trewirgie farm, please could you also forward the attached third page to the terrestrial ecologist to include in his report.

Regards,  
Barbara

On 12 August 2016 at 09:56, Barbara Seele <[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)> wrote:  
Dear Donovan,

thank you for forwarding the responses from the Terrestrial Ecologist. Please could you and the terrestrial ecologist review the following.

Please see my response (in red) to the previous comments in the email below.  
Please see attached additions to various tables and attached Trewirgie flora list.

Please make the following important change to the report:  
Table 3, pg. 38, it is stated that *Gerbera aurantiaca* is not endemic to South Africa. This is incorrect and a serious error: ***Gerbera aurantiaca* is endemic to mistbelt grasslands of South Africa** (<http://redlist.sanbi.org/species.php?species=3196-3>). **Please could you re-check the endemic status of all species in this table.**

Regards,  
Barbara

On 12 August 2016 at 06:22, Donovan Henning <[DonavanH@nema.co.za](mailto:DonavanH@nema.co.za)> wrote:

Dear Barbara

Please see responses below from the Terrestrial Ecologist.

Regards

Donavan Henning

**Nemai Consulting**

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---

**From:** Barbara Seele [[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 08 August 2016 11:51

**To:** Donavan Henning

**Cc:** Lehlohonolo Ramphaka

**Subject:** Terrestrial Fauna and Flora report

Dear Donavan,

I hope you had a good weekend.

I have a few questions regarding the terrestrial fauna and flora report which I would appreciate having answered before I make final comments on the entire draft reports.

1. May I ask for the credentials and/or experience of Ronald Phamphe? And, in addition, whether this report was reviewed, as no signature is present? MSc; Professional Natural Scientist - Ecological Science with SACNASP, Professional member of SAIEES & SAAB. The report was reviewed internally.

2. Pg iii states that 'no plant species of conservation importance were noted in Conveyance infrastructure and balancing dams area'. This is of great concern, as it misrepresents the actual current status. The Hilton Daisy, *Gerbera aurantica*, to name just one species, grows on Trewirgie Farm, and is under considerable threat of extinction due to habitat fragmentation and disturbance. These iconic plants grow in the area of the proposed servitude on Trewirgie. Could I

request that a more thorough investigation of fauna and flora along conveyance infrastructure (or above) be done, as this report is severely lacking. Tables 3 and 10 indicate that the species, *Gerbera aurantica* is known to occur in the area and the probability of finding it on site is High, and as such it was recommended to conduct a walk down survey before construction commences.

Therefore the statement on pg iii is incorrect, and I ask that this miselading statement please be revised.

3. Under 8.7, conservation: text seems to be missing: what is the status of this vegetation type? Please advise This is updated in the latest version of the report.

3. Table 12 represents incorrect data, as at least 7 species on that Table occur on Trewirgie farm and Baynesfield estate, and therefore are affected by conveyance infrastructure. Some of the species indicated on Table 12 were provided by locals from the Baynesfield Estate.

The area affected by the conveyancing infrastructure includes a lot more than just Baynesfield estate. More than 4km of pipeline cross Trewirgie farm, declared a natural heriatge site, and very important data from this area has been left out of the report, creating an incorrect summary of the state of terrestrial fauna and flora

4. Table 15, as in no.3 contains misrepresented information, as many of these snakes, and many more that are not included in the table, occur commonly on Trewirgie Farm. Some of the reptile species in this Table were provided by members of the local community. If there is any information missing, kindly forward it to us and we will include that in the final report.

Please see attached

5. No nocturnal studies were done, which in an area such as the natal mistbelt and natal grasslands means big gaps in data. For example, no mention is made of the presence of tree dassie/hyrax, *Dendrohyrax arboreus* The desktop results did not make any mention of the possibility of finding this species on site, however, this will be included in the final report. Only Rock Hyrax were observed in abundance on site.

This explains my initial comment that desktop studies do not provide the information needed to assess the impacts of this project on terrestrial fauna and flora. Tree hyrax are nocturnal and can only be heard at night.

Kind regards,

Barbara

## Donavan Henning

---

**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 05 August 2016 03:58 PM  
**To:** Donovan Henning  
**Cc:** Bester Kobus (BesterK@dws.gov.za)  
**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

thank you very much for your email, and for taking note of all concerns raised. I am in the process of completing the comment form (quite a few pages) and will send this to you soonest.

I appreciate the email with information on the decided tunnel route option and attached comment form. I see that the Chief Director of Integrated Environmental Affairs asked for proof of attempts to obtain comments from I&APs to be included in the Environmental Impact Assessment.

Thank you for the offer to meet with me. I would like to suggest a meeting with all landowners of Trewirgie. I am currently in Stellenbosch, finishing my masters, but could try to fly up for a meeting, if it can be given to me in writing that comments raised at the meeting will be included in the final environmental impact report, even if it is held after the 15th August. It would be good to have the meeting at the farm, so that both the fragile blue swallow nest structures concerns and the concerns about ground water impact can be addressed on site.

Regards,  
Barbara

On 5 August 2016 at 15:26, Donovan Henning <[DonavanH@nemai.co.za](mailto:DonavanH@nemai.co.za)> wrote:

Dear Barbara

There are a number of matters that you have raised, all of which will be included in the Comments and Responses Report.

May we offer to meet with you to discuss your concerns? Kobus Bester and myself can come through to the farm, or another venue that is suitable for you. We would like to provide further details of the project and the EIA process, as well as afford you the opportunity to raise your concerns. Please advise.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 05 August 2016 12:05 PM

**To:** Donavan Henning

**Cc:** Bester Kobus ([BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)); Lehlohonolo Ramphaka

**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

thank you for the information provided. As a directly affected landowner of Dunbar estate portion of Trewirgie Farm, I would like to politely request that landowners are contacted directly about any decisions made. I feel that Nemai consulting needs to make a more concerted effort to directly, if not personally, contact all directly affected landowners.

Could you please send proof of notification to landowners of the commencement of this project.

The draft EIA reports from Nemai consulting seem to be more of a summary of regulations and legislated process to follow, rather than of the actual impact assessment and does not provide any information of impacts and of specialist study results. Again, it is made very difficult for the public to gain clear information on this, as sorting through more than 100 sometimes non-descriptive and very technically named links on the DWS website is difficult and complicated.

As a very concerned landowner, I believe I have the right to request detailed responses to requests for information. Could I ask for more detailed information on why option B was eliminated.

Thank you for your correspondence, I appreciate the necessary urgency.

Regards,

Barbara

On 5 August 2016 at 06:03, Donovan Henning <[DonovanH@nemai.co.za](mailto:DonovanH@nemai.co.za)> wrote:

Dear Barbara

Thank you for the suggestion.

The EIA Report (currently in draft format) deliberately has certain sections to convey the necessary information to I&APs. In the case of the alternatives, this is elaborated on under the project description, profile of the receiving environment (mapping), assessment of impacts, comparative analysis of alternatives to select the Best Practicable Environmental Option and ultimately the Environmental Impact Statement. What was presented at the public meetings is merely an extract of the EIA Report. Note that the EIA also considered new alternatives that were suggested by I&APs, as discussed in the Scoping and EIA Reports.

The application process and environmental legal framework are also discussed in the draft EIA Report (and preceding Scoping Report). It states that DEA is the competent authority in terms of NEMA. The details of the DEA case officer are as follows:

*Nyiko Nkosi*

*Department of Environmental Affairs: Integrated Environmental Authorisation*

*Tel: 012 399 9392*

*E: [NNkosi@environment.gov.za](mailto:NNkosi@environment.gov.za)*

Regards

Donovan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

Email : [donavanh@nema.co.za](mailto:donavanh@nema.co.za)

Address : 147 Bram Fischer Drive Ferndale, 2194

Postal Address : PO Box 1673, Sunninghill, 2157



**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 04 August 2016 04:18 PM

**To:** Donovan Henning

**Cc:** Bester Kobus ([BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)); Lehlohonolo Ramphaka

**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

perhaps sending an email to all directly affected landowners about the updated choice of option would be a worthwhile step in this process. Informing the public in order for them to be able to participate is essential during this entire EIA process. Even though meetings were held, many people are unable to attend these, and it is important that all IAPs receive information via alternative means such as email.

"Yes, we've explained it in the EIA Report" - are you referring to the draft report or the final report?

Is the Department of Environmental Affairs and Tourism involved in the decision making process around the EIA for this project? If so, could you please send me the relevant contact details. As far as I know an EIA, even if for the Department of Water Affairs must be authorised through NEMA.

Regards,

Barbara

On 4 August 2016 at 14:50, Donovan Henning <[DonovanH@nemai.co.za](mailto:DonovanH@nemai.co.za)> wrote:

Dear Barbara

Y

es, we've explained it in the EIA Report and it was also communicated at the recent round of public meetings.

Please let us know if there are other specific landowners that we need to highlight this to. We can also create zoomed-in maps for these parties, focusing on specific properties.

Regards

Donovan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*





**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]  
**Sent:** 04 August 2016 02:33 PM  
**To:** Donovan Henning  
**Cc:** Bester Kobus ([BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)); Lehlohonolo Ramphaka  
**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

have all IAPs been informed of this?

Regards,

Barbara

On 4 August 2016 at 14:31, Donovan Henning <[DonovanH@nemai.co.za](mailto:DonovanH@nemai.co.za)> wrote:

Dear Barbara

Thank you, we will make the necessary arrangements with the courier.

Note that initially the following two options were identified for the alignment of the tunnel:

- Option A: Tunnel to Langa Balancing Dam; and
- Option B: Tunnel to Baynesfield Balancing Dam.

Following optimisation of the scheme as part of the Technical Feasibility Study the Baynesfield Balancing Dam and Option B of the tunnel were eliminated.

Regards

Donovan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 04 August 2016 02:25 PM

**To:** Donovan Henning

**Cc:** Bester Kobus ([BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)); Lehlohonolo Ramphaka

**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

thank you for your email and the attached orthophoto and topographical map. I see these only indicate where one of the two options will run, could you please send me (via email) an orthophoto and topographical map which indicates both option A and B as soon as possible.

Please see below for my physical address, may I request that you send it to both addresses and that you include a hard copy of the topographical map with options A and B:

Barbara Seele,

Glenconnor,

Jonkershoek Road,

Stellenbosch 7600

and

Barbara Seele, c/o Dr CA Seele

Trewirgie Farm,

Baynesfield  
3770

Thank you for the contact details of Kobus Bester, I will contact him directly about an extension for the deadline.

I will respond to your comments in a separate email.

Regards,

Barbara

On 4 August 2016 at 12:55, Donovan Henning <[DonovanH@nema.co.za](mailto:DonovanH@nema.co.za)> wrote:

Dear Barbara

Thank you again for the comments raised.

Would you be able to provide us with your physical address, as we would like to courier the CD to you to ensure that it reaches you sooner?

Our responses to your comments follow.

No.	Comment	Response
1	Has the local community of farm workers been approached about this project, and have public participation meetings been held in Zulu or with a translator? It is claimed that targeted meetings will happen, but have they, and where?	<p><i>A series of meetings were held in Zulu during the announcement, Scoping and EIA phases with the communities in the western portion of the study area, which includes land owned by the state and under the Ingonyama Trust Board. General public meetings were convened in the eastern portion of the study area, where a translator was also present to accommodate Zulu-speaking attendees.</i></p> <p><i>Communication in Zulu during the EIA process to date was facilitated as follows:</i></p> <ul style="list-style-type: none"><li><i>English and Zulu versions of the onsite notices were</i></li></ul>

		<p><i>erected along the project footprint during the announcement phase;</i></p> <ul style="list-style-type: none"> <li>• <i>Zulu versions of the various notifications (announcement phase, review of draft Scoping Report and review of draft EIA Report) were placed in the Isolezwe newspaper;</i></li> <li>• <i>The Reply Form, which was distributed during the project announcement phase, was translated into Zulu;</i></li> <li>• <i>An onsite survey was conducted in Zulu at the proposed Smithfield Dam site with members of the community;</i></li> <li>• <i>The executive summaries of the draft Scoping Report and draft EIA Report were translated into Zulu and distributed during public meetings; and</i></li> <li>• <i>The Comment Sheets for the draft Scoping Report and draft EIA Report were translated into Zulu and distributed during public meetings.</i></li> </ul>
2	<p>Is it possible to send me a high res map of the proposed pipeline? The one in the draft EIA report is not clear enough.</p>	<p><i>According to our database, the Seele Family owns farms on Dunbar Estate 1478 and Driefontein 854. I've created maps (see attached orthophoto and topographical map), which show the project footprint in relation to these farms. Please let us know if you require any additional maps, which we can create on our GIS for you.</i></p> <p><i>The proposed conveyance tunnel crosses underneath both these farms at an approximate depth that mostly exceeds 400m. There are no shafts or access adits earmarked for these farms.</i></p>
3	<p>As a landowner of natural grasslands where Blue Swallows nest, I feel that this project severely threatens these already highly endangered species. Please could you send me documentation of what exactly has been documented and recorded on the effect that the drilling and pipeline laying will have on these birds.</p>	<p><i>The project is situated in an area of generally high avifaunal sensitivity and an Avifauna Study was undertaken. Certain sites in particular were highlighted in terms of potential impacts to sensitive avifauna species (including Blue Swallows), which include the area surrounding your farms. The depth of the tunnel (approx. 400m) serves to minimise surface impacts. Some of the mitigation measures included in the EIA Report pertaining to avifauna include:</i></p> <ul style="list-style-type: none"> <li>• <i>Conduct thorough avifaunal walk through of all project components prior to construction, to identify any areas of particularly high sensitivity and requiring management during construction;</i></li> <li>• <i>Engage further with EKZNW and BirdLife SA, EWT and other relevant parties;</i></li> <li>• <i>Establish baseline noise and vibration values in sensitive avifauna areas;</i></li> <li>• <i>Active monitoring of Blue Swallow nests in the project area for the remainder of the project life-cycle (as</i></li> </ul>

		<p><i>deemed necessary);</i></p> <ul style="list-style-type: none"> <li><i>Determine appropriate noise and vibration thresholds and areas of influence (impact area) to prevent disturbances to sensitive species; and</i></li> <li><i>Identify mitigation measures to attenuate noise and vibration to supplement those measures included in the EMPr.</i></li> </ul> <p><i>Please refer to Appendix H7 of the EIA Report for a copy of the Avifauna Study. I can also send you this report separately via email (with a link to download directly), if required.</i></p>
4	<p>Where will comments from the public appear and will all comments be recorded for the final decision by the department? And what is the correct way of commenting on the draft? It is not clear from your email, and I request that you send out another email to all affected parties to explain this.</p>	<p><i>All comments received from Interested and Affected Parties (including correspondence, minutes of meetings and completed Comment Sheets) from the review of the Draft EIA Report will be incorporated into the final Comments and Responses Report. This report will be appended to the final EIA Report, which will also be lodged in the public domain for review.</i></p> <p><i>Comments can be made in a format that is most convenient to the Interested and Affected Parties, including emails, letters, completed Comment Sheets (see 3<sup>rd</sup> attachment) and comments raised at public meetings.</i></p> <p><i>Your comments received via email will also be included in the Comments and Responses Report.</i></p>
5	<p>The EIA starts with 'The current water resources of the Integrated Mgeni Water Supply System (WSS) are insufficient to meet the long-term water requirements of the system' but what about improving maintenance on existing infrastructure...could you please send me the % water lost through leaks in this system.</p>	<p><i>I will request the Department of Water and Sanitation and the engineering team to provide feedback with regards to losses in the system.</i></p>
6	<p>Request for an extension to the public commenting period</p>	<p><i>A total of 43 days (04 July – 15 August 2016) were provided to comment on the draft EIA Report. In addition, Interested and Affected Parties will be afforded an opportunity to also comment on the final EIA Report. An extension is thus not planned.</i></p> <p><i>The link on the website for the Terrestrial Fauna and Flora Report was corrected. We couldn't find other faulty links.</i></p>
7	<p>Contact details of Kobus Bester and other DWS representatives</p>	<p><i>Mr Bester is the correct contact person, as he is the responsible person at DWS for this project. His contact</i></p>

*details follow (he is also copied in on this email):*

*Kobus Bester*

*Chief Engineer: Options Analysis (East)*

*T: 012 336 8071*

*E: [BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)*

Please let me know if you require any additional information or feedback.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



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**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 04 August 2016 10:46 AM

**To:** Donavan Henning

**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

any news on the reply to my questions? It is rather urgent as it also includes a request for an extension of the 15 August deadline. In the interim please could you provide me with the contact details of Kobus Bester and others from the Department of water affairs and sanitation representing this project.

With regards to non-functioning links on the department website - I believe it is the responsibility of Nemaï consulting to check that these work, not the responsibility of an IAP and land owner. Please could you ensure that all the links work, as IAPs who are not presently in KZN have no access to the documents.

Regards,

Barbara

On 2 August 2016 at 13:19, Donovan Henning <[DonovanH@nemaï.co.za](mailto:DonovanH@nemaï.co.za)> wrote:

Hi Barbara

Thank you for the details. Will arrange for the CD to be sent via registered mail.

We will still respond to the queries that you raised in your first email.

Regards

Donovan Henning

**Nemaï Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemaï.co.za](mailto:donavanh@nemaï.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]  
**Sent:** 02 August 2016 10:33 AM  
**To:** Donovan Henning  
**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Donovan,

thank you for your reply. Please could you send a CD to  
Barbara Seele  
PO Box 2365  
Dennesig  
7601

Is it possible to reply to the 5 questions asked in the first email?

Regards,

Barbara

On 2 August 2016 at 05:27, [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za) <[donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)> wrote:

I'm using Mimecast to share large files with you. Please see the attached instructions.

---

Dear Barbara

Our apologies for the website error. We will request DWS to correct this.



In the interim, please find attached a link to download the document. Instructions: *Open the attachment, click on the **Download Files** button and request an access key from the login page. A key will then be emailed to you. Use the key together with the Download Files to access the shared files.*

Please let us know if any other documents are also not opening from the website. Alternatively, kindly provide us with an address where we send a CD with the full report.

Note that our Environmental Impact Assessment (EIA) process is being conducted in terms of the EIA Regulations on 2010, and the final EIA Report will also be lodged for public review.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*

**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 01 August 2016 11:26 AM

**To:** Donavan Henning

**Subject:** Re: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Further comments:

a number of links on the website link pasted in your previous email, do not work. For example, I cannot access the terrestrial Fauna and Flora report. Please can you ensure that all links work.

Furthermore, I would like to officially request an extension for the public comments deadline, as Nemaï consulting have made it very difficult and time consuming to a) locate the comments document, and b) no instructions were given on how to comment.

regards,

Barbara Seele

On 1 August 2016 at 09:05, Maria Seele <[mariaseele@gmail.com](mailto:mariaseele@gmail.com)> wrote:

----- Forwarded message -----

From: **Ben Seele** <[seeleben@telkomsa.net](mailto:seeleben@telkomsa.net)>

Date: 5 July 2016 at 08:45

Subject: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

To: [mariaseele@gmail.com](mailto:mariaseele@gmail.com)

---

**From:** Donovan Henning [mailto:[DonavanH@nemaï.co.za](mailto:DonavanH@nemaï.co.za)]

**Sent:** 01 July 2016 01:43 PM

**To:** undisclosed-recipients:

**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Sir / Madam

This serves as notification of the review of the Draft Environmental Impact Assessment (EIA) Reports for proposed **uMkhomazi Water Project Phase 1** (uMWP-1) Raw Water and Potable Water components, as well as the upcoming public meetings that will be held to present the findings of the EIA phase for the overall project. Please refer to the attached Notification Letter in this regard.

The uMWP-1, which entails the transfer of water from the undeveloped uMkhomazi River to the existing Mgeni system, is currently being investigated through a feasibility study. This transfer scheme is deemed to be the most viable option to provide a large volume of water to fulfil the long-term water requirements of the Mgeni system. Nemaï Consulting was appointed as the independent Environmental Assessment Practitioner to complete the requisite Environmental Impact Assessment processes, in terms of the EIA Regulations (2010), for the Raw Water and Potable Water components of the project.

The Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components will be lodged for public review at various venues (refer to attached letter) from **04 July – 15 August 2016**. The executive summaries are attached hereto. The complete reports can be downloaded from the project website –

<https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx>.

The following public meetings will be held to present the Draft EIA Reports (*you only need to attend one meeting, as the same information will be presented at both*):

	<b>Meeting 1</b>	<b>Meeting 2</b>
<b>Date:</b>	14 July 2016	14 July 2016
<b>Time:</b>	09h00 - 12h00	14h00 - 17h00
<b>Venue:</b>	Baynesfield Club	Vans Hotel, <i>Lot 40 Umlaas Road</i>

Targeted meetings will also be held with Traditional Authorities, landowners, stakeholders and other I&APs, as required.

You are welcome to contact me for any related queries. Kindly forward this correspondence to any parties who you may deem relevant to this process.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*

---

This email has been checked for viruses by Avast antivirus software.  
[www.avast.com](http://www.avast.com)

----- Forwarded message -----

From: [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)

To: [barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)

Cc:

Date: Tue, 02 Aug 2016 05:27:11 +0200

Subject: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

**Large File Send**  
Invitation to Access Shared Files

**mimecast**

Donavan Henning ([donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)) has shared files with you using Mimecast Large File Send.

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An access key is required to download the shared files, see instructions below.

**File(s):**

10492-20160118-uMWP- 1 Raw...-signed.pdf

9.3 MB

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**Download Expiration:** You have until Tue, 09 Aug 2016 23:59 +0200 to download the files.

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## Donavan Henning

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**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 05 August 2016 04:39 PM  
**To:** Donovan Henning; Bester Kobus (BesterK@dws.gov.za); Lehlohonolo Ramphaka  
**Subject:** Integrated and affected parties database

Dear Donovan,

I see that the landowners of Trewirgie Farm and associated portions are not on your database.

Please include:

Dr CA Seele ([seelecarl@telkomsa.net](mailto:seelecarl@telkomsa.net))  
Mr BA Seele ([seeleben@telkomsa.net](mailto:seeleben@telkomsa.net))  
Dr RM Seele ([ruseele@gmail.com](mailto:ruseele@gmail.com))  
Ms MJ Seele ([mariaseele@gmail.com](mailto:mariaseele@gmail.com))  
Ms ME Seele ([monseele@gmail.com](mailto:monseele@gmail.com))  
Ms BC Seele ([barbarseele@gmail.com](mailto:barbarseele@gmail.com))

Regards,  
Barbara

## Donavan Henning

---

**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 08 August 2016 11:51 AM  
**To:** Donovan Henning  
**Cc:** Lehlohonolo Ramphaka  
**Subject:** Terrestrial Fauna and Flora report

Dear Donovan,

I hope you had a good weekend.

I have a few questions regarding the terrestrial fauna and flora report which I would appreciate having answered before I make final comments on the entire draft reports.

1. May I ask for the credentials and/or experience of Ronald Phamphe? And, in addition, whether this report was reviewed, as no signature is present?
2. Pg iii states that 'no plant species of conservation importance were noted in Conveyance infrastructure and balancing dams area'. This is of great concern, as it misrepresents the actual current status. The Hilton Daisy, *Gerbera aurantica*, to name just one species, grows on Trewirgie Farm, and is under considerable threat of extinction due to habitat fragmentation and disturbance. These iconic plants grow in the area of the proposed servitude on Trewirgie. Could I request that a more thorough investigation of fauna and flora along conveyance infrastructure (or above) be done, as this report is severely lacking.
3. Under 8.7, conservation: text seems to be missing: what is the status of this vegetation type? Please advise
3. Table 12 represents incorrect data, as at least 7 species on that Table occur on Trewirgie farm and Baynesfield estate, and therefore are affected by conveyance infrastructure.
4. Table 15, as in no.3 contains misrepresented information, as many of these snakes, and many more that are not included in the table, occur commonly on Trewirgie Farm.
5. No nocturnal studies were done, which in an area such as the natal mistbelt and natal grasslands means big gaps in data. For example, no mention is made of the presence of tree dassie/hyrax, *Dendrohyrax arboreus*

Kind regards,  
Barbara

## Donavan Henning

---

**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 01 August 2016 10:11 AM  
**To:** Donovan Henning  
**Subject:** Comment: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Don  
a  
van,

As a landowner who will be directly affected by the pipeline of the proposed uMWP-1 project, I have a few questions which I hope you will be able to answer.

1. Has the local community of farm workers been approached about this project, and have public participation meetings been held in Zulu or with a translator? It is claimed that targeted meetings will happen, but have they, and where?

2. Is it possible to send me a high res map of the proposed pipeline? The one in the draft EIA report is not clear enough.

3. As a landowner of natural grasslands where Blue Swallows nest, I feel that this project severely threatens these already highly endangered species. Please could you send me documentation of what exactly has been documented and recorded on the effect that the drilling and pipeline laying will have on these birds.

4. Where will comments from the public appear and will all comments be recorded for the final decision by the department? And what is the correct way of commenting on the draft? It is not clear from your email, and I request that you send out another email to all affected parties to explain this.

5. The EIA starts with 'The current water resources of the Integrated Mgeni Water Supply System (WSS) are insufficient to meet the long-term water requirements of the system' but what about improving maintenance on existing infrastructure...could you please send me the % water lost through leaks in this system.

I look forward to your reply.

Regards,  
Barbara

---

**From:** Donovan Henning [mailto:[DonavanH@nemai.co.za](mailto:DonavanH@nemai.co.za)]  
**Sent:** 01 July 2016 01:43 PM  
**To:** undisclosed-recipients:  
**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports



Dear Sir / Madam

This serves as notification of the review of the Draft Environmental Impact Assessment (EIA) Reports for proposed **uMkhomazi Water Project Phase 1** (uMWP-1) Raw Water and Potable Water components, as well as the upcoming public meetings that will be held to present the findings of the EIA phase for the overall project. Please refer to the attached Notification Letter in this regard.

The uMWP-1, which entails the transfer of water from the undeveloped uMkhomazi River to the existing Mgeni system, is currently being investigated through a feasibility study. This transfer scheme is deemed to be the most viable option to provide a large volume of water to fulfil the long-term water requirements of the Mgeni system. Nema Consulting was appointed as the independent Environmental Assessment Practitioner to complete the requisite Environmental Impact Assessment processes, in terms of the EIA Regulations (2010), for the Raw Water and Potable Water components of the project.

The Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components will be lodged for public review at various venues (refer to attached letter) from **04 July – 15 August 2016**. The executive summaries are attached hereto. The complete reports can be downloaded from the project website –

<https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx>.

The following public meetings will be held to present the Draft EIA Reports (*you only need to attend one meeting, as the same information will be presented at both*):

	Meeting 1	Meeting 2
<b>Date:</b>	14 July 2016	14 July 2016
<b>Time:</b>	09h00 - 12h00	14h00 - 17h00
<b>Venue:</b>	Baynesfield Club	Vans Hotel, Lot 40

Targeted meetings will also be held with Traditional Authorities, landowners, stakeholders and other I&APs, as required.

You are welcome to contact me for any related queries. Kindly forward this correspondence to any parties who you may deem relevant to this process.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



This email has been checked for viruses by Avast antivirus software.

[www.avast.com](http://www.avast.com)



## Donavan Henning

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**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 05 August 2016 01:38 PM  
**To:** Bester Kobus  
**Cc:** Lehlohonolo Ramphaka; Donovan Henning  
**Subject:** Re: Application for extension of deadline for comments on Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components

Dear Kobus,

thank you for your writing. As a landowner in KZN I am very aware of the recent drought. I am however, also aware of firstly, the lack of maintenance on existing water supply structures in the greater Durban area, secondly) of the direct and indirect threats of this project to the very endangered Blue Swallow that nests on my land (one of the very few nesting sites in the world) to name just one of the very threatened species, and thirdly) that certain elements are missing in the EIA process. As a land owner, directly affected, I am very disappointed in the lack of direct contact and information between the Department, project engineers, Nemaï Consulting and the landowners. The fact that one of the most important documents pertaining to the EIA could not be accessed online is disturbing, and that the comment process is so complicated does not bode well for public participation.

I understand that changing deadlines could be problematic to you, but the correct process not being followed, and public participation and information sharing being hindered is also a big problem.

With all due respect, what is stopping Nemaï consulting from sending out an email with attached comment document and explanation of the choice of route option?

In addition, both at the public meetings and in your email, you comment as if the EIA has already been passed, which is not the case.

Again, I thank you for your writing.

Regards,  
Barbara

On 5 August 2016 at 13:04, Bester Kobus <[BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)> wrote:

Dear Barbara for me it is very important that a PSP follow due process and consult widely, in fact the time for NEMAI to complete the EIA has already been extended and they had more meetings than what was specified in our Terms of Reference.

If you live in KZN and experienced the recent drought you should realize under what pressure the water resources are. I am of the opinion the Department should fast track resource development and not slow it down, subject to obtaining the necessary approvals. Please take note that some people could download all the documents, after you indicated that you had a problem it was fixed within a few days. At this stage it will be very difficult to reach all the I&AP who attended the meetings, some of the walked long distances, some drove from PMB and further. It is

virtually impossible to reach all of them and indicate to them that there is an extension to comment, most are not privilege and do not have internet access.

I urge you to concentrate on the components and associated reports that will affect you most. Please prioritize your comments and send them as soon as you are finished even if they are send bits and pieces. If I understood Donovan correctly you will have a final opportunity to respond to the final EIA Report. The current process is not closing your opportunity to respond but for me to change, so late in the day, deadlines will be problematic.

Regards

Kobus

**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 04 August 2016 02:57 PM

**To:** Bester Kobus

**Cc:** Lehlohonolo Ramphaka; Donovan Henning

**Subject:** Application for extension of deadline for comments on Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components

Dear Kobus and dear Donovan,

Please could you forward this email to the relevant persons within your respective departments.

As a directly affected landowner, I hereby officially request an extension of the deadline (15 August 2016) for comments on Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components. My reasons for this request are explained below.

1. Official links to documents, placed of the Department of Water Affairs and Sanitation website <https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx> were found to be faulty on the 1 August 2016, which, one can assume, have been faulty from the 4 July. Therefore members of the public who could not access hard copies of these reports, did not have access to these important documents, and therefore could not comment on them. One of the reports that could not be accessed was the Avifauna study which contains information on the severely endangered Blue Swallow, and represents one of the main concerns around this project.

2. The process of commenting on the draft is very complicated and difficult, and is not explained in any of the emails. It can only be found by scrolling through a large number (106) of other document links, in appendix M of Module 2. The location of this link was not described in the email that contained the draft reports. The comment document is a small Word document and

can easily be attached to the email that contains the draft EIA reports. I request that an email be sent out to all IAPs that contains the comment document as an attachment.

3. The quality and resolution of the maps in the draft EIA report is low, and I was not able to clearly see where the pipeline will run. Please could you add a higher resolution map, with a smaller legend so as not to obscure details.

Regards,

Barbara Seele

**DISCLAIMER:** This message and any attachments are confidential and intended solely for the addressee. If you have received this message in error, please notify the system manager/sender. Any unauthorized use, alteration or dissemination is prohibited. The Department of Water and Sanitation further accepts no liability whatsoever for any loss, whether it be direct, indirect or consequential, arising from this e-mail, nor for any consequence of its use or storage.

## Donavan Henning

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**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 05 August 2016 01:48 PM  
**To:** Bester Kobus (BesterK@dws.gov.za)  
**Cc:** Donovan Henning; Lehlohonolo Ramphaka  
**Subject:** Risk to ground water and spring at Trewirgie

Dear Kobus,

in addition to concerns of the impact of this project on Blue Swallows, Oripi, Hilton Daisy and other rare and endangered species on Trewirgie, we, the land owners of various sections of Trewirgie Farm are also concerned about the impact of the tunnel and the TBM on the ground water and more specifically the spring that the entire Trewirgie farming operation, labour force and Seele family rely on. Has any work been done to investigate the effects that boring could have on the spring? or on the location of the spring? The area where the spring reaches the surface is very close to the proposed tunnel route, and we assume that the spring is fed from a deep lying source as it remains constant throughout the seasons.

Could you please give me information on the risks involved, including the possibility of the tunnel being concrete lined and what this means in terms of groundwater.

In addition could you please provide me with references of other such tunnels (at this depth) in South Africa or globally?

I am aware of examples where tunnels conducting water caused a drop in ground water table to such a degree that a new borehole had to be drilled for the school affected (Gautrain), and understandably, am concerned about the effect of the a) tbn and b) effect of the tunnel on our ground water level and pressure.

If the tbn hits the source of our spring water what would the planned course of action be?

Regards,  
Barbara

## Donavan Henning

---

**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 04 August 2016 04:38 PM  
**To:** Donovan Henning  
**Cc:** Bester Kobus (BesterK@dws.gov.za); Lehlohonolo Ramphaka  
**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donovan,

apologies, a draft version of the previous email was sent by mistake, below follows the full version.

please see my comments on your responses, using the same numbering system:

1. a) A series of meetings have been held in the eastern and western portions of the study area, yet none in the southern and northern? Does Nemai Consulting have any plans to hold meetings in these areas? Could you also please send me the dates of these meetings?

b) *onsite notices were erected along the project footprint*, could you please explain what is meant by the project's footprint, and when exactly this was

c) Does Nemai consulting know what the readership statistics are for Isolezwe within the study area

d) Only one on sire survey was conducted in IsiZulu with members of the community, for a large project covering a large project area this is very little

e) Could you give me numbers of how many Zulu speaking members were present at the public meetings?

2. a) *The proposed conveyance tunnel crosses underneath both these farms at an approximate depth that mostly exceeds 400m.* - mostly exceeds means that some sections will be less than 400m in depth, please could you give me further details on this, as this directly impacts blue swallow nest structures, and ground water which feeds the spring that the entire Trewirgie relies on.

3. a) can you please specify when and exactly where this walk through will occur and in what season? This is very relevant for species food networks, migration patterns etc. The problem is not management during construction, the issue is that construction should not take place in sensitive areas.

b) When will baseline noise and vibration values be established? If this is only during the project then it is too late, this needs to be done before the start of any form of construction.

c) *Active monitoring of Blue Swallow nests in the project area for the remainder of the project life-cycle (as deemed necessary)* - this is of great concern. Who will decide whether it is deemed necessary and who will do the monitoring?

5. a) Could I please get an approximate date by when I can receive this information?

6. See previous email.

Regards,  
Barbara

On 4 August 2016 at 16:22, Barbara Seele <[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)> wrote:  
Dear Donovan,



please see my comments on your responses, using the same numbering system:

1. a) A series of meetings have been held in the eastern and western portions of the study area, yet none in the southern and northern? Does Nema Consulting have any plans to hold meetings in these areas? Could you also please send me the dates of these meetings?

On 4 August 2016 at 12:55, Donovan Henning <[DonovanH@nema.co.za](mailto:DonovanH@nema.co.za)> wrote:

Dear Barbara

Thank you again for the comments raised.

Would you be able to provide us with your physical address, as we would like to courier the CD to you to ensure that it reaches you sooner?

Our responses to your comments follow.

No.	Comment	Response
1	Has the local community of farm workers been approached about this project, and have public participation meetings been held in Zulu or with a translator? It is claimed that targeted meetings will happen, but have they, and where?	<p><i>A series of meetings were held in Zulu during the announcement, Scoping and EIA phases with the communities in the western portion of the study area, which includes land owned by the state and under the Ingonyama Trust Board. General public meetings were convened in the eastern portion of the study area, where a translator was also present to accommodate Zulu-speaking attendees.</i></p> <p><i>Communication in Zulu during the EIA process to date was facilitated as follows:</i></p> <ul style="list-style-type: none"><li><i>English and Zulu versions of the onsite notices were erected along the project footprint during the announcement phase;</i></li><li><i>Zulu versions of the various notifications (announcement phase, review of draft Scoping Report and review of draft EIA Report) were placed in the Isolezwe newspaper;</i></li><li><i>The Reply Form, which was distributed during the project announcement phase, was translated into Zulu;</i></li><li><i>An onsite survey was conducted in Zulu at the proposed</i></li></ul>

		<p><i>Smithfield Dam site with members of the community;</i></p> <ul style="list-style-type: none"> <li>• <i>The executive summaries of the draft Scoping Report and draft EIA Report were translated into Zulu and distributed during public meetings; and</i></li> <li>• <i>The Comment Sheets for the draft Scoping Report and draft EIA Report were translated into Zulu and distributed during public meetings.</i></li> </ul>
2	<p>Is it possible to send me a high res map of the proposed pipeline? The one in the draft EIA report is not clear enough.</p>	<p><i>According to our database, the Seele Family owns farms on Dunbar Estate 1478 and Driefontein 854. I've created maps (see attached orthophoto and topographical map), which show the project footprint in relation to these farms. Please let us know if you require any additional maps, which we can create on our GIS for you.</i></p> <p><i>The proposed conveyance tunnel crosses underneath both these farms at an approximate depth that mostly exceeds 400m. There are no shafts or access adits earmarked for these farms.</i></p>
3	<p>As a landowner of natural grasslands where Blue Swallows nest, I feel that this project severely threatens these already highly endangered species. Please could you send me documentation of what exactly has been documented and recorded on the effect that the drilling and pipeline laying will have on these birds.</p>	<p><i>The project is situated in an area of generally high avifaunal sensitivity and an Avifauna Study was undertaken. Certain sites in particular were highlighted in terms of potential impacts to sensitive avifauna species (including Blue Swallows), which include the area surrounding your farms. The depth of the tunnel (approx. 400m) serves to minimise surface impacts. Some of the mitigation measures included in the EIA Report pertaining to avifauna include:</i></p> <ul style="list-style-type: none"> <li>• <i>Conduct thorough avifaunal walk through of all project components prior to construction, to identify any areas of particularly high sensitivity and requiring management during construction;</i></li> <li>• <i>Engage further with EKZNW and BirdLife SA, EWT and other relevant parties;</i></li> <li>• <i>Establish baseline noise and vibration values in sensitive avifauna areas;</i></li> <li>• <i>Active monitoring of Blue Swallow nests in the project area for the remainder of the project life-cycle (as deemed necessary);</i></li> <li>• <i>Determine appropriate noise and vibration thresholds and areas of influence (impact area) to prevent disturbances to sensitive species; and</i></li> <li>• <i>Identify mitigation measures to attenuate noise and vibration to supplement those measures included in the EMPr.</i></li> </ul>

		<p>Please refer to Appendix H7 of the EIA Report for a copy of the Avifauna Study. I can also send you this report separately via email (with a link to download directly), if required.</p>
4	<p>Where will comments from the public appear and will all comments be recorded for the final decision by the department? And what is the correct way of commenting on the draft? It is not clear from your email, and I request that you send out another email to all affected parties to explain this.</p>	<p>All comments received from Interested and Affected Parties (including correspondence, minutes of meetings and completed Comment Sheets) from the review of the Draft EIA Report will be incorporated into the final Comments and Responses Report. This report will be appended to the final EIA Report, which will also be lodged in the public domain for review.</p> <p>Comments can be made in a format that is most convenient to the Interested and Affected Parties, including emails, letters, completed Comment Sheets (see 3<sup>rd</sup> attachment) and comments raised at public meetings.</p> <p>Your comments received via email will also be included in the Comments and Responses Report.</p>
5	<p>The EIA starts with 'The current water resources of the Integrated Mgeni Water Supply System (WSS) are insufficient to meet the long-term water requirements of the system' but what about improving maintenance on existing infrastructure...could you please send me the % water lost through leaks in this system.</p>	<p>I will request the Department of Water and Sanitation and the engineering team to provide feedback with regards to losses in the system.</p>
6	<p>Request for an extension to the public commenting period</p>	<p>A total of 43 days (04 July – 15 August 2016) were provided to comment on the draft EIA Report. In addition, Interested and Affected Parties will be afforded an opportunity to also comment on the final EIA Report. An extension is thus not planned.</p> <p>The link on the website for the Terrestrial Fauna and Flora Report was corrected. We couldn't find other faulty links.</p>
7	<p>Contact details of Kobus Bester and other DWS representatives</p>	<p>Mr Bester is the correct contact person, as he is the responsible person at DWS for this project. His contact details follow (he is also copied in on this email):</p> <p>Kobus Bester</p> <p>Chief Engineer: Options Analysis (East)</p> <p>T: 012 336 8071</p> <p>E: <a href="mailto:BesterK@dws.gov.za">BesterK@dws.gov.za</a></p>

Please let me know if you require any additional information or feedback.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



---

**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 04 August 2016 10:46 AM

**To:** Donavan Henning

**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Donavan,

any news on the reply to my questions? It is rather urgent as it also includes a request for an extension of the 15 August deadline. In the interim please could you provide me with the contact details of Kobus Bester and others from the Department of water affairs and sanitation representing this project.

With regards to non-functioning links on the department website - I believe it is the responsibility of Nemai consulting to check that these work, not the responsibility of an IAP and land owner.

Please could you ensure that all the links work, as IAPs who are not presently in KZN have no access to the documents.

Regards,

Barbara

On 2 August 2016 at 13:19, Donovan Henning <[DonovanH@nemui.co.za](mailto:DonovanH@nemui.co.za)> wrote:

Hi Barbara

Thank you for the details. Will arrange for the CD to be sent via registered mail.

We will still respond to the queries that you raised in your first email.

Regards

Donovan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemui.co.za](mailto:donavanh@nemui.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*



**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]  
**Sent:** 02 August 2016 10:33 AM  
**To:** Donovan Henning  
**Subject:** Re: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Hi Donovan,

thank you for your reply. Please could you send a CD to  
Barbara Seele  
PO Box 2365  
Dennesig  
7601

Is it possible to reply to the 5 questions asked in the first email?

Regards,

Barbara

On 2 August 2016 at 05:27, [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za) <[donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)> wrote:

I'm using Mimecast to share large files with you. Please see the attached instructions.

---

Dear Barbara

Our apologies for the website error. We will request DWS to correct this.

In the interim, please find attached a link to download the document. Instructions: *Open the attachment, click on the **Download Files** button and request an access key from the login page. A key will then be emailed to you. Use the key together with the Download Files to access the shared files.*

Please let us know if any other documents are also not opening from the website. Alternatively, kindly provide us with an address where we send a CD with the full report.

Note that our Environmental Impact Assessment (EIA) process is being conducted in terms of the EIA Regulations on 2010, and the final EIA Report will also be lodged for public review.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*

**From:** Barbara Seele [mailto:[barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)]

**Sent:** 01 August 2016 11:26 AM

**To:** Donavan Henning

**Subject:** Re: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Further comments:

a number of links on the website link pasted in your previous email, do not work. For example, I cannot access the terrestrial Fauna and Flora report. Please can you ensure that all links work.

Furthermore, I would like to officially request an extension for the public comments deadline, as Nemai consulting have made it very difficult and time consuming to a) locate the comments document, and b) no instructions were given on how to comment.

regards,

Barbara Seele

On 1 August 2016 at 09:05, Maria Seele <[mariaseele@gmail.com](mailto:mariaseele@gmail.com)> wrote:

----- Forwarded message -----

From: **Ben Seele** <[seeleben@telkomsa.net](mailto:seeleben@telkomsa.net)>

Date: 5 July 2016 at 08:45

Subject: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

To: [mariaseele@gmail.com](mailto:mariaseele@gmail.com)

---

**From:** Donovan Henning [mailto:[DonovanH@nemai.co.za](mailto:DonovanH@nemai.co.za)]

**Sent:** 01 July 2016 01:43 PM

**To:** undisclosed-recipients:

**Subject:** uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

Dear Sir / Madam

This serves as notification of the review of the Draft Environmental Impact Assessment (EIA) Reports for proposed **uMkhomazi Water Project Phase 1** (uMWP-1) Raw Water and Potable Water components, as well as the upcoming public meetings that will be held to present the findings of the EIA phase for the overall project. Please refer to the attached Notification Letter in this regard.

The uMWP-1, which entails the transfer of water from the undeveloped uMkhomazi River to the existing Mgeni system, is currently being investigated through a feasibility study. This transfer scheme is deemed to be the most viable option to provide a large volume of water to fulfil the long-term water requirements of the Mgeni system. Nemai Consulting was appointed as the independent Environmental Assessment Practitioner to complete the requisite Environmental Impact Assessment processes, in terms of the EIA Regulations (2010), for the Raw Water and Potable Water components of the project.

The Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components will be lodged for public review at various venues (refer to attached letter) from **04 July – 15 August 2016**. The executive summaries are attached hereto. The complete reports can be downloaded from the project website –

<https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx>.

The following public meetings will be held to present the Draft EIA Reports (*you only need to attend one meeting, as the same information will be presented at both*):



	<b>Meeting 1</b>	<b>Meeting 2</b>
<b>Date:</b>	14 July 2016	14 July 2016
<b>Time:</b>	09h00 - 12h00	14h00 - 17h00
<b>Venue:</b>	Baynesfield Club	Vans Hotel, <i>Lot 40 Umlaas Road</i>

Targeted meetings will also be held with Traditional Authorities, landowners, stakeholders and other I&APs, as required.

You are welcome to contact me for any related queries. Kindly forward this correspondence to any parties who you may deem relevant to this process.

Regards

Donavan Henning

**Nemai Consulting**

*Tel : (011) 781 1730*

*Fax : (011) 781 1731*

*Mobile : 082 891 0604*

*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

*Address : 147 Bram Fischer Drive Ferndale, 2194*

*Postal Address : PO Box 1673, Sunninghill, 2157*

----- Forwarded message -----

From: [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)

To: [barbaraseele@gmail.com](mailto:barbaraseele@gmail.com)

Cc:

Date: Tue, 02 Aug 2016 05:27:11 +0200

Subject: FW: FW: uMWP-1: Raw Water & Potable Water - Review of Draft EIA Reports

**Large File Send**  
Invitation to Access Shared Files

**mimecast**

Donavan Henning ([donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)) has shared files with you using Mimecast Large File Send.

[Download Files](#)

An access key is required to download the shared files, see instructions below.

**File(s):**

**10492-20160118-uMWP- 1 Raw...-signed.pdf**

9.3 MB

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**Next Step:** Click on the Download Files button above and request an access key from the login page. A key will then be emailed to you. Use the key together with the Download Files button above to access the shared files.

**Download Expiration:** You have until Tue, 09 Aug 2016 23:59 +0200 to download the files.

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## Donavan Henning

---

**From:** Barbara Seele <barbaraseele@gmail.com>  
**Sent:** 04 August 2016 02:57 PM  
**To:** Bester Kobus (BesterK@dws.gov.za)  
**Cc:** Lehlohonolo Ramphaka; Donovan Henning  
**Subject:** Application for extension of deadline for comments on Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components

Dear Kobus and dear Donovan,

Please could you forward this email to the relevant persons within your respective departments.

As a directly affected landowner, I hereby officially request an extension of the deadline (15 August 2016) for comments on Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components. My reasons for this request are explained below.

1. Official links to documents, placed of the Department of Water Affairs and Sanitation website <https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx> were found to be faulty on the 1 August 2016, which, one can assume, have been faulty from the 4 July. Therefore members of the public who could not access hard copies of these reports, did not have access to these important documents, and therefore could not comment on them. One of the reports that could not be accessed was the Avifauna study which contains information on the severely endangered Blue Swallow, and represents one of the main concerns around this project.

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3. The quality and resolution of the maps in the draft EIA report is low, and I was not able to clearly see where the pipeline will run. Please could you add a higher resolution map, with a smaller legend so as not to obscure details.

Regards,

Barbara Seele

## 2. Habitats of threatened species

The site is of particular importance for listed threatened species as there are two plant, six bird and one mammal species recorded.

Listed SA RDB birds recorded for this site are White Stork, Marabou Stork, Marital Eagle, Wattled Crane, Ground Hornbill and Blue Swallow. However, the most important of these species is the Blue Swallow (*Hirundo atrocaerulea*) considered to be the most endangered bird species in South Africa. The site is a nesting locality of the Blue Swallow. Probably six pairs nest here each year ; five active nest sites have been confirmed. Other important bird species present include the Blue Crane (Breeding and uncommon Orange Thrush (breeding). It is almost certain that the Blue Crane will be included in a revised RDB since its status has declined dramatically in recent years.

Threatened plant species include the Hilton daisy *Gerbera aurantiaca* (vulnerable) and *Clivia miniata* (rare). Two candidate species for inclusion in a revised RDB found on the site are *Littonia Modesta* and *Sandersonia aurantiaca*. On SA RDB mammal is present, being the tree Hyrax (rare).

## 17. Acocks Veld Type: 45, Natal Mist Belt.

10. Report compiled by: Dr D N Johnson & R N Porter

10.1 Postal Address: P O Box 662  
PIETERMARITZBURG  
Code: 3200

10.2 Telephone No: 471961 Area code: 0331

11. Locality: (locate by reference to the latitude and longitude boundaries)

South: 29°45' to 29°46'  
East: 30°10½' to 30°12½'

12. Short description of the boundaries of the proposed site. Please provide a 1 : 50 000 map locating the proposed Heritage Site.

The boundaries illustrated are those of the remaining natural grasslands and forest of the farm.

13. Nearest Town and Distance: Pietermaritzburg 40 kilometres  
Richmond 38 kilometres

14. Area (ha): 195 hectares

15. List the criteria for inclusion in the registry of natural heritage sites:

1. Stands of special plant communities.
2. Habitats of threatened species.

16. Provide a short motivation for each of the criteria listed:

1. Stands of special plant communities

The site has approximately 40ha of Mistbelt Forest and 155ha of Mistbelt Grassland which includes some small vleis. The forest is in virtually pristine state, evidence being the presence of large specimens of several species of valuable timber trees. For example, all three species of *Podocarpus*, *Prunus africana*, *Ptaeroxylum obliquum*, *Zanthoxylum davyi* and *Curtisia dentata*. Many tree ferns are also present. A tree list is appended.

The grassland is rich in species including threatened species and several orchids species. A list of flowering plants is appended.

SOUTH AFRICAN NATURAL HERITAGE PROGRAMME

QUESTIONNAIRE - DATA SHEET

This questionnaire must be completed for all sites proposed for registration under the South African Natural Heritage Programme.

1. Name of Area to be registered: Trewirgie
  
2. Farm name: Drie Fonteinen No 854, Sevontein 1313 and Minerva (portion of Dunbar Estates 1478)
  
3. Farm No.: 854
  
4. Province: Natal
  
5. District/County/Divisional Council: Richmond
  
6. Development Region: E
  
7. Planning Region: 35
  
8. Proposal for registration received from: Carl Seele
  
- 8.1 Postal Address: P O Box 6  
BAYNESFIELD  
Code: 3770
  
- 8.2 Telephone No: 510602                      Area code: 0332
  
9. Present Owner: Carl Seele
  
- 9.1 Postal Address: P O Box 6  
BAYNESFIELD  
Code: 3770
  
- 9.2 Telephone No: 510602                      Area code: 0332

## DEPARTEMENT VAN OMGEWINGSAKE EN TOERISME/DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

**Adres/Address**

Fedlife Forumgebou/Building  
Pretoriusstraat 315 Pretorius Street  
Pretoria

**Posadres/Postal Address**

Privaatsak X447 Private Bag

**Telegramme/Telegrams**

Omgewing  
Faksno/Fax no  
(012) 322-2682



Pretoria

**Navrae/Enquiries**

Verwysingsnommer/Reference  
A24/26/3/231

0001 310-3829

J W Malan

**Telefoon/Telephone**

18 OCT 1995

Mr Carl Seele  
PO Box 6  
BAYNESFIELD  
3770

Dear Mr Seele

**SOUTH AFRICAN NATURAL HERITAGE PROGRAMME**

Enclosed please find a copy of the Letter of Agreement duly signed by Dr Cameron and yourself for your records. This letter implies that Trewirgie has now been registered as site no. 231 of the South African Natural Heritage Programme (SANHP). Please refer to this number in all future correspondence.

Also included is the SANHP Code of Conservation Ethics and a SANHP badge.

Thank you once again for your participation in the programme.

Yours faithfully

DIRECTOR GENERAL



Dear Mr Henning

Reference Umkhomazi water project Phase 1 Raw Water Component. Comment sheet - Review of Draft EIA report.

DEA Reference numbers: Smithfield Dam - 14/12/16/3/3/3/94, Water conveyance infrastructure - 14/12/16/3/3/3/94/1, Balancing Dam - 14/12/16/3/3/3/94/2

The following properties were acquired by me in 1978:

Portions of Drie Fonteinen no 854,

Portions of Sevontein no 1313 and

Minerva (portion of Dunbar Estates 1478)

Together commonly known as Trewirgie.

These properties were donated to my children in 2013 – 2015.

From the onset our family took a keen interest in conserving large natural areas of the farm as the farm included stands of special plant communities and habitats of threatened species including nesting sites of the Blue Swallow (considered to be the most endangered bird species in South Africa).

This effort of the family culminated in the farm being registered as a Natural Heritage Site in 1995 - Site No 231. Documentation of this registration is attached. Our efforts in conserving and looking after this site have continued unabated till the present. I am aware that the Natural Heritage Site Programme has been discontinued. However the fact that the farm was registered as a Natural Heritage Site does indicate very strongly how important the conservation of the natural environment of this farm was judged to be by the authorities.

Our family is deeply committed to ensuring that the conservation of the natural environment of Trewirgie continues into the future and is not affected in any way. While I am no longer formally the owner of Trewirgie, I am still very much involved in the day to day activities related to the management of the natural environment of this farm.

For the above reasons I wish to express my grave concern and opposition to the planned construction of the tunnel under Trewirgie farm. Specifically:

The effect on the Blue Swallow nesting during the construction of the tunnel,

The permanent effect of the tunnel on the ground water supply and

The damage to the sensitive natural environment that the 24m servitude (with provision for a road and extra working space) will have.

Kind regards

Carl Seele

## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	7 August 2016		<b><u>Official use</u></b>
<b>Name of organisation (if applicable)</b>			<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Dr CA Seele		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO Box 6 Baynesfield 3770	Trewirgie Farm Baynesfield 3770	
<b>Telephone No.</b>	033 2510 494		
<b>Fax No.</b>	033 2510 453		
<b>Email</b>	seelecarl@telkomsa.net		
<b>Location where report was reviewed:</b>	Online		

**Comments:** *(note - additional pages may be included if the space provided is insufficient)*

**Please see attached Letter of Comment and associated Natural Heritage Site documents**

## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donovan Henning by **15 August 2016**)*

<b>Date</b>	10/08/2016		<b><u>Official use</u></b>
<b>Name of organisation (if applicable)</b>			<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Maria Seele (land owner)		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO BOX 6 Baynesfield 3770	Trewirgie Farm Baynesfield	
<b>Telephone No.</b>	072 084 0973		
<b>Fax No.</b>			
<b>Email</b>	mariaseele@gmail.com		
<b>Location where report was reviewed:</b>	Baynesfield and online		

**Comments:** *(note - additional pages may be included if the space provided is insufficient)*

**Concerns and objection to the proposed raw water conveyance tunnel:**

As part landowner of Trewirgie Farm, which lies above the proposed tunnel, I raise the following concerns and express my objection to the proposed raw water conveyance tunnel:

1. Significant negative impact that the drilling and construction of the tunnel will have on the Blue Swallow breeding ground, and thus the Blue Swallow species.
2. Impact of the tunnel construction on the current groundwater supply. Currently the drinking water supply to the farm is from a natural spring and any seepage of groundwater into the tunnel may impact the quantity of drinking water available. Secondly, the water quality impacts from dewatering due to groundwater ingress are cause for concern as this is drinking water that may be affected.
3. The environmental, economic and social impact the 24m servitude with the service road and working space will have. These include natural and endangered habitat destruction, negative impact on fauna and flora, loss of forestry income, as well as crime and safety risks that are associated with the construction, maintenance and usage of the service road and working space associated with the servitude.

## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	8 August 2016		<b><u>Official use</u></b>
<b>Name of organisation (if applicable)</b>	Trewirgie Timber (pty) Ltd		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Ben Seele		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO Box 6 Baynesfield 3770	Trewirgie Farm Baynesfield 3770	
<b>Telephone No.</b>	0332510311		
<b>Fax No.</b>	0332510453		
<b>Email</b>	seeleben@telkomsa.net		
<b>Location where report was reviewed:</b>	Baynesfield Club public meeting		

**Comments:** *(note - additional pages may be included if the space provided is insufficient)*

As a directly affected landowner and biodiversity custodian, I would like to state my objection to the construction of the conveyance tunnel (related to the Umkhomazi water project) under Trewirgie Farm. Herewith my concerns and comments:

- Of main concern is the impact of construction of the tunnel on the ground water supply that Trewirgie farm, all related farming operations, labour force and inhabitants exclusively rely on. As documented on pg. iv of the Technical Feasibility Study, Raw Water, Main Report 'seepage from groundwater (into the tunnel) is expected (during construction). This will severely impact our water supply and could also pollute the entire groundwater system
- This afore mentioned risk was not conveyed to the public during the Public meeting held at Baynesfield Estate when I posed the question of risk to groundwater to Kobus Bester.
- On pg 6-6 of the Technical Feasibility Study, Raw Water, Main Report, it is stated that ' without any pre-grouting, significant water inflow may be expected in the event that a water-bearing fracture is struck', again the negative impact of the construction is of grave concern
- In addition, no representatives of the project, neither from Umngeni water, Department of Water Affairs & Sanitation, nor from Nemaï consulting have contacted us directly in order to gather information on the ground water system, and potential impacts of the tunnel construction.

## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	8 August 2016		<b><u>Official use</u></b>
<b>Name of organisation (if applicable)</b>	Penarth Farm Trust		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Dr RM Seele, main trustee of Penarth Trust (part of Trewirgie Farm)		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO Box 13655 Cascades 3202	Penarth Farm Trust 5 Pin Oak gardens Oakpark Pietermaritzburg 3201	
<b>Telephone No.</b>	072 848 6394		
<b>Fax No.</b>			
<b>Email</b>	<a href="mailto:ruseele@gmail.com">ruseele@gmail.com</a>		
<b>Location where report was reviewed:</b>	<a href="https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx">https://www.dwa.gov.za/Projects/uMkhomazi/documents.aspx</a>		



**Comments:** (note - additional pages may be included if the space provided is insufficient)

I, Ruth Seele, main trustee of Penarth Trust (part of Trewirgie Farm), herewith state my objection to the planned construction of the tunnel under Trewirgie Farm for the following reasons.

1. The construction of the tunnel will have a direct negative impact on Blue Swallow nests in Trewirgie Farm by causing the destruction of both the nests and associated ant-bear holes through vibrations associated with tunnel construction. Blue swallows often return to the same nest sites year after year, and the destruction of nests could lead to the birds abandoning all breeding efforts. The Blue Swallow is highly endangered, and the entire project puts an already very threatened species and even greater risk of extinction.
2. The construction of the tunnel, and the drilling and blasting of the vertical shaft, taking place on the neighbouring farm will have a direct negative effect on Blue Swallow activity and on Oribi activity, two highly endangered species.
3. The link to the specialist Avifauna study, containing information of the threat and impact of this project on Blue Swallows, was found to be faulty, and prevented the public from viewing this very important document for the entire duration of the 40-day comment period.
4. The construction of the tunnel poses a direct threat to our ground water. Trewirgie farm, including all farming operations, and inhabitants, relies exclusively on ground water, from a very deep spring. The construction of the tunnel poses a direct risk and threat of water contamination, seepage (as mentioned on page iv of the main report), and a drop in the water table. Please note that no attempt has been made by the project to determine the source of our spring and thereby minimise the threat.
5. Effort to directly contact affected landowners was only made by *Nemai* consulting in the latter half of the comment period, after receiving complaints from landowners.
6. The construction of a servitude on Trewirgie Farm, will place both the biodiversity, and the safety of inhabitants at risk. Trewirgie Farm is a declared natural heritage site and should receive the necessary protection and conservation.



**ENVIRONMENTAL AND SOCIAL CONSULTANTS**

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SUNNINGHILL  
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147 Bram Fischer Drive  
Ferndale  
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Fax: (011) 781 1731  
Email: donavanh@nemai.co.za

**UMKHOMAZI WATER PROJECT PHASE 1 –  
RAW WATER COMPONENT**

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

**COMMENT SHEET – Review of Draft EIA Report**

*(Complete and return to Donovan Henning by **15 August 2016**)*

<b>Date</b>	12 August 2016		<b>Official use</b>
<b>Name of organisation (if applicable)</b>			<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Barbara Seele, Directly affected land owner of Trewirgie Farm		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO Box 6 Baynesfield 3770	Trewirgie Farm, Baynesfield 3770	
<b>Telephone No.</b>	082 951 8415		
<b>Fax No.</b>	NA		
<b>Email</b>	<a href="mailto:barbaraseele@gmail.com">barbaraseele@gmail.com</a>		
<b>Location where report was reviewed:</b>	Stellenbosch, online		

**Comments:** (note - additional pages may be included if the space provided is insufficient)

I, Barbara Seele, directly affected landowner of Dunbar Estate portion of Trewirgie Farm, hereby clearly state that I am opposed to the Umkhomazi water project, especially to the tunnel (and associated drilling, prospecting and erection of servitude) that will run under Trewirgie. My reasons for this, as well as comments on the draft EIA report and associated documents, and further concerns are listed and described below:

**1. Threat to Blue Swallow**

The proposed tunnel and balancing dam will threaten and negatively impact 14 of the 35 remaining breeding pairs of the critically endangered Blue Swallows (Little & McKechnie, 2012). This is of grave concern and I herewith ask the department of environmental affairs to protect and conserve these severely threatened species by choosing an alternate route of tunnel and alternate option for the balancing dam. The presence of people, vehicles and associated noise, as well as the direct vibrational impact of the drilling will have a negative effect on the activity and presence of the very sensitive and severely threatened blue swallow. In addition, drilling and blasting (for ventilation shafts) and associated vibrations can damage both the actual nest (small cup shaped clay and soil structure) as well as the ant-bear holes that these nests are built inside (cup shaped nest is attached to side walls of antbear/aardvark hole). This is of great concern, as finding collapsed nests and nesting holes could cause breeding pairs to abandon breeding for that season, and not return the next. Therefore, even if tunnel construction only takes place outside of the breeding season, it could still have a direct negative effect on the following breeding season and success thereof. Blue swallows tend to return to the same nesting sites year after year, and are very sensitive breeders. If even only slightly disturbed (nests and birds), they can abandon nests/eggs and chicks. With the limited availability of ant-bear and artificial holes suitable as nesting sites, it could well be that the blue swallow cannot breed for that and subsequent seasons. With only 35 breeding pairs left in South Africa, it is of utmost importance that these birds are protected from any form of development. As a landowner and biodiversity custodian, with Blue Swallow nesting sites on my land, I urge the department of Environmental Affairs to assist in protecting these birds.

**2. Comment on specialist Avifauna draft report**

I hereby request that the specialist avifauna report include more information on the structure of Blue Swallow nests and the impacts that drilling vibrations could have on nest structure and nesting hole stability.

**3. Further threats to biodiversity of Trewirgie Farm**

In addition to the Blue Swallow, construction of the tunnel and associated servitude, will have a negative impact on a number of other threatened fauna and flora species. Activity of the endangered Oribi antelope, a recurring resident of Trewirgie, as well as resident tree hyraxes, will be severely threatened by drilling of the tunnel and blasting of the tunnel shaft, proposed on the neighbouring farm. In addition, the erection of a servitude on sensitive and severely threatened mist-belt grasslands poses a threat to rare and endangered plants such as the Hilton Daisy (*Gerbera aurantiaca*), that occur in the area of the proposed servitude on Trewirgie Farm. In addition, associated plants, frogs and insects that occur on Trewirgie farm will be disturbed and threatened by any form of increased person and/or vehicle activity associated with the pipeline.

**4. Conservation status of Trewirgie Farm**

Due to the presence of several threatened species, and the high quality of mist-belt grassland and forests, Trewirgie Farm was registered as a natural heritage site in 1995 (please see attached documentation of registration with comment letter from Dr CA Seele), and the Seele family together with BirdLife South Africa is in the process of registering parts of the farm as a nature reserve. The proposed 24m servitude falls directly within this area, and threatens the sustained conservation of this important land. Trewirgie Farm is home to one of the last few remaining patches of KZN mist-belt grassland and KZN mist-belt forest, and I request that this be taken into consideration with respect to the proposed route of the tunnel.

**5. Threat to ground water, Trewirgie Farm**

Trewirgie Farm, and all associated farming activities, work force and extended Seele family, rely exclusively on water provided from an underground spring on Trewirgie. The proposed tunnel falls very close to the spring. As the spring provides a constant supply of water regardless of season, we assume that it comes from a deep source and could be directly affected by construction of the tunnel. From pg. iv of Technical Feasibility Study, it states that: "seepage from groundwater is expected", this is of grave concern, as it could cause a severe drop in the ground water table and could lead to the pollution of the entire ground water system. No attempt has been made by representatives of this project to contact Trewirgie land owners and to study the possible impact and effect on our ground water. The long term influence of the pipeline on the water table and spring sources of Trewirgie has not been studied in detail, and in the absence of proof that there will be no negative effect, I request that the pipeline does not go under Trewirgie Farm.

## **6. Comment on UMkhomazi Water Project Phase 1: Module 1: Technical Feasibility Study**

In the report it is stated that "Without any pre-grouting, significant water inflow may be expected in the event that a water –bearing fracture is struck" – this is of great concern to landowners and businesses such as Trewirgie Farm, where farm operations, labour force and inhabitants rely directly and exclusively on ground water. No studies have been done on the risk of this and the direct and indirect impact on ground water.

## **7. Comment on the effect of servitude**

In addition to negative effects on the conservation of pristine mist-belt grassland and forest, as a land owner, I feel that my safety will be at risk through the presence of a servitude by increased ease of access to and knowledge about Trewirgie Farm and through on-going monitoring actions that will take place in the future.

## **8. Comment on EIA process**

After finding the online link to the Specialist Avifauna Draft Report faulty on the 1<sup>st</sup> August 2016, I requested an extension of the public comment deadline as this pertinent environmental document could not be accessed for the majority of the comment period and contains vital information that can influence public comments. Both Nemai Consulting and the Head Engineer, Kobus Bester, refused the request. I feel that public information and public commenting has hereby been curtailed. As a directly affected landowner, I also feel that Nemai consulting only made the necessary effort to contacted landowners directly, after I issued a complaint (starting 1 August) via email. In addition, the process for commenting on the draft reviews was (for more than half of the 40-day period) very complicated and difficult and no active effort was made to reach I&APs and explain the process accordingly. Only after commenting on this, did Nemai consulting send out an email to all I&APs with attached comment sheet.

## **9. Request for further information**

Numerous requests were made to Kobus Bester, DWS for further information on alternative options that would not threaten Blue Swallows, such as maintenance on existing structures to reduce the high % of water lost through leaks in the greater Durban area, and on more detailed information pertaining to drilling under Trewirgie Farm. To date no reply was received. This information could not be accessed in any other project-related documents available online.

## **10. Comment on Raw Water EIA Draft Report**

On pg. 47 and 48 it states that as a response to DEA's request for information on the environmental costs of the water project (...), Nemai consulting has placed emphasis on 'understanding both the costs of the establishment (...) as well as the long term benefits of the proposed scheme. There is an imbalance here: long term benefits are described, but no long-term environmental costs have been calculated and described. This is also reiterated in the specialist avifauna study. The public has a right to information regarding the long term environmental costs of this project. And the project must perform studies on the long term impacts of the project on the environment and the ecosystem services that the success of the scheme relies on! In addition, on pg. 73 – no mention is made of the environmental impacts of each of the scheme options. I am disappointed that yet again, even though South Africa has some of the best environmental protection legislature, the impacts of this schemes on the environment (that the scheme ultimately depends on-water) was not taken into consideration when comparing schemes. A few pages down in Table 11 Row 3B: no mention is made of the, clearly, very high, environmental impact of this scheme. This missing information needs to be added. Furthermore, in Table 13, no mention is made of the negative impacts of this project on the most threatened bird in South Africa. In conclusion, as a directly affected landowner, biodiversity custodian and blue swallow conservationist, I believe that the recommendations of the draft EIA report do not take the severity and long term environmental effects of the scheme into consideration.

## **11. Further comment on raw water EIA draft report**

Pg. 128 states that 'water occurring in the tunnel during construction must be disposed of'. This is of great concern to Trewirgie Farm as the entire farm relies exclusively on ground water (from a very deep spring). If the tunnel passes through this spring, Trewirgie could lose all water, and in addition, pollution of groundwater would occur. The conclusion to this on pg. 128 that the effects on groundwater and will be minimum and insignificant only take boreholes into account and not deep spring water. Please see comments 5, 6, 17 and 18.

## **12. Further comment on raw water EIA report**

The report downplays a) the critically endangered status of the Blue Swallow, b) the negative affect that drilling and blasting and dam construction will have on the Blue Swallow, c) the effect that vibrations from drilling and blasting will have on the Blue Swallow nests and d) the fact that **this scheme threatens 15 of the remaining 35 breeding pairs left in South Africa** (Little & McKechnie, 2012). This very important information needs to be included in the EIA report.

### **13. Further comment on raw water EIA draft report**

On pg. 208 of the report it states: the remaining part of the tunnel (ca. 13km) traverses privately owned land that is predominantly used for commercial farming and forestry with patches of indigenous forest and improved grassland. This is incorrect and should state that it (at least 5km of tunnel) traverses **privately owned land which was declared as a natural heritage site, is in the process of becoming a nature reserve, and has some of the last remaining, pristine patches of endangered Midlands mist-belt grassland (natural, not improved) and mist-belt forest and is home to critically endangered Blue Swallow nesting sites.** Please can I urge you to make these important changes.

### **14. Further comment on raw water EIA draft report**

In response to the likelihood of the 'table of mammal species' overestimating the occurrence of mammal species, I would like to oppose this statement as the list does not include a number of important mammal species that reside on Trewirgie Farm and will be impacted by the scheme: Tree Hyrax, Caracal and Samango Monkey. The effect that vibrations will have on antbear should be investigated as they live in burrows under the ground and will be directly affected by drilling and blasting. In addition, Blue Swallows rely on these antbear holes for nesting sites.

### **15. Comment on terrestrial fauna and flora report**

Incorrect information was displayed in this report. Many flora and fauna species were left out of this report, e.g. it was stated that *Gerbera aurantiaca* is not endemic to South Africa, this is incorrect, as this important, and extremely threatened species is endemic to mistbelt grasslands of South Africa.

I found the report to be severely lacking in depth (many common fauna and flora species found in the conveyance infrastructure area) were left out, and portraying incorrect information, e.g. 'no plant species of conservation importance were noted in Conveyance infrastructure and balancing dam's area' – pg iii. This is of great concern, as it misrepresents the actual current environmental status of the area. The Hilton Daisy, *Gerbera aurantica*, to name just one species, grows on Trewirgie Farm, and is under considerable threat of extinction due to habitat fragmentation and disturbance. These iconic plants grow in the area of the proposed servitude on Trewirgie. No effort was made to contact land owners of Trewirgie about the fauna and flora that occur in this biodiversity rich area.

I herewith request that a more thorough investigation of fauna and flora along conveyance infrastructure (or above) be done, as this report is severely lacking and creates an incorrect impression on the status of fauna and flora along conveyance infrastructure affected areas.

### **16. Further comment on terrestrial fauna and flora report**

Under section 8.7 conservation, text seems to be missing. What is the status of this vegetation type? Again, missing information in a report such as this is unacceptable. In addition, Table 12 represents incorrect data, as at least 7 species on that Table occur on Trewirgie farm and Baynesfield estate, and therefore are affected by conveyance infrastructure. Table 15, also, contains misrepresented information, as many of these snakes, and many more that are not included in the table, occur commonly on Trewirgie Farm. No nocturnal studies were done, which in an area such as the Midlands mist-belt forest and Midlands grasslands means big gaps in data. For example, no mention is made of the presence of tree dassie/hyrax, *Dendrohyrax arboreus*.

### **17. Establishing effect of vibration on Blue Swallow nests**

It is of vital importance that the sensitivity of Blue Swallows and Blue Swallow nests to vibrational disturbance be established BEFORE the closing period of public comments on the full EIA report so that the public have access to this important data. Research on the effects of vibration from drilling on (an artificially) constructed blue swallow nest can easily and quickly be done in a laboratory set-up.

### **18. Comments on preconstruction and construction of EMPr**

In addition, please could the following be included in the report: Table 10 and 11, inclusion of the threat and possible extinction of Blue Swallows, as this project severely threatens 14-15 out of 35 breeding pairs left in South Africa, see specialist report and (Little & McKechnie, 2012). On pg. 37, no numbers are given, please include that this project threatens 40% of remaining blue swallow nesting pairs.

### **19. Comments on UMkhomazi Water Project Phase 1: Module 1: Technical Feasibility Study**

"Seepage from groundwater is expected" (pg. iv), as mentioned previously, this is of great concern for landowners and businesses such as Trewirgie Farm, where farm operations, labour force and inhabitants rely directly and exclusively on ground water. No studies have been done on the risk of this and the direct and indirect impact this seepage will have.

20. **Further comments on UMkhomazi Water Project Phase 1: Module 1: Technical Feasibility**

**Study**

The construction of a ventilation shaft in close vicinity to Trewirgie will have a direct impact on Blue Swallow nests. These cup shaped nests are fragile and barely attached to the walls of large antbear holes or manually dug holes. The vibration from drill and blast techniques used for the shafts can lead to the destruction of these nests. Blue swallows are very sensitive and return to the same nests year after year. With the limited availability of antbear and artificial holes suitable as nest sites, it could well be that the blue swallow cannot breed for that and subsequent seasons.

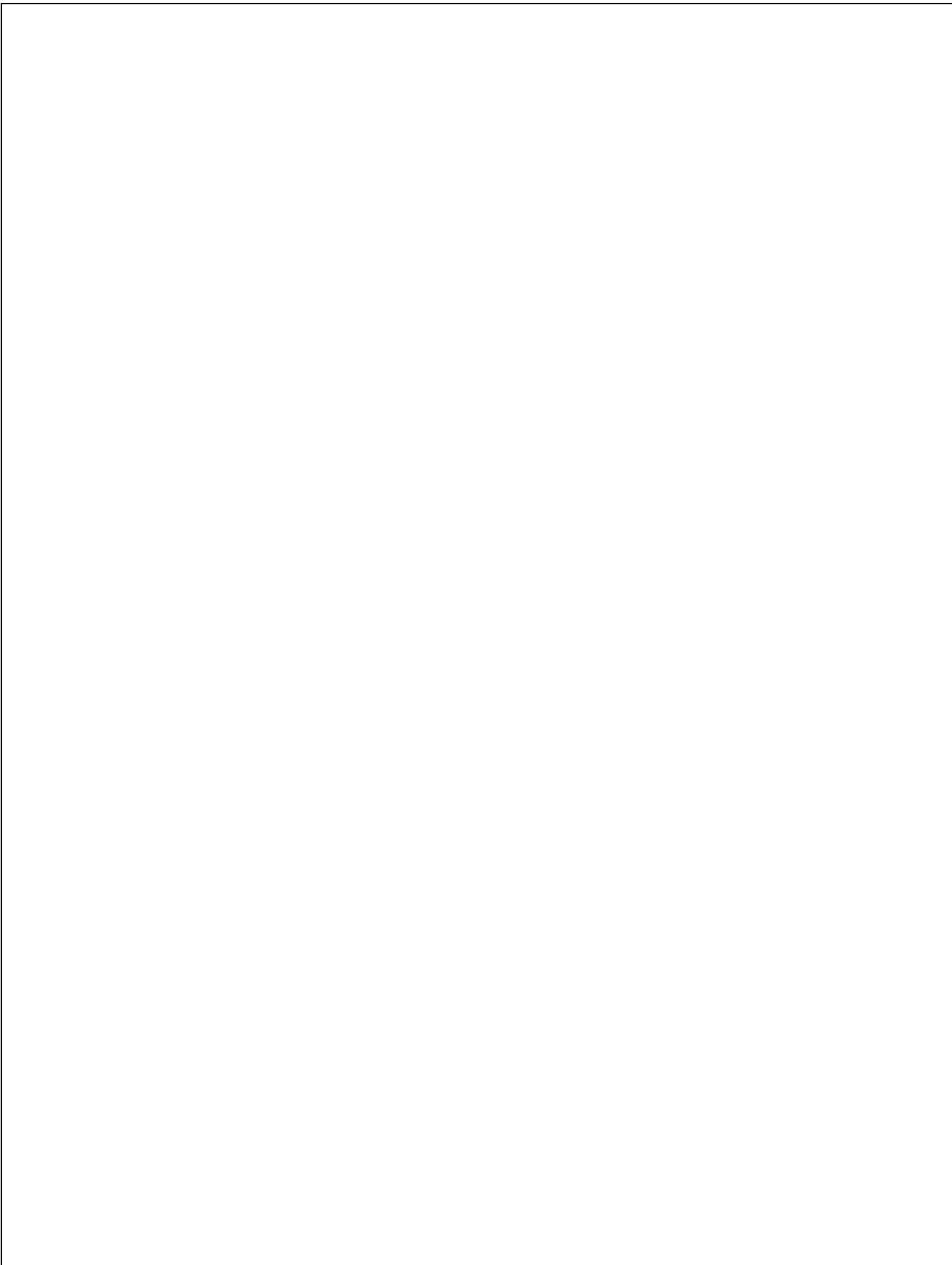
21. **Further comments on UMkhomazi Water Project Phase 1: Module 1: Technical Feasibility**

**Study**

Under section 6-1 it stated that the shortest possible route was chosen for the tunnel, this of course takes cost into consideration, but not environmental risk. I would like to oppose the process whereby the determination of the tunnel and balancing dam location is only guided by cost. Environmental impact should play a much larger role here.

Regards,  
Barbara Seele

MSc Conservation Ecology





**ENVIRONMENTAL AND SOCIAL CONSULTANTS**

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SUNNINGHILL  
2157

147 Bram Fischer Drive  
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Phone: (011) 781 1730  
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**UMKHOMAZI WATER PROJECT PHASE 1 –  
RAW WATER COMPONENT**

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

**COMMENT SHEET – Review of Draft EIA Report**

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	12/08/2016		<b>Official use</b>
<b>Name of organisation (if applicable)</b>	JL CROOKES&SON/BP CROOKES		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	BP CROOKES		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO BOX 135 UMLAAS RD 3730	ROCLIFFE FARM UMLAAS RD	
<b>Telephone No.</b>	0825693998		
<b>Fax No.</b>			
<b>Email</b>	crookesfarm@w2k.co.za		
<b>Location where report was reviewed:</b>			



**Comments:** *(note - additional pages may be included if the space provided is insufficient)*

With regards to the proposed water pipe line coming through our farm and with the future development in the area we need to relook at where the pipeline will run through the farm.

Thank you

Brendon Crookes

## Donavan Henning

---

**From:** Myles van Deventer <md@baynesfield.co.za>  
**Sent:** 14 August 2016 06:03 PM  
**To:** Donovan Henning  
**Cc:** Monique Roux  
**Subject:** Umkomaas water project

Hi Donovan

I was hoping that you would come and see me to discuss some matters after your last public participation meeting in Baynesfield. For the sake of good record I would like to have the following points noted;

- 1) Baynesfield Estate is not happy with the site selected for the water treatment works. The alternative sites have been recommended by some of the specialist studies and we are of the opinion that the landowners preference should take precedence when opinion is so divided.
- 2) I had mentioned before in the previous public participation that if the Baynesfield community was to be saddled with the social costs of having a water treatment plant erected in their community then the community should get some benefit. The Baynesfield community does not have access to Umgeni water and provision should be made for this.
- 3) The preferred road route to the balancing dam is problematic. Firstly it goes across our dam wall which raises maintenance and safety concerns. Secondly the route passes directly behind our lodge which will inconvenience our guests and have financial consequences. I have mentioned that there is a route to cross the river upstream of our dam and this is our preferred option.

Please take our concerns into account. Thanks.

Regards

Myles van Deventer  
Managing Director  
Joseph Baynes Estate (Pty) Ltd  
mobile: +27 (0) 828491568  
fax: +27 (0) 866131394

## Donavan Henning

---

**From:** Liza Seele <lizaseele@gmail.com>  
**Sent:** 14 August 2016 08:42 PM  
**To:** Donovan Henning  
**Cc:** Babs Seele; Ben Seele  
**Subject:** Questions about the uMkhomazi Water Project

Hi Donovan

Just a few quick questions about your project:

- The tunnel under Trewirgie farm is said to be lined with concrete: does this refer to the actual pressure pipe or the tunnel cavity lining? I'm interested in the choice of grouting for the tunnel cavity lining given that there have been documented groundwater issues in the absence of correct grouting.
- Reading through some of the documentation I see that there is mention of groundwater seepage during construction stage. I also read that the tunnel is "too deep" to affect the groundwater. Please clarify, and provide workings as appropriate?
- Will the servitude for the deep tunnel be as per the rest of the pipeline? i.e. there will be no agricultural activity allowed within the servitude?

We look forward to our meeting later in the week.

Regards

Liza Seele

## Donavan Henning

---

**From:** Bester Kobus <BesterK@dws.gov.za>  
**Sent:** 16 August 2016 09:34 AM  
**To:** Donovan Henning  
**Cc:** Gemma-Kate Bishop  
**Subject:** RE: Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components

Dear Donovan please indicate what the findings of the expert were; please forward the previous responses to other stakeholders, to Gemma-Kate.

Regards  
Kobus

-----Original Message-----

From: Gemma-Kate Bishop [<mailto:gemmaKateb@gmail.com>]  
Sent: 15 August 2016 07:47 PM  
To: Bester Kobus  
Subject: Draft EIA Reports for the uMWP-1 Raw Water and Potable Water components

Dear Kobus

I hereby note my concern about the above mentioned project.

My objection to the project - as a community member is with regard to the endangered Blue Swallow. According to Little and McKechnie (2012) there are only 35 breeding pairs and less than 100 individuals left in South Africa. All of these are found in KZN mistbelt region. A small population which used to breed at Kaapsehoop has now gone extinct. In addition to the 35 breeding pairs in South Africa, there are a few in Tanzania, however these are not protected and are severely threatened by agriculture.

Kindly advise what protocols you will be implementing to ensure that the construction related to the aforementioned project will in no way jeopardise the blue swallow or its habitat as they are particularly sensitive to any changes in their surrounding environment.

Yours faithfully

Gemma-Kate Bishop

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## Donavan Henning

---

**From:** Peter Odell <pete@nctforest.com>  
**Sent:** 24 August 2016 12:15 PM  
**To:** Donovan Henning  
**Cc:** Myles van Deventer; Jacob Kotze  
**Subject:** FW: Public Participation meeting - 14/7/2016 - Baynesfield

Dear Donovan,

As per email below with regards to loss of timber area:

The relevant authorities responsible for the issuing, monitoring and the controlling of timber planting permits, must be notified of the proposed project and must be able to compensate the loss of timber area with alternative area in the catchment. It would be fair to ask that before this project commences, that alternative sites for timber establishment to compensate for the loss of timber area be identified and approval given to plant timber in these areas.

Regards

Peter Odell

---

**From:** Donovan Henning [<mailto:DonavanH@nemai.co.za>]  
**Sent:** Monday, July 18, 2016 7:16 AM  
**To:** Peter Odell <[pete@nctforest.com](mailto:pete@nctforest.com)>  
**Cc:** Myles van Deventer <[md@baynesfield.co.za](mailto:md@baynesfield.co.za)>; Jacob Kotze <[jacob@nctforest.com](mailto:jacob@nctforest.com)>; Andy Jones <[andy@nctforest.com](mailto:andy@nctforest.com)>; Bester Kobus ([BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)) <[BesterK@dws.gov.za](mailto:BesterK@dws.gov.za)>; [gavin.subramanian@umgeni.co.za](mailto:gavin.subramanian@umgeni.co.za); Ntokozo Sosibo <[ntokozo.sosibo@umgeni.co.za](mailto:ntokozo.sosibo@umgeni.co.za)>  
**Subject:** RE: Public Participation meeting - 14/7/2016 - Baynesfield

Dear Peter

We acknowledge receipt of your comments and thank you for your attendance of the public meeting.

Thank you for raising these issues. Your correspondence will be included in the Comments and Responses Report, which will form part of the final Environmental Impact Assessment Report. We will notify you when this document is available for public review.

Regards  
Donavan Henning

**Nemai Consulting**

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---

**From:** Peter Odell [<mailto:pete@nctforest.com>]  
**Sent:** 15 July 2016 08:43 AM  
**To:** Donovan Henning  
**Cc:** Myles van Deventer; Jacob Kotze; Andy Jones  
**Subject:** Public Participation meeting - 14/7/2016 - Baynesfield

Morning Donovan,

Thank you for the informative meeting yesterday.

As mentioned in previous correspondence NCT will be losing a fair amount of timber area (Indications are +/- 22ha, excluding buffer zones and road upgrades and excluding the Langa dam area) As you are aware the catchment that we utilize for our timber plantations is closed to further planting or expansion as per DWAF. The availability of suitable land for this purpose, even if DWAF approved land substitution, is extremely limited if not unavailable!

NCT in this case is taking a double knock with the loss of timber land. An alternative site for the Langa dam may be a challenging ask, however the water treatment works has at least 2 other alternative options. Option 2 (adjacent to R56) is made up mainly of non-productive land and from this angle, as NCT and the for Land owners is a far better option. Why remove productive agricultural land forever?

Serious consideration needs to be given to the loss of timber area to this project and any loss of productive land must be minimized.

During the construction phase of the Langa dam, NCT will be harvesting timber in the area. The proposed dam wall is directly on the road we use for access. This will lead to increased traffic and possible chaos as the access route proposed for the project is the same route we use to transport timber – please ensure this will be covered in the road and traffic management plan.

I trust you find these concerns real and appropriate action and plans can be worked out.

Regards

Peter

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## Donavan Henning

---

**From:** Roger Thompson <360farming@gmail.com>  
**Sent:** 24 August 2016 05:16 PM  
**To:** Donovan Henning  
**Cc:** gavin.subramanian@umgeni.co.za; ntokozi.sosibo@umgeni.co.za; 'Amal Doorgapershad'; 'Kuben Govender'  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Donovan,

An alternative would be an “Elbow” where the pipe meets the first boundary on our property diverting the pipeline back toward the D360, where it would then bend left to follow the D360 along the full length of our boundary with the D360 road. If I recall correctly there was a similar option previously but in that instance the bend occurred somewhere back toward the R56.

I would welcome contact from the L.A. team as well as an on-site meeting by interested parties.

Kind regards  
Roger

---

**From:** Donovan Henning [mailto:DonavanH@nemai.co.za]  
**Sent:** 24 August 2016 11:53 AM  
**To:** Roger Thompson <360farming@gmail.com>  
**Cc:** gavin.subramanian@umgeni.co.za; ntokozi.sosibo@umgeni.co.za; Amal Doorgapershad <adoorgapershad@knightpiesold.com>; Kuben Govender <kgovender2@knightpiesold.com>  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Roger

My apologies for the delayed response. I've been out of office the last while.

As part of the EIA we assessed a 100m corridor, which provides limited flexibility for the shifting of the route. However, there are other technical factors that need to be considered before the alignment can be changed.

Would you be able to indicate what alternatives you had in mind? We could then provide feedback as a project team, which may also include a site visit.

I've also requested that Umgeni Water's land acquisition team get into contact with you in the interim.

Regards  
Donavan Henning

**Nemai Consulting**  
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*Postal Address : PO Box 1673, Sunninghill, 2157*





---

**From:** Roger Thompson [<mailto:360farming@gmail.com>]  
**Sent:** 17 August 2016 06:41 AM  
**To:** Donovan Henning  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Donovan

Thanks for the response. I still believe we can work toward a solution that would reduce the inconvenience of road closures etc... The option as it stands is far from optimal for us agriculturally and I would imagine would have more longer term cost associated for all parties. Would you be in a position to meet me onsite at your earliest convenience so we can look at some possible alternatives.

Kind regards  
Roger

---

**From:** Donovan Henning [<mailto:DonovanH@nemai.co.za>]  
**Sent:** 16 August 2016 02:16 PM  
**To:** Roger Thompson <[360farming@gmail.com](mailto:360farming@gmail.com)>  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Roger

Our response to your query, with input from the technical team, follows.

The pipeline was initially routed to follow the D360, as it is common practice to route pipelines alongside roads. At a point in the study however, it became apparent that a 45 metre wide combined permanent and temporary servitude would be required to construct the pipeline. The 45m width would comprise a 15 metre permanent servitude with working space of 17.5m and 12.5m on either side of the permanent servitude to accommodate the various access, storage and construction activities. This would mean that the road would be out of commission for the duration of construction in that area, which would affect all the farmers. This was the overriding factor, apart from environmental considerations, that led to selecting Option 1B as the preferred route.

Regards  
Donovan Henning

**Nemai Consulting**

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*Email : [donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)*

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---

**From:** Roger Thompson [<mailto:360farming@gmail.com>]  
**Sent:** 16 August 2016 07:22 AM  
**To:** Donovan Henning  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Donovan

Many thanks for the clearer map.

I look forward to hearing back from you and if you are in the area or inclined to come out to our farm, I would be very happy to show you around as it is often easier to discuss this sort of thing on-site.

Kind regards  
Roger

---

**From:** Donovan Henning [<mailto:DonovanH@nemai.co.za>]  
**Sent:** 16 August 2016 06:20 AM  
**To:** Roger Thompson <[360farming@gmail.com](mailto:360farming@gmail.com)>  
**Subject:** RE: Umkhomazi Water Project - Phase 1: Interested Party

Hi Roger

We are busy looking into this matter together with Umgeni Water and the engineering team. Will revert back to you.

Please find attached an orthophoto of the project footprint in your area, which may be a bit clearer than some of the other maps.

Regards  
Donovan Henning

**Nemai Consulting**  
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---

**From:** Roger Thompson [<mailto:360farming@gmail.com>]  
**Sent:** 10 August 2016 02:10 PM

**To:** Donovan Henning

**Subject:** Umkhomazi Water Project - Phase 1: Interested Party

Hi Donovan

Thank you for your time and assistance with the matter pertaining to the Pipeline routing for Potable water as it falls under the Umkhomazi Water Project – Phase 1.

As discussed being a new owner to the area I have been a little late in finding out about the details of this project and therefore am in the process of aligning with yourselves to ensure that we can support where necessary and ensure we have a solution which best fits our Vegetable farming enterprise both now and into the future.

**Herewith the details you requested:**

A - Property 1 - Three 60 Farming Pty Ltd (property owner) - Cripple Creek Farm, Sub 20 (of 5) of the Farm Brasfort Park No. 1295, Registration Division FT, Province of Kwazulu- Natal

B - Property 2 - Three 60 Farming Pty Ltd (property owner) – Cripple Creek Farm, Rem of Portion 24 (of 5) of the Farm Brasfort Park No. 1295, Registration Division FT, Province of KwaZulu – Natal

**Managing Partner:**

Roger Thompson

083 484 0834

[360farming@gmail.com](mailto:360farming@gmail.com)

**Comments:**

I note from the maps received that there are currently two route options for the Potable water pipeline. Although not entirely clear on the map it would appear that option 1B runs directly through the centre of our main farming operation and through an area earmarked for Green houses in the future, if not where our current reservoir/workshop and pack shed are situated. We also have an extensive underground piping infrastructure which supplies water to roughly 40 water hydrants over the 30 odd hectare area on Portion 20, including the various establishments on the property from Pack shed to compounds.

Option 1C appears to route along the D360 road and would be a far more preferable option for us negating many of the foreseeable challenges of a pipeline through our property and I would imagine for the project partners too.

I understand that route 1C may involve some challenges i.t.o road usage and access but believe this would be a short lived issue during the installation phase but thereafter would pay dividends. We would be willing to assist where we can to minimise disruption to road users as we ourselves are reliant on the D360 as our main roadway in and out of the area.

If there is any further information required from me at this stage please don't hesitate to contact me.

Kind regards

Roger Thompson

## Donavan Henning

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**From:** Kelvin Chamblor <thesilos@vodamail.co.za>  
**Sent:** 16 August 2016 07:58 AM  
**To:** Donovan Henning  
**Subject:** Comments water pipeline ~THE SILOS

PLEASE NOTE:

-

The top of my farm is right next door to ONELOGIX and that piece is up for sale to ONELOGIX. I will not be able to sell with water pipe line going through which would be a huge loss for me.

I also don't want the pipeline going straight through my farm across my main driveway as i have to extract cane as well as be able to enter and exit my house and the pipeline will be right in front of my house, which means there will be digging and machinery and people working in front of my house which i am not happy with also the noise. I would prefer if there could be another route looked at, and will have to meet on the farm ASAP to have a look at alternative routes.

The pipeline will also be going through my vlei  
which will effect water flow to my main dam and certain if not all bird species that nest in the location.

Kind Regards  
Kelvin chamblor



**edtea**

**Department :**  
Economic Development, Tourism and  
Environmental Affairs

**PROVINCE OF KWAZULU-NATAL**

Enquiries: Ian Felton  
Reference: uMkhomazi Water Project Phase 1  
Physical Address: 8 Warwick Road, Cascades  
Tel: (033) 347 1820, Fax: (033) 347 1826  
Postal Address: Private Bag X07, Pietermaritzburg, 3202  
www.kznded.gov.za

Date: 20 September 2016

**Directorate: Environmental Services: uMgungundlovu District**

**BY EMAIL**

**Attention: Mr. Donovan Henning**  
NEMAI Consulting

**Email:** DonovanH@nemui.co.za

**CC: Ms. Masina Litsoane**  
Department of Environmental Affairs

**Email:** MLitsoane@environment.gov.za

Dear Sir

**DEA Ref. No. 14/12/16/3/3/94 (Smithfield Dam); 14/12/16/3/3/94/1 (Water conveyance infrastructure); and, 12/12/16/3/3/94/2 (Balancing dam): uMkhomazi Water Project Phase 1**

1. The Draft EIA Report: Proposed uMkhomazi Water Project Phase 1 - Raw Water component dated June 2016 and the associated specialist studies, refer.
2. After reviewing the Draft EIA report and the associated specialist studies, the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA) provides the following comments and recommendations.
3. **Ecological Infrastructure Alternatives:**  
The assessment process has not paid sufficient attention to alternative options for ensuring the surety of water supplies through maintaining, managing and enhancing ecological infrastructure in the uMngeni, Mooi and uMkhomazi catchments. International and National and local research has provided significant support for catchment management interventions as a viable and more cost effective approach to providing water. These interventions have proven to not only to improve water quality but substantially increase yield and far lower costs than hard infrastructure. In this respect consultation should be made with local specialists including Prof. Graham Jewitt of the University of KwaZulu-Natal and Dr. Mark Graham of GroundTruth.

There needs to be a clear financial linkage between the provision of hard infrastructure and the protection, maintenance and management of ecological infrastructure to ensure the implementation of the "polluter pays" principle enshrined in the National Environmental Management Act. Should the dam be approved a condition of authorisation should require that water tariffs associated with the provision of raw

water from the proposed dam include a reasonable percentage allocated and 'ring-fenced' to implement measures to protect, maintain and manage ecological infrastructure in the upper uMkhomazi catchment.

4. **Biodiversity Offsets:**

The proposed dams will inundate large areas of wetland and riparian habitat and other areas of conservation importance within the basins. It is proposed that biodiversity offsets would be necessary to address these impacts. The success of any proposed offsets hinge on the availability of suitable areas to ensure no nett loss of wetland and biodiversity functionality. The Aquatic and Wetland baseline ecological integrity and potential impact surveys report produced by EnviRoss CC has identified that the wetland areas within the Smithfield dam are in near pristine state. Approximately 135Ha of riparian habitat and 145Ha of wetland would be lost in the development of the dam. The report further recommends that offsets in the form of erosion management and education of local subsistence farmers be implemented. The Department considers that these measures are inadequate to offset the loss of significant areas of wetland and riparian habitat.

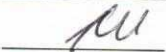
KZN EDTEA does not support the granting of environmental authorisation without having clearly identified areas where these offsets are to occur and a clear strategic plan in place that provides for the implementation of these offsets (including budget allocation and governance structures). This is to ensure that the proposed offsets are feasible, practical and lawful. The estimated costs of implementation of these proposed offsets needs to be established and funding allocated to plan and implement these offsets. These costs must be "ring-fenced" in the total budget costs from the inception.

The Draft EIA report and associated specialist studies do not provide sufficient information to make an informed decision in respect to the application and need to be supplemented with a strategic offset management plan that considers the offsets in accordance with the draft policies and guidelines of offsets issued by the Department of Environmental Affairs and Ezemvelo KZN Wildlife. The offsets must also include impacts on species of conservation importance.

5. **Blue Swallow Impacts:**

Of particular concern to KZN EDTEA is the potential impacts associated with the development of the dam and associated infrastructure on the Blue Swallow population in the area. This species is critically endangered and the development has the potential to significantly impact on important breeding areas of the species. The development has the potential to result in the species becoming locally extinct in South Africa and this is of National and International relevance.

The Draft Avifaunal Specialist Study dated September 2015 produced by WildSkies Ecological Services clearly identifies that more technical detail and further studies are required on the extent to which tunnel drilling will create noise and vibration and what the potential impacts would be on the nesting sites and breeding success of the Blue Swallow's in the vicinity of tunnel. The avifaunal study suggests that mitigation could include limiting tunnel construction during the nesting and breeding period of the Blue Swallows. This is however unlikely to be a feasible mitigation measure given the costs and implications of stopping construction for extended periods.

KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs	uMkhomazi Water Project Phase 1	Page 2 of 3	 Initials
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Prior to making a decision to issue environmental authorisation the Department of Environmental Affairs must fully understand the potential consequences and impacts of the development. The decision must ensure that the loss of biodiversity is avoided, or, where this cannot altogether be avoided, and minimised or remedied. Furthermore, a risk-averse and cautious approach must be applied that takes into account the limits of current knowledge and the consequences of decisions and actions.

The Draft EIA report and specialist avifaunal study do not provide sufficient information on the potential impacts on Blue Swallow or potential mitigation and remedial measures that will allow for an informed decision on the application. KZN EDTEA considers this a critical requirement in the EIA process.

Should you require any clarity on the issues raised above, please feel free to contact this office.

Yours sincerely




for: **Head of Department:**

Department of Economic Development, Tourism and Environmental Affairs

Signed by: Mrs. Kim van Heerden

Designation: uMgungundlovu District Manager

KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs	uMkhomazi Water Project Phase 1	Page 3 of 3	 Initials
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Association incorporated under Section 21  
Registration number: 2006/006370/08  
NPO registration number: 052428  
PBO exemption number: 930027679

*Dedicated to environmental health of the uMsunduzi and uMngeni Rivers*

Nemai Consulting  
PO Box 1673,  
Sunninghill,  
2157  
donavanh@nemai.co.za

26 September 2016

Attention : Mr Donovan Henning

## **Proposed Umkhomazi Water Project**

Dear Mr Henning

It is DUCTs contention that the DWS Classification of Water Resources and Determination of the Comprehensive Reserve and Resource Quality Objectives regarding the uMkhomazi River are flawed and since December 2013, DUCT has submitted comment on this issue. (See attached Appendix 1)

These concerns have still not been adequately and satisfactorily addressed, and we re-iterate that only three sites to determine the classification of the uMkhomazi River are completely inadequate and do not give enough statistics to provide an accurate PES (Present Ecological State), nor to determine the EFR (Ecological Flow Requirements). Thus impacts cannot be accurately determined / predicted if based on the DWS Classification.

This major flaw needs to be rectified.

### ***Comment on Report: Gauging Weir***

Of note: the situation of the preferred site #3 at Location 3, is as far as can be ascertained, situated on a private nature reserve previously known as Highover Nature Reserve. This is not indicated in the Gauging Weir report nor under the EI report under protected areas.

### ***Comment on Report: Aquatic and wetland ecological and impact surveys***

Page 4 of the report states that the survey area included *the reach of the uMkhomazi River at Smithfield that would be impacted by the inundation following the proposed development of Smithfield Dam*. Thus impacts on the river downstream of the dam site have not been taken into consideration. This omission needs to be rectified, and the entire river as far as and including the estuary, needs to be studied for impacts.



Page 11 states that: *The proposed dam site occurs within a rural setting, with rural dwellings, subsistence agriculture and livestock grazing being the main land use features of the area. The predominant surrounding vegetation type is Southern KwaZulu-Natal Moist Grassland of the Grassland biome and Sub-escarpment Grassland bioregion*

However the reach of river from dam to estuary that will be impacted comprises vast swathes of adjoining land devoid of human habitation as well as a mix of urban (Umkomaas) and rural (both sparsely and heavily populated), as well as subsistence and commercial agriculture as well as industry. The report should include a complete impact assessment for the entire river from dam to estuary and not just the dam basin, in order to gain a full understanding of the impacts on the entire river as well as all downstream users and habitats.

Page 31 indicates that the author has referred to the DWA guidelines in determining the EFR (Ecological Flow Requirements) which, as stated above have not been satisfactorily determined. This is of major concern as the EFR calculations could thus be incorrect and will negatively impact the uMkomazi River.

Page 34: *The riparian zones of the river reach associated with the proposed Smithfield Dam site are classified as foothills, dominated mostly by cobble beds, but with some sand.*

However, the reach of river from dam wall to estuary includes, Moist Grassland, Valley Bushveld, Coastal hills and Estuary all of which need to be factored in.

Viii: *It is not thought that the proposed development activities will significantly impact the present Ecological Category of the uMkhomazi River.*

As research was desktop and only one of three aquatic survey sites on the river are downstream of the proposed dam site how can this be an accurate conclusion and a reliable impact assessment on the section of river from dam wall to estuary. Discussion is lacking on impacts of scouring, turnover, extraction and water temperature of releases: these will all impact the river downstream of the proposed dam. To base the environmental reserve on the DWS Classification of Water Resources and Determination of the Comprehensive Reserve and Resource Quality Objectives will not be accurate.

#### **Comment on Report: Sediment yield**

It is appreciated that the 2010 sediment yield prediction was used to check the 1992 calculations and visa versa in order to gain an 85% certainty. However if one looks at google images of the area upstream of Smithfield Dam in the area recommended for the gauging weirs, in 2008 there was good basal cover. By 2016 basal cover is primarily non existent. Has this complete degradation been factored into the calculations, which do not mention the completely denuded hillsides in the area. Likewise, although the summary compares Woodstock and Wagendrift Dams as having *similarly developed areas bordering the Lesotho Highlands similar to the Impendle and Smithfield Dam catchments*, the catchment upstream of Wagendrift Dam seems far less denuded of basal cover when compared to the study site.

Of 10 comparative dams listed, only three have been silt tested in the last 16 years: 2009, 2003, 2001. It seems that most dams are long over due for silt tests, and perhaps this is the right time for these to be undertaken in order to understand the full extent of siltation problems afflicting large dams including potentially, Smithfield.

#### **Comment on Report: EIA**

Outdated studies, over 20 years old are being used which is not acceptable:

Page 69: *The Pre-feasibility Study follows on from the Mgeni River System Analysis Study carried out between 1991 and 1994, in which the uMkhomazi River was identified as a potentially viable source of water for augmentation of the Mgeni System, and the Mooi-Mgeni Transfer Feasibility Study carried out in 1995, in which the first phase scheme to augment the*

*Mgeni System from the Mooi River was investigated in detail and possible second phase schemes were identified.*

A full report on the Ecological Infrastructure and Ecological Services provided by the uMkomazi River Pre and Post construction of the dam would be informative and helpful in assessing impacts.

### **Analysis of alternatives**

Page 588 of the Raw Water EIA states that:

*The uMWP-1 transfer scheme is deemed to be the most viable option to provide a large volume of water to fulfil the long-term water requirements of the Mgeni system*

However on page 61, it is stated that:

*Apart from the uMWP-1, the options under further investigation for supplying water to the region include:*

*Re-Use: There are two wastewater re-use projects under investigation .....certain Waste Water Treatment Works were identified to be suitable for domestic re-use purposes based on their location, return flow volumes and the industrial portion of the effluent volume*

*Desalination: A study to investigate the feasibility of desalination of sea water as an option to provide additional domestic water is being undertaken by Umgeni Water*

How can the recommendation be made that the transfer scheme is the most viable option when other feasibility studies are still being investigated?

Waste water reuse and desalination are alternative options and as such should be reported on in full. They cannot be analysed if they are *under further investigation* or if their *feasibility* is still under investigation - resulting in the inability to compare their impacts, costs, lifespan etc with the proposed uMkomazi Dam project. These feasibility projects need to be completed transparently and included in the uMkomazi EIA report properly as per our DUCT comment of November 2013 in which we referred to the 2004 SA Substantive Report On Dams regarding alternate options. It seems these recommendations have been ignored, as have our requests of November 2013 as per the following points in the SA substantive report on dams:

- page 17:

*It is also accepted that **construction of dams is just one option of many** to be considered in water and energy planning processes. The range of options includes water and energy demand management, alternative sources of energy, and integrated catchment management.*

- Page 29:

*B 2.6.10 (15). .....to partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution”*

- Page 39:

*B3.6.3 .....the studies for these alternatives should be undertaken by experts in each of the option fields.... These studies should then be subjected to external review to eliminate the suspicion that there may be inherent bias in the analysis and the outcomes. Stakeholders should participate in identifying the terms of reference for consultants and in reviewing the study methodology and outputs.*

- B 3.6.3 *Where several alternatives are under consideration, the studies for these alternatives should be undertaken by experts in each of the option fields, to the same level of detail. These studies should then be subjected to external review to eliminate the suspicion that there may be inherent bias in the analysis and the outcomes. Stakeholders*

*should participate in identifying the terms of reference for consultants and in reviewing the study methodology and outputs*

In addition to the above, we regret that other concerns raised by DUCT in previous comments have not been satisfactorily answered. As follows as per November 2013 comment submitted:

- We are concerned that the plans to build the Smithfield Dam on the uMkomaas River is in contradiction of the recommendations of the 2004 SA Substantive Report On Dams as this is one of the last free flowing rivers in KZN.
  - Please explain why this recommendation is being ignored

We recently undertook a funded research project on various aspects of the impacts of large dams with a view to using at Smithfield Dam any lessons learnt during Springrove Dam construction. The attached appendix 2 contains extracts from this research on Springrove dam which is pertinent to Smithfield Dam and we trust that these issues will be dealt with. Where relevant, problematic issues that were identified at Springrove have been left for reference in the hopes that the mistakes will not be repeated at Smithfield

We are of the firm belief that until all alternative water supply options have been thoroughly researched, presented and exhausted, the submission of the Environmental Impact report on the uMkomazi Dam is premature and incomplete.

Have any relevant local Strategic Environmental Assessments been identified and if so have their recommendations been honoured?

Have the cumulative impacts of this phase of the uMkomazi Water Project been accounted for and calculated?

Lastly we would like to place on record that we support the submission of Coastwatch.

It is an extremely difficult task for one individual to read and comment on the copious amounts of documentation that comprise the EIA report for such a large project. Please thus accept herewith the above comments.

Thank you for the opportunity to comment and we look forward to receiving further information.

Yours sincerely



Mrs P S Rees  
*Nat Dip: Nat Con*  
Duzi Umgeni Conservation Trust (Howick Co-Ordinator)

Donavan Henning  
Nemai Consulting  
PO Box 1673, Sunninghill, 2157

4 September 2016

Good Day,

**RE: uMkhomazi Water Project Phase 1 (uMWP-1) Raw Water and Potable Water components**

We refer to the draft Environmental Impact Assessment (EIA) Reports for the proposed uMkhomazi Water Project Phase 1 (uMWP-1), Raw Water and Potable Water components. It is an unfortunate situation that this development has potential to impact on two of the most important Blue Swallow sites in South Africa, namely the Impendle Nature Reserve and the Baynesfield portion of the KwaZulu-Natal Mistbelt Grassland Important Bird and Biodiversity Areas (IBA). We have divided our comments below to differentiate between the potable and raw water components.

Potable Water component

It is clear that these aspects of the project pose less of a risk to avifauna in the region. Nevertheless, the project has potential to impact on species such as Blue Swallow, Blue Crane and Grey Crowned Crane. BirdLife South Africa would like to state our position regarding the following:

- We support the findings of the avifaunal component of the EIA that option 3 of the waste water treatments is the preferred option as it is furthest from the KZN Mistbelt Grassland IBA and Blue Swallow sites. This is also important in terms of impacts due to noise and construction activities which are an especially sensitive component of the projects raw water module.
- That avian walkthroughs be undertaken during all aspects of the project to ensure no sensitive sites are affected.

Raw Water Component

The Raw water component is of special concern to BirdLife South Africa due to the potential impacts on Blue Swallow and other threatened and endemic species. Although the immediate loss of habitat is not the primary concern the disturbance, noise and vibrations caused during construction of the Smithsfield Dam, balancing dam and raw water conveyance tunnels are. These components have potential to affect two of the most important Blue Swallow populations in KZN comprising approximately 8 pairs which is 40% of the population in South Africa. In addition, it must be mentioned that BirdLife South Africa is implementing biodiversity stewardship with landowners in the Baynesfield area with the aim of declaring a Nature Reserve. We are also concerned with the lack of information pertaining to the noise levels and vibrations caused by these construction activities. These aspects require further discussion and clarity. Our specific concerns relate to the following:

- Building activities at the Smithsfield Dam and especially associated blasting and the use of heavy earth moving equipment has the potential to impact on nesting Blue Swallows in the Impendle IBA. It is our understanding that the dam wall will be approximately 10 km from breeding Blue Swallows. However, the impacts of these activities should be carefully monitored.
- We require further clarity regarding the re-routing of the R617 road, the construction that will take place and the associated noise levels that may be expected. This road will fall within the Impendle Nature Reserve so extreme caution should be exercised to ensure that construction is undertaken in as sensitive a manner as possible. Where blasting and other forms of heavy machinery are to be employed these should be undertaken during periods when Blue Swallow are not breeding (April –September).
- The noise and disturbance associated with the construction of the balancing dam, especially blasting and heavy earth moving machinery, may impact on Blue Swallow that nest within 3 km. In addition, there is potential that more pairs are present along the ridge above the dam and these would be within 2km. It is also likely that Blue Swallows will forage in the valley. Thus, construction of the balancing dam is of major concern and we appreciate and support the recommendations that specific aspects of construction such as blasting occur in the winter months while Blue Swallow are not breeding. This is likely the most sensitive aspect of the project and further discussion should be undertaken to ensure that as little impact as possible occurs at the site.
- Noise and Vibrations from the underground conveyance tunnel is also a concern and requires further clarity. As mentioned in the EIA report Blue Swallow nest underground and thus may be highly susceptible to tunnelling activities due to vibrations and noise.
- The implications of the tunnel servitudes above ground especially in terms of the proposed Nature Reserve at Trewergie need further clarity.

In the context of the above it is recommended that environmental managers be employed at site to ensure that any aspects that may affect sensitive species in the area are adhered to. It is also critical that Blue Swallow populations at these sites are monitored throughout. In addition, the topic of offsets should be approached with caution as the reality is that very little suitable habitat for Blue Swallow remains and offsets may not be a suitable option. However, we are open to these discussions.

We look forward to a constructive meeting and discussions around these points so that the best possible solutions can be found. In essence, Birdlife South Africa understands the context in which this dam is needed and we are not opposed to this development. However, it is critical that this development is not undertaken in a way that compromises the future conservation of Blue Swallows, which are one of South Africa's most threatened species. A species we are obliged to conserve as part of our commitments to the Convention of



BirdLife South Africa is a partner of BirdLife International, a global partnership of nature conservation organisations.  
Member of IUCN, International Union for Conservation of Nature and Natural Resources.  
Reg No: 001 – 298 NPO  
PBO Exemption No: 930004518

Biological Diversity (CBD) and the Convention of Migratory Species (CMS), to which South Africa is a signatory.

Yours sincerely

Nicholas Theron  
Conservation Manager: KwaZulu-Natal

with

Simon Gear  
Programme Manager: Policy and Advocacy

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Partnership for  
nature and people





**agriculture,  
forestry & fisheries**

Department:  
Agriculture, Forestry and Fisheries  
**REPUBLIC OF SOUTH AFRICA**

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F 033 342 8783	DAFF	Ms. N. Sontangane
T 033 392 7733	Forestry Regulations & Support	23 August 2016
✉ Nandiphas@nda.agric.za	P/Bag X9029 Pietermaritzburg, 3200	

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**NEMAI Consulting**

P.O Box 1673  
Sunninghill  
2157

**Attention:** Donovan Henning

**DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT (DEIAR):  
COMMENTS FOR THE PROPOSED UMKHOMAZI WATER PROJECT PHASE 1.  
POTABLE WATER COMPONENT. REFERENCE NUMBER: 14/12/16/3/3/95**

The Department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to review and comment on the DEIAR for the above mentioned development. DAFF through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forest Act, (Act No. 84 of 1998) by regulating the use of natural forests and protected tree species in terms of the said Act.

With regards to the document received on the 05<sup>th</sup> of July 2016, majority of the indigenous vegetation within the proposed site have been transformed through anthropogenic activities such as agricultural activities and forestry plantations as evident from the site inspection conducted on 18/08/2016. However, there is some indigenous vegetation remaining furthermore, the pipeline crosses some watercourses and may impact on riparian vegetation during construction.

The Department has no objection towards the proposed development however recommend the following:


- The pipeline servitude should be completely rehabilitated post construction.
- The mitigation measures outlined in the Environmental Management Programme must be adhered to.
- Should there be a need to disturb indigenous trees in a natural forest and/or protected tree species in terms of NFA, a permit must be obtained from DAFW offices in Pietermaritzburg.

This letter does not exempt you from considering other environmental legislation

Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

N. Sontangane



.....

**Forestry Regulations & Support - KZN**





**agriculture,  
forestry & fisheries**

Department:  
Agriculture, Forestry and Fisheries  
**REPUBLIC OF SOUTH AFRICA**

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F ☎ 033 342 8783	DAFF	Ms K. Moodley
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	Pietermaritzburg	
	3200	

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**Nemai Consulting**

P. O Box 1673  
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Attention: Mr. D. Henning

**COMMENTS FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE  
PROPOSED UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT:  
SMITHFIELD DAM (14/12/16/3/3/94/2)**

The Department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to review and comment on the Environmental Impact Assessment report for the above mentioned development. DAFF under the section: Forestry Regulations and Support is the authority mandated to implement the National Forest Act No.84 of 1998 by regulating the use of natural forests and protected tree species in terms of the said Act.

With regards to the document received on 05<sup>th</sup> July 2016 and the site inspection conducted on the 18<sup>th</sup> August 2016, the proposed area (western part of the project) which constitutes of the Smithfield dam and associated infrastructure consists of patches of natural forests, particularly

riparian vegetation which occurs along the river channel. A patch of natural forest was also identified at 29°45'55.54"S 29°57'05.85"E. The construction of the Smithfield dam will thus result in a vast area of natural vegetation been inundated. The Department therefore recommends that the following conditions be strictly adhered to:

- A vegetation specialist must quantify the number of trees, particularly those trees that constitute a natural forest as per section 7 of the NFA that will be affected by the proposed construction of the dam.
- A compensation ratio of 1:3 should apply for every indigenous tree removed.
- Roads should be carefully planned and existing roads should be used to prevent the unnecessary removal of indigenous trees.
- Training should be conducted on indigenous and protected tree species for the construction workforce by a suitably qualified person.
- A search, rescue and relocation programme needs to be implemented for indigenous tree saplings within the construction area and in the dam basin prior commencement of construction activities.
- Mitigation measures outlined in the Environmental Management Plan report (EMPr) should be strictly enforced by the Environmental Control Officer (ECO) in order to minimise the negative impacts.
- A licence application should be forwarded to DAFF office in Pietermaritzburg for review prior the disturbance of any indigenous trees that constitute a natural forest as per section 7 of the National Forests Act No.84 of 1998.
- Kindly note: DAFF officials are permitted to monitor the site at any given time. Non-compliance with above conditions is a contravention of the National Forests Act 84 of 1998 and will thus result in legal action.

This letter does not exempt you from considering other environmental legislation. Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

K Modley



.....

**Forestry Regulations & Support - KZN**

29 August 2016

PO Box 6,  
Baynesfield  
3770

Dear Maria and Ben Seele

**Outcome of the May 2016 KZN Biodiversity Stewardship Programme Review Panel Meeting:  
Qualification of Trewirgie Farm for the Nature Reserve category**

Thank you for your interest in participating in the KZN Biodiversity Stewardship Programme.

Following a site assessment to Trewirgie on 11 March and 20 April 2016, the biodiversity value of the area has been assessed by the KZN Biodiversity Stewardship Programme Review Panel, which includes representatives of Ezemvelo KZN Wildlife and the Provincial Departments of Agriculture, on the 25 May 2016.

It is with great pleasure that I can hereby report that the Review Panel has determined that the site qualifies for Nature Reserve status, as outlined in the Biodiversity Stewardship model and contemplated in Section 23 of the National Environmental Management: Protected Areas Act (Act 57 of 2003).

The opinion of the Review Panel was that Trewirgie is a site of biodiversity importance that makes essential contributions to the conservation of Red data and Endemic species and habitats, particularly the Endangered Midlands Mistbelt Grassland and Eastern Mistbelt Forests. The following conditions were agreed to by the Review Panel in conferring nature reserve status on the site:

- Although the site qualifies for the Nature Reserve category the costs of a mandatory land survey needs to be estimated in order to determine the feasibility of this category or the Protected Environment, as this cost may be substantial due to the fragmented nature of the vegetation.
- A veld condition assessment is required in order to best advice on grazing management of the grassland and needs to be reflected in the management plan for the protected area in order to maintain and/or improve biodiversity.

Although we would value your involvement in the programme, I must emphasise that participation is voluntary. We now need to hold a meeting to discuss the detail of the application, in partnership with Birdlife South Africa and focus on the development of the management objectives and the management plan. I would appreciate it if you could discuss this with your management committee and confirm your willingness to proceed. For further enquiries, please contact the KZN Biodiversity Stewardship Programme unit.

Yours sincerely  
Mr Sifiso Keswa  
General Manager People and Conservation  
Ezemvelo KZN Wildlife

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Impacts of the proposed Umkhomazi Water project on Blue Swallows, and other fauna and flora (specifically on Trewirgie Farm)

Please note that all page numbers refer to the draft raw water EIA report unless stated otherwise.

I will start with the ecological impacts of the proposed project on fauna and flora in general, with a specific focus on Trewirgie Farm, and referring to the specialist terrestrial fauna and flora report and the draft raw water EIA report. At this point it must be mentioned that Trewirgie Farm, because of its stands of special plant communities and habitats of threatened species, including Oribi and nesting sites of the Critically Endangered Blue Swallow), was declared a natural heritage site in 1995 (the documentation of which has been sent to Donovan Henning) and is in the process of becoming a nature reserve (see letter from the General Manager, People and Conservation, Ezemvelo KZN Wildlife).

We request that this important information be included in the descriptions of the location of the proposed tunnel: pg. 18, and very importantly on pg. 208 of the raw water EIA draft report, where it is stated that '*the remaining part of the tunnel (the eastern section) (ca. 13km) traverses privately owned land that is predominantly used for commercial farming and forestry with patched (note spelling error) of indigenous forests and improved grassland.*' Please could you correct this to: **3.3km of these 13km pass through a natural heritage site, and through patches of endangered Midlands Mistbelt grasslands (one of the most threatened vegetation types in KZN - Mucina and Rutherford, 2006).** In addition, can we request that this endangered status is highlighted in bold on pg. 268 of the same report as with the other vegetation types. We further request that the conservation status of the farm be acknowledged on pg. 272 where it is only mentioned that: '*(...) impacts to plant life along the tunnel route options include rural subsistence agriculture (western section), forest plantations and commercial farming (eastern section).*' Please include: **patches of endangered Mistbelt grasslands conserved by landowners.** The same holds true for the description of the raw water conveyance infrastructure on pg. 275 and pg. 361 of the same report.

All terrestrial fauna and flora related impacts of the proposed project should, theoretically, be addressed in the specialist terrestrial fauna and flora report, and summarised in the draft EIA report. This report was written by Ronald Phamphe, and according to the report, reviewed by Donovan Henning, however when this was queried, I was told it was reviewed internally. Please could this information be updated?

We are very concerned about the quality and validity of both the specialist report and the summary thereof in the draft raw water EIA report for the following reasons:

1. Pg. 52 of the draft raw water EIA report states: the terrestrial ecological impact assessment notes that a limitation of the report is that '*species of conservation concern are hard to find and identify.*' This is incorrect - species of conservation concern are often well described. For a project of this magnitude and calibre, a terrestrial ecologist (ideally with knowledge and experience of the local environment) that can at least identify species of conservation concern (impacted by the project) should have been tasked with performing the report. This indicates that the results of the report are severely limited.

2. Pg. 273 of the draft raw water EIA report: Table 62, copied directly from the specialist terrestrial fauna & flora report; here it states that the 38 threatened plants species, recorded in the quadrats where the proposed project is located, are not endemic to South Africa, including the Hilton Daisy. **This is incorrect. The Hilton daisy is an endangered Mistbelt grassland endemic** and presents one of the most important ecological impacts of the proposed project. **The incorrectness of this vital information reduces the validity of the entire report.**

3. Pg. 284: We request that the tree dassie (*Dendrohyrax arboreus*), included in the IUCN red list because the forest habitat it relies on is under severe threat from removal and degradation, be added to Table 63. Tree hyrax have been recorded on Trewirgie Farm and can be heard clearly almost every night. Another limitation of the terrestrial fauna and flora report is that no night-time data gathering was performed, thereby excluding important nocturnal mammals from the report. In addition, table 64, pg. 286, we request that it is indicated that Serval have been recorded on Trewirgie Farm.

The concerns mentioned above have been raised directly to Nema consulting, but to date, I have not received any reply to these, nor information or explanations thereof.

Other concerns regarding the draft raw water EIA report and ecological implications of the proposed project:

1. Pg. 47-48: Although long term economic benefits are discussed, true environmental costs, which include long term ecological costs, are not addressed by the EIA draft reports and are a DEA requirement. This shortcoming is noted in the avifauna report (pg. 52) but nowhere else.

2. Pg. 75: Table 11, scheme comparison: Although the environmental impacts of the Ndooyane scheme are mentioned, no mention is made of the severe environmental impacts of the Smithfield-Baynesfield scheme.

3. Pg. 78: Although it is stated the '*very significant ecological and social mitigation measures could be implemented in order to reduce the impacts of the Smithfield Scheme (...)*', it is not stated that there are certain important ecological impacts that cannot be mitigated if the scheme is implemented.

4. Pg. 101: River diversion for Smithfield dam construction. This is to take at least 3 years. Has an EIA been done for the effects of diverting the river?

5. Pg. 140: Seven aspects were taken into consideration in defining the raw water routes; these however do not include any ecological impacts. We request that these are included and taken into account. In addition to this, on pg. 571, although all other component options are mentioned, no mention is made of the alternative options with regards to the tunnel route, and what the preferred options and recommendations are of the specialists in this regard. There is a severe lack of transparency around the choice of tunnel route. Is there a reason for this?

6. Pg. 432 (starting) Table 87: Please could you update the following impacts for the water conveyance infrastructure: Loss of stock watering points – due to possible drop in ground water

table as mentioned on pg. 451 of the raw water draft EIA report. Please also add permanent loss of timberland – due to servitude.

7. Pg. 581: Is the public able to comment on the final EIA report?

### **Blue Swallows**

The Blue Swallow, a charismatic, indicator species is listed among the top five Critically Endangered bird species in South Africa (Wakelin & Hill, 2007).

There are less than 35 breeding pairs, and less than 100 individuals left in South Africa (Little & McKechnie, 2012). Fewer than 10 breeding pairs can lead to probable extinction. The proposed Umkhomazi Water project will impact 14-15 Blue Swallow active breeding sites and numerous potential breeding sites.

Trewirgie farm contains two actively used Blue Swallow nests (as indicated on the map) and extremely well conserved patches of Midlands mistbelt grasslands that the birds rely on. The proposed tunnel will pass almost directly underneath both nests. Blue swallows have been monitored on Trewirgie Farm since the early 1980ies and the Seele family is deeply committed to ensuring that the conservation of the Blue Swallows and the natural environment of Trewirgie continues into the future and is not affected negatively in any way.

A bit of background: Blue swallows are migratory birds that breed in abandoned aardvark/similar holes (up to 5m deep) in the KZN mistbelt grasslands. They often return to the same nesting sites, but are highly sensitive to any form of disturbance or land transformation, and have been recorded to abandon nests, chicks and all attempts at breeding after being disturbed. Because of this it has been recommended that 'the primary grasslands within a 4km radius of the nests must be protected and maintained. These sites should be protected by law (...)' (Wakelin & Hill, 2007).

In summary, impacts of the Umkhomazi water project (noted in the specialist study, yet briefly mentioned or entirely excluded from the draft raw water EIA report) include:

- 1) Destruction of primary grassland within a 4km radius of nests in the iMpendle nature reserve due to the construction and rerouting of the R617 through the nature reserve; the road will run between 2 and 3.7 km from six Blue Swallow nests.
- 2) Construction of the balancing dam in Baynesfield and associated drilling, blasting, construction and general increase in noise, traffic etc. will affect Blue swallow breeding sites and foraging areas which are located 2km from the proposed dam wall.
- 3) The construction of the conveyance tunnel (which runs very close to at least two active nests on Trewirgie Farm) and associated vibrations will disturb the sensitive birds and, even if done out of breeding season, could destroy the actual nests and the aardvark holes in which the Blue swallows build their nests. There are very few aardvark holes (due to fewer aardvark) and finding other suitable nesting sites will be very difficult.

I'd like to focus on this last point and refer directly to the draft raw water EIA report where the summary of the specialist avifauna report, has left out many important data and findings from the specialist avifauna report.

1. The first mention of Blue Swallows is on pg. 279 of the raw water draft EIA report. This lessens the importance of the negative impact the proposed project can have on the birds.

2. Nowhere in the entire report is it mentioned that there less than 35 known breeding pairs and less than 100 individuals (Blue Swallows) left in South Africa (Little & McKechnie, 2012), and how many nests will be directly and indirectly impacted by the proposed project. Failing to mention this belies the severity of the impact of the proposed project on the critically endangered Blue Swallow. That 14-15 Blue Swallow nesting sites/pairs will be directly affected, puts the impact of the proposed project into context, and must be included in the report.

3. '*The greatest threat to this species is the destruction and fragmentation of its grassland habitat and human disturbance* (Allan *et al.*, 1997, Little & McKechnie, 2012, Marchant, 2012)' and '*this is certainly the species of most concern for this project*', both found on pg. 20 of the specialist avifauna report, are, yet again, not mentioned in the draft EIA raw water report.

4. In the draft raw water EIA report, no mention is made of the 4km buffer zone around nests, in which no development or disturbance should occur and that these sites should be protected by law (Wakelin & Hill, 2007) pg. 21 of the specialist avifauna report. This is of great importance to the continued use of nests by the Blue Swallows and must be included in any summary of the report.

5. Pg. 2 of the specialist avifauna report states that '*The tunnel (which passes under Trewirgie) does pass under a core Blue Swallow *Hirundo atrocaerulea* breeding area, identified as an Important Bird Area. The drilling or tunnelling process could potentially impact on Blue Swallows breeding above, through disturbance by noise or vibration. Disturbance could result in loss of breeding productivity for the relevant population of swallows, or total breeding failure for the relevant season, or even long term abandonment of nest sites by breeding pairs. For such a threatened species any loss of breeding productivity would be highly significant.*' We request that this be emphasized in the draft EIA raw water report.

6. No mention is made on the impact of vibrations on the nest structures and nesting-hole stability. Blue Swallows build small cup-shaped nests attached to the side walls of disused aardvark holes, there are not many of these remaining, as aardvark numbers have dropped severely. Destroying nests and nesting holes can lead to the abandonment of an entire (and following) breeding effort, success and season. Jon Smallie has confirmed that this impact will be included in the specialist report, and we request that this be reflected in the EIA report.

7. We request that the following be added to pg. 495 of the raw water draft EIA report: Drilling, even during non-breeding season of Blue Swallows could have an impact on nests and nesting-hole structures.

8. On pg. 497 of the raw water draft EIA report it states that baseline noise and vibration levels need to be established. We request that this is done prior to the finalisation of the EIA report. Once the birds have been disturbed it is very possible that they will not return at all. Fewer than 10 pairs could lead to extinction.

9. The recommendations of the avifauna report in terms of options of scheme components are not reflected in the final choice of the raw water pipeline, location of balancing dam, and road associated with the balancing dam. These choices all go against the recommendations and preferred options of the avifauna report. Strangely, again, no mention is made of alternative tunnel location options. Please note that on pg. 2 of the specialist study, *'there is no doubt that it would be better for avifauna and particularly Blue Swallows if this area (Langa dam), was not used for the balancing dam. The scoping phase avifaunal report recommended that an alternative site be sought, however the proponent has informant us that is not possible (not reason given). This report recommends that the Mbangweni dam site be selected.'*

10. In the EIA raw water draft report, no mention is made of the fact that the birds are highly sensitive to disturbance and have been recorded to abandon nests and breeding altogether after being disturbed. As mentioned in the specialist report, and left out of the draft EIA report: ***'This species is highly susceptible to habitat destruction, and disturbance – particularly while breeding. Given its dire conservation status, there should be no tolerance for additional impacts on this species, particularly in one of its core ranges'*** (pg. 21 of the specialist avifauna report). We hereby request that this important statement is included in the raw water EIA report.

In conclusion, as Blue swallow custodians, who have been monitoring and conserving Blue Swallows and their associated habitat since the early 1980s, we request that these important findings of the specialist avifauna report be included in the EIA raw water report, and that it is noted that we oppose the construction of Langa dam, the rerouting of the R617 through iMpendle nature reserve and the construction of the tunnel under Trewirgie Farm.



## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	15 August 2016		<b><u>Official use</u></b>
<b>Name of organisation (if applicable)</b>	Endangered Wildlife Trust		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Catherine Hughes (Manager – Threatened Grasslands Species Programme)		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	Private Bag X11, Modderfontein, 1645, Gauteng	Building K2, Pinelands Office Park, Ardeer Road, Modderfontein, 1609, Gauteng	
<b>Telephone No.</b>	(011) 372 3600		
<b>Fax No.</b>	(011) 608 4682		
<b>Email</b>	<a href="mailto:Catherineh@ewt.org.za">Catherineh@ewt.org.za</a>		
<b>Location where report was reviewed:</b>	Electronically		

**Comments:** (note - additional pages may be included if the space provided is insufficient)

We have unfortunately not been able to go through the document in sufficient detail, but would like to be kept informed as to the progress with the EIA, and will provide guidance from a conservation perspective if required. We have provided some key concerns below.

The Endangered Wildlife Trust would like to reiterate a major concern regarding this project – particularly in terms of the location of the proposed service shafts very close to nesting sites of the Blue Swallow (*Hirundo atrocaerulea*), which is **Critically Endangered** in South Africa (<http://www.iucnredlist.org/details/22712318/0>). We also raise the concern that there will be associated disturbance to these sites during the construction phase of the project. The Blue Swallow is an intra-Africa migratory species which is threatened by destruction and degradation of its grassland and wetland habitats, on both its breeding and non-breeding grounds. The estimated decline in the metapopulation size in South Africa and Swaziland is from 106 pairs in 2005 to 57 pairs in 2012, a decline of 54% over the past seven years (Evans et al., 2015).

The concerns raised by Wild Skies in the avifaunal report (2015), and their recommendations that conservation groups should be consulted before any further steps are taken with the project are supported by the EWT. At this stage it is evident that the potential for irreversible negative impacts on Critically Endangered bird species is not adequately understood, and, as identified in the EIA, the plans for mitigation are at this stage not adequate.

We would also like to reinforce the general concerns raised around the hydrological impacts of the project. The lack of hydrological baseline data is problematic. As identified in the EIA, the dam will disrupt the existing ecosystems in the uMkhomazi valley – inundating riparian, aquatic and grassland systems and disrupting their ecosystem function. This will also alter the ecological flows of the system as well as the supply of water to downstream ecosystems and water users. Further disruptions are anticipated to fauna corridors. Many of these issues have been raised by DUCT in their comments on the scoping report (2014). Although many aspects have been explored in a fair amount of detail and in the EIA, some of the mitigation measures are very generic, and the impacts not adequately considered. DUCT has furthermore raised concerns in terms of requirements for the ecological reserve under the parallel process of determining the Resource Quality Objectives for the Mvoti To Umzimkulu Water Management Area (see letter from DUCT to the DWS dated 16 August 2016). We would like to support these concerns, and request that they also be addressed as part of this project.

Reference:

Steven W Evans, Ara Monadjem, Lizanne Roxburgh, Andrew E McKechnie, Elizabeth M Baker, Robert B Kizungu, Ian T Little, Fadzai Matsvimbo, Ronald K Mulwa, Daniel Mwizabi, Dianah Nalwanga, Kariuki Ndong'ang'a & Leigh Combrink (2015) Current conservation status of the Blue Swallow *Hirundo atrocaerulea* Sundevall 1850 in Africa, *Ostrich*, 86:3, 195-211, DOI: 10.2989/00306525.2015.1047808

**For the attention of**  
 Mr D Henning  
 Nemai Consulting  
[donavanh@nemai.co.za](mailto:donavanh@nemai.co.za)

**Date:** 18 August 2016

**Your ref:** D Henning

**Our ref:** A Armstrong/sp/MAT3272

**Direct dial:** 031 940 0501

**Email:** aldinearmstrong@eversheds.co.za

**By e-mail**

Dear Mr Henning,

**RESPONSE BY RCL FOODS CONSUMER (PTY) LTD (RCL) TO THE PROPOSED  
 UMKHOMAZI WATER PROJECT PHASE 1: POTABLE WATER COMPONENT:  
 DRAFT EIA REPORT**

1. We refer to our letter dated 12 August 2016 containing RCL Consumer Food (Pty) Ltd's responses to the potable water component of the Umkhomazi Water Pipeline project.
2. Please accept this letter as a supplement thereto, specifically as it applies to Erf 41, Portion 6 Umlaas Road ( Erf 41). Apologies for the late submission of this but it is relevant to RCL's access to Erf 41. RCL wishes to record and bring to the attention of the Applicant that access to Erf 41 would be via the R103 and approximately at point 5 in the attached diagram. Access would have to be via a servitude over the pipeline as is depicted in Option 1F in the draft EIA report, where it traverses Erf 41.
3. Kindly be advised that this would be a necessary requirement of RCL in order for it or any subsequent successors-in-title to gain access to the site.
4. We look forward to hearing your response in this regard.

Yours sincerely,



**Aldine Armstrong**

Eversheds

cc. Gavin Subramanian – Umgeni Water  
[gavin.subramanian@umgeni.co.za](mailto:gavin.subramanian@umgeni.co.za)

Dharam Kadathlal  
[dharam.kadathlal@umgeni.co.za](mailto:dharam.kadathlal@umgeni.co.za)

**Partners:** Peter van Niekerk (Managing Partner), Andrew Turner (Senior Partner, Dbn), Donovan Avenant, Deon de Beer, Robyn de Kock, Tyron Fourie, Michael Hough, Leigh Jepson, Lauren Kelso, Sandro Milo, Sara-Jane Pluke, Greg Shapiro, Tanya Waksman, Grant Williams  
**Snr Associates:** Robyn Downs, Helen Westman, Lara Wills  
**Associates:** Anastassios Anestidis, Michelle Arbuckle, Daniella Brain, Monique Gresse, Kelly Hutchesson, Glynn Kent, Heather Marsden, Naledi Mdyesha, Justine Musiker, Michael Peters, Laura Schlebusch, Tomiwa Toriola  
**Consultants:** Aldine Armstrong, David Asherson, Angela Clark, Richard Pemberton

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 For a full list of our offices visit [www.eversheds.com](http://www.eversheds.com)

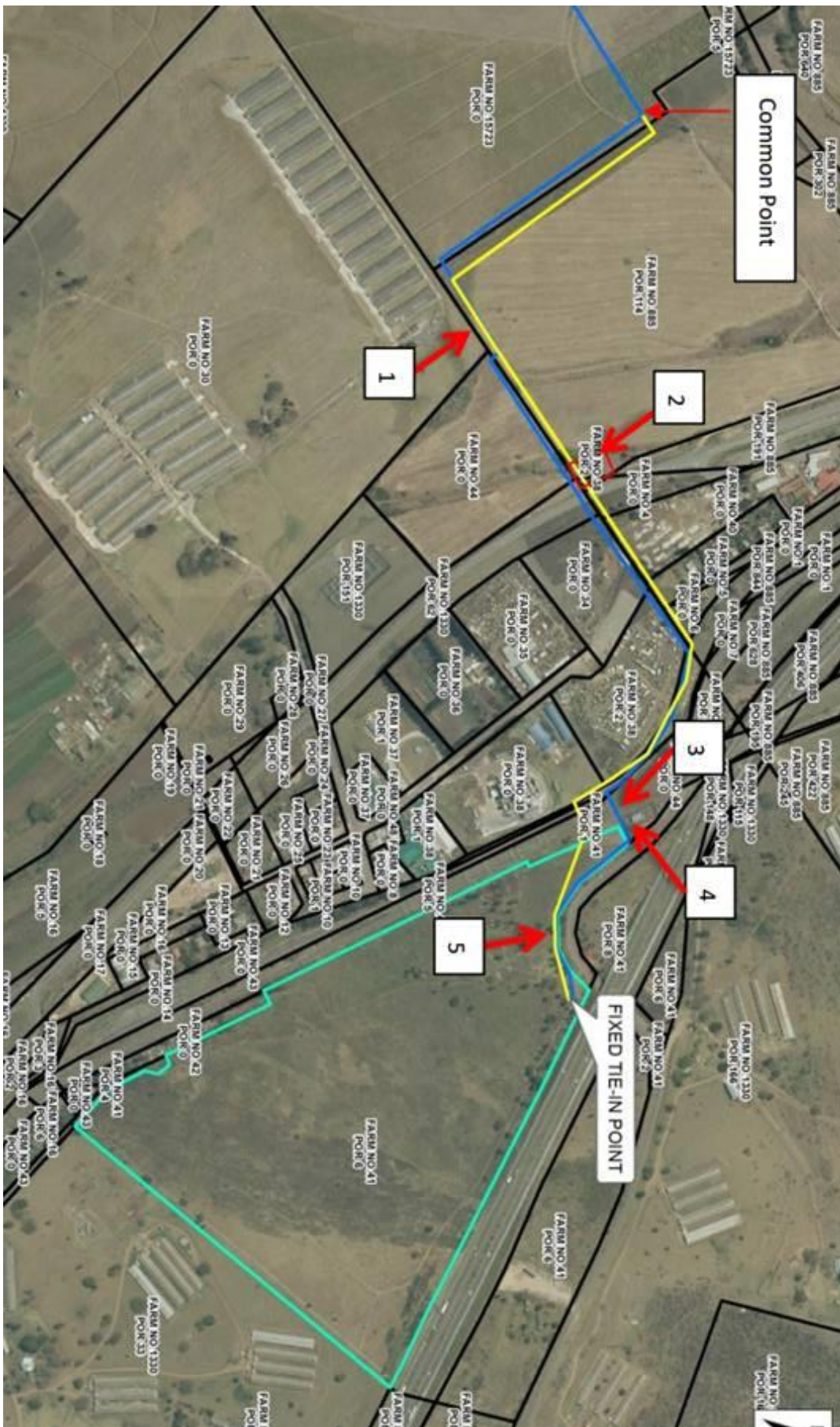
# EVERSHEDS

Date: 18 August 2016

Your ref: D Henning

Our ref: A Armstrong/sp/MAT327

Page: 2



IZKHALAZO ZOMPHAKATHI  
NGOKWAKHIWA KWE  
DAMU, KULEZINDAWO EZILANDELAYO.

Endaweni yakwa Zashuke indawo kwa kwa  
Nonguqa engaphansi kwa Ngonyama Trust.

Kwabhidla esgodini sase Sheshi naso  
esingaphansi kwe Ngonyama Trust.

IZIZATHU.

Ukuzothathelwa amasimu esesacela ku  
Hulumeni[Agriculture]wavuma wathi  
asenze ama co—op sawenza ngokushesha  
ngo 2013, usafikake wazogingqa  
isondo. silindelwe ukubiyelwa bese  
uyasilimela njengoba ukudla kudule  
kanje, ukuziphilisa njengazo zonke izindawo  
ezilimayo zithumele ezimakethe.

## AMADLELO.

Imfuyo yethi idlakhona futhi kulendawo  
ngezikhathi zendlala iyawela iwelele  
ngaphesheya komfula uMkhomazi iyodla  
khona. Endaweni zamapulazi – ke ithola  
khona ukusimama sebathuthake abelungu  
kulawo mapulazi, abuyela ebantwini  
abakhele wona. kodwa-ke nakuba  
besekhona abelungu bawo bezidla lapho  
manje ke sebezosivalela nge Damu, asazike  
ukuthi zowelaphi bazosibulalela imfuyo  
kanti siphilangayo. sifundisa izingane zethu  
ngayo ezikoleni, konke esikwenzayo  
sikwenza ngalemfuyo, ukuphila kwethu  
kuphethwe iyona lemfuyo ezofa ngenxa  
yale Damu.

Umkhomazike uyingozi unezilwane zawo  
ezahlukene asebezozisondeza  
kuthina.kunezinyoka ezimbi.kunezinkunzi  
zamanzi ezimhlophe,kunezimvu  
zakhona,kunezinkukhu zakhona.izilwane  
ezizosondela kubantu masewuvaliwe  
umkhomazi.kuphinde futhi uvaliwe lezi-ke  
ezizobe sezingawatholi amanzi esenciphile  
kuzokweenzekani kuzona,kunezi ziba  
ezingabhukudwa abantu eziyingozi  
kakhulu.awuphumimawungene khona  
kodwa umlungu uyadlula kusona.

## AMATHUNA AMAGUGU ETHU.

Asifuni aphazanyiswe sikhala Kanye  
masihanjelwe ilungu lomndeni akukhalwa  
kabili,asifuni ukuphinda sih

lukumezeke.abashonanga  
ngodlame,abashonanga ngezom  
bangazwe.abashonanga ngezimpi zezabelo  
kepha kwafika isikhathi.

Angeke babathole bonke njengoba bethi  
bayobamba emathuneni abo.

Babezisholo-ke abantu basendulo ukuthi  
bafisa ukufihla kwanjani,ezikhombela  
indawo afuna ukulala kuyona, aphinde  
asho ikhona afuna akhelwe lona,elaphansi  
noma elase celeni.bese ebekwa eduze  
kwesibaya sakhe sezinkomo.

Wena-ke mawumsusa lapho kwesakhe  
umusa kusiphi isibaya,sabani futhi.



Okunye-ke umntwana oshone emncane  
angeke atholwe amathambo  
akhe. nonenyanga ezombelwa ezelwe  
nowendile, iwele-ke lelo elifihlwa eduze  
komnyango.

Indlu-ke yasekhaya okwenzelwa zonke  
izinto zesiko.

Ophuphumile umntwana angeke  
atholwe, bonke labantwana onjani onjani  
uyakhula udinga ukwenzelwa amasiko.

AMATHUNA.

Kunamathuna angezansi komfula  
kwalalizoalwa khona. Asengozini enkulu  
mali gcwala, ngoba amanzi ayowathatha.

Okukanye bayokhala sebelele emanzini  
ngoba bowagugula.

OKUNYEKE UKUSHONA KUHLUKENE.

Kukhona ozishonelayo kahle,kukhona  
oshona ngengozi  
yemoto,eyokugwazwa,eyomphezulu  
izulu,eyamanzi nozibulele.

Abafihlwa ndawonye,nabagulile,labo  
bayaqheliswa kwabanye uma befihlwa  
ezigodini zamakhosi.akufani nase  
madolobheni labafihlwa ndawonye.

Uma-ke bembiwa abe Damu bayofuna  
ukubahlanganisa.Ingakho-ke singafuni  
bathuthwe ngoba bokwenza

okungenziwa, usiko lwethu. basiqhathe  
nezinyanya zethu [Amadlozi]. ngokuba  
sithembele kuwona nawo athembele  
kuthina.

Kunabafihlwa nama wisa abo, mawumsusa  
amawisa akhe uyowatholaphi. abanye  
bafihlwa phakathi ezibayeni  
zabo. mawumsusa umsaphi, kwesabani  
isibaya. Izinkinga zobhekana  
nobani, ngokwenza lokho  
okuphambene, ebe asho ephila wathi  
anongibeka lana.

**IMIGWAQO EZOSHINTSHWA.**

Sinebhulohwe elakhiwa amantaliyane  
ngo1913 ngo 8million, abafuna ukulisusa

linomlando omkhulu ngo1976,kwaba neloli eyayithutha itoho lase Smith Farm.

Laphelelwa amabhuleki lafika laphonseka khona kwafa abantu abaningi.kwazashuke kwashona izintombi zakwa Mncwabe ezimbili izelamani,abanye baphuka ngakho-ke liyisikhumbuzo esingeke siphele empilweni zethu.

Lelibhuloho liwela izingane ezisuka e Deep dale Farm,Clemont Farm,Kraal Farm ziya eskoleni eSheshi .

Kwabhidla zihamba ngezinyawo ngoba abazali bazo bempofu bengenamali,kukhona amatekisi ahambisa abantu nawo ahamba kuleli bhuloho.osekuzophoqa ukuthi angabe

esakwazi ukuhambisa ngezizathu zoku  
wiswa kwalo,okungagcina sebekhokha  
ngoku ngasafanele beyojikiswa  
kude.Uhulumeni wakha ama Toll gate  
ngokunciphisa izndleko,bonabakhela  
abantu izndleko ngokungenasdingo.

Kodwa wavotelwa aphi amalungelo abantu  
abahlukumezekayo hhawu kwaze  
kwabuhlungu ukuhlukunyezwa  
ngokuzovalelwa imigwaqo yethu esihamba  
ngayo,lekelela Ngonyama yethu safa  
ukhona kanti singababani thina.

Kweliphesheya kwalo lafiliba kwawa iloli  
ithwele izinkomo nabantu bephezulu kwafa  
abantu,kwafa izinkomo nalo linalowo  
mlando onjalo,futhi okusafika abantu

namakhandlela bezokhala lapho  
njengakulona leli la 1913 okusakhalwa  
namanje ngaleyo nhlekelele.

Kuphinde kube elinye ibhuloho elihlukanisa  
uBhidla no Zashuke Elizofa, siyakhala ngalo  
lizokwenza ukuthi abantu bayohamba  
ehlane labezonqunywa  
khona, badlwengulwe futhi.

Izinswelaboya nalaba abadla izidakamizwa  
ezinganqandeki, kodwa kodwa  
sahlukunyezwa kangaka senzeni kungeneni  
ngempela. kunani kulezugodi esizakhele  
sivele sibulawe bese bezenzele konke  
abakufisayo sesifile.

Ngoba kuzogcina kunodlame abasibulale  
okungcono kuchitheke igazi ukuze  
bazenzele ngoba bethi bangabelungu.

Sizodlelwa indawo zobabamkhulu  
ababelima, kuzona bedlisa imfuyo yabo  
khona, aphi amalungelo ethu kanti.

Ngisho isiboshwa sinamalungelo khona  
sibulele sonile okusalayo sinamalungelo.

Okubi ngoba abazange basitshela lutho.

Sebezositshela ukuthi kuzokwenzeka lokhu  
nalokhu kodwa asikaze sivumelane.

Abangakhaleli abantu ababaleka  
ezabelweni, ngoba bengafuni ukubuswa  
aMakhosi, sahlala thina ngoba siwathanda  
aMakhosi ethu. U<sup>M</sup>ongameli uZuma.uthi

uma singaka kwazi ukuzenzela okwethu  
kusobala asikabi nenkululeko.  
Thina sifuna ukuzilimela, sizodlelwa  
izindawo zethu, kodwa abantu babuyiselwa  
izindawo noma imihlaba yabo.

**SIHLUKUNYEZELWANI KODWA KANGAKA.**





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2157

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Ferndale  
2194

Phone: (011) 781 1730  
Fax: (011) 781 1731  
Email: donavanh@nema.co.za

# IPROJECTI EHLONGOZWAYO YAMANZI EMKHOMAZI – ISIGABA1

AMANZI EMVELO –

Inombolo eyinkomba ye-DEA:

- Idamu iSmithfield - 14/12/16/3/3/3/94
- Izingqalasizinda zokuhambisa amanzi - 14/12/16/3/3/3/94/1
- Edamini elilinganisayo - 14/12/16/3/3/3/94/2

## IFOMU LEMPENDULO

<b>Usuku</b>			<b>Official use</b>
<b>Ilunga okulona (uma likhona)</b>			<b>Date received:</b>
<b>Igama lonentshisekelo nothintekayo</b>			<b>Our reference:</b>
<b>Ikheli</b>	<b>Ieposi</b>	<b>Iendlu</b>	<b>Status</b>
<b>Ucingo.</b>			
<b>Isikhahlamezi.</b>			
<b>mail</b>			

**Ukuphawula:**

①

• 14/16  
0720908379 Hadebe Mpendle

UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER & POTABLE WATER COMPONENTS

Comparison of Options – Baynesfield Estate

Raw Water Components (DWS)	Alternatives	Preferred Option (✓)	Motivation
Conveyance Infrastructure	Route to WTW Option 1	✓	Less interference with existing pipelines You will have interference with a lot of water pipes on this route
	Route to WTW Option 2	✗	
	Route to WTW Option 3		
Balancing Dam Area	Mbangweni Balancing Dam	No	There is less loss of arable land.
	Langa Balancing Dam	✓	
	Option 1	No	
Road – Balancing Dam	Option 2	No	I have attached a map which actually shows a better alternative
Potable Water Components (Umgeni Water)	Alternatives	Preferred Option (✓)	Motivation
Water Treatment Works (WTW)	Option 1	✓	There is less loss of arable land.
	Option 2	✗	
	Option 3		
Potable water pipeline – Western Section	<del>Option A</del>		I don't see this on the map.
	<del>Option B</del>		
	<del>Option TB</del>		



# COASTWATCH KZN

135-408 NPO

P O Box 343  
Pennington  
4184  
afromatz@telkomsa.net

14 August 2016

Nemai Consulting  
P O Box 1673  
Sunninghill  
2194  
[DonavanH@nemai.co.za](mailto:DonavanH@nemai.co.za)

Coastwatch, WESSA Durban Branch and Birdlife Port Natal, non-governmental organisations formed by volunteers and operating with support of people interested and/or affected by issues relating to the area share interest in development and change of land use applications in the eThekweni area. The organisations serve to ensure that development in the eThekweni area is appropriate, sustainable and legally compliant. The following comments are submitted on behalf of these organisations.

## **PROPOSED uMKHOMAZI WATER PROJECT PHASE 1** **RAW WATER COMPONENTS**

1. Smithfield Dam 14/12/16/3/3/3/94
2. Water Conveyance Infrastructure 14/12/16/3/3/3/94/1
3. Balancing Dam 14/12/16/3/3/3/94/2

### **PROJECT BACKGROUND**

The current water resources of the Integrated Mgeni Water Supply System (WSS) are said to be insufficient to meet the long-term water requirements of the system. Pre-feasibility investigations have indicated that Phase 1 of the uMkhomazi Water Project (uMWP-1), which entails the transfer of water from the undeveloped uMkhomazi River to the existing Integrated Mgeni WSS, is the scheme most likely to fulfil this requirement.

The Mkomazi-Mgeni Transfer Pre-feasibility Study concluded that the first phase of the uMWP would comprise a new dam at Smithfield on the uMkhomazi River near Richmond, a multi-level intake tower and pump station, a water transfer pipeline/tunnel to a balancing dam at Baynesfield Dam or a similar in-stream dam, a water treatment works at Baynesfield in the uMlaza River valley and a gravity pipeline to the Mgeni bulk distribution reservoir system, below the reservoir at Umlaas Road. From here, water will be distributed under gravity to eThekweni and possibly low-lying areas of Pietermaritzburg.



c/o 100 Brand Road, Durban 4001  
Coastwatch operates as a Friend of WESSA, committed to the well-being of the KwaZulu-Natal Coast  
Reg. No. 05/04658/08 (Incorporated Association not for gain) FRN 01 1000 78 000 3

Coastwatch limits its comment to the raw water component of the project.

#### COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT REPORT

Module 2 of the project, which follows the pre-feasibility studies, comprises the environmental impact assessment of the raw water component of the inter-basin transfer scheme. Coastwatch is concerned about potential downstream impacts of the in-stream Smithfield Dam on the uMkhomazi estuary and associated marine environment.

Various alternatives to supplying the demands of the Integrated Mgeni WSS have been considered and they are discussed. The alternatives which have been screened include measures to increase the water resource, desalination, re-use, water conservation and demand management, as well as the use of groundwater. In-stream storage was not considered to be viable for this project (explained in Section 9.15.1) and Coastwatch's contention that restoration of ecological infrastructure be considered as a measure which would enable the size of the dam to be reduced has been considered, however this measure comes too late to influence this specific project.

Despite the outcomes of the pre-feasibility study Coastwatch is extremely concerned about the intended damming of this strategic river.

- Impacts of an in-stream dam are not unknown yet it is being considered as a means of providing water when the impacts from the project will lead to deterioration of the very resource on which so many people rely for their lives and livelihoods. The EIA has failed to effectively look at alternatives to dealing with the water supply issue and has undertaken the "business as usual" approach to water supply which is simply to build a dam and pipe the water ie it assesses this pre-determined option rather than fully evaluating the full range of environmental impacts of this option against others. With the planet struggling to support humanity we need to adopt new approaches, including water storage, supply and use.
- How and by whom will the catchment be rehabilitated and restored to ensure that the dam does not fill up with silt and quickly lose capacity and thus become a fruitless and wasteful expenditure of public funds?
- For how many years will a catchment management budget be allocated and how much money will be provided?

- How will the river downstream of the dam be able to function to achieve the objectives and classification that are in the process of being gazetted for the river and the estuary?
- How will the downstream users be assured of a water supply when they currently have their lives and livelihoods affected by the regular drought low flow situations?

### IMPACTS ON THE uMKHOMAZI RIVER SYSTEM

Although 19 rivers (nationally) have been identified as flagship free-flowing rivers, this does not include the uMkhomazi River (Nel *et al.* (2011), the conservation status of the rivers in the study area as defined by the National Freshwater Ecosystem Priority Areas (FEPA) assessment is provided (Figure 130). FEPA rivers, wetlands and estuaries need to stay in a good condition in order to conserve freshwater ecosystems and protect water resources for human use (Nel *et al.*, 2011).

The proposed Smithfield Dam (dam site) and associated infrastructure (*inter alia* balancing dams, gauging weir, raw water pipelines, roads, quarry and borrow pits, waste disposal site for spoil) will directly impact sections of the Mkhomazi and Luhane river and wetlands which are classified as FEPA systems.

The following major impacts are of concern.

- Loss of wetlands and riparian/riverine areas

The Aquatic Impact Assessment describes the loss of wetland and riverine habitat. Approximately 135 ha of riparian vegetation and 55 ha of wetland habitat will be lost with the construction of Smithfield Dam. Approximately 44 ha and 59 ha of wetland habitat will become inundated with the completion of Langa and Mbangweni Balancing Dams, respectively. In addition, the Smithfield Dam FSL inundates approximately 17 km of the uMkhomazi River (main stem).

Mitigation of these losses is not dealt with in the EIA process and has been deferred.

- uMkhomazi Estuary

The Estuary Importance Score takes size, the rarity of the estuary type within its biographical zone, habitat, biodiversity and functional importance of the estuary into account. Biodiversity importance, in turn, is based on the assessment of the importance of the estuary for plants, invertebrates, fish and birds, using rarity indices. Based on this Estuary Importance was estimated at 85, i.e. the estuary is rated as “Highly Important”. The functional importance of the uMkhomazi Estuary is very high. It serves as an important nursery for exploited fish stock and plays a very important role from a fish egg production perspective. In addition, it is also an important movement corridor for eels (CITES listed species).

Can the required B Category be achieved with the increased impacts on the system from the uMWP?

The system forms part of the core set of priority estuaries in need of protection to achieve biodiversity targets in the National Estuaries Biodiversity Plan for the National Biodiversity Assessment. Taking the current conditions (PES = C), the reversibility of the impacts, the ecological importance and the conservation requirements of the uMkhomazi Estuary the REC for the system is a B Category.

- Coastal Sediment

Section 11.2.4.2, Potential Impact on Coastal Sediment Budget and Shoreline Stability, discusses the simulated net effect of the proposed dam as follows: a 46 000 m<sup>3</sup>/a reduction in sand load at the mouth is expected. The pre-dam mean sand load at the river mouth was calculated as 352 000 t/a, while the post dam sand load is calculated to be 287 000 t/a, with an estimated reduction of sand load of 74 000 t/a (a 21% reduction in sand yield on this river). The main focus is on the shoreline stretching from just south of the uMkhomazi River mouth northwards to Durban. This reduction in sand yield represents a reduction of 18% of all the inland sand load of all the rivers (from the river mouth to Durban), and a 10 % reduction in total load at Durban (river and longshore inputs combined).

This residual impact has not been/cannot be mitigated.

## IMPACT STATEMENT

An Environmental Impact Statement is provided alongwith critical environmental activities that need to be executed during the project life-cycle. It is recommended that further investigations are conducted based on EIA findings and recommendations.

In our opinion investigations which are deemed relevant to achieve the required outcomes of the project must be undertaken during the EIA and not deferred to future processes (for example the biodiversity offsets and required ecological infrastructure restoration).

### IMPACT MITIGATION AND MANAGEMENT

The mitigation of negative impacts on biodiversity is a legal requirement for authorisation purposes. In dealing with the range of potential ecological impacts to natural ecosystems and biodiversity mitigation is best achieved through the incorporation of the recommended impact management and mitigation measures into a suitable Environmental Management Programme (EMPr) for the project, separated into construction and operational phase. The EMPr should define the responsibilities, budgets and necessary training required for implementing recommendations made in the report. It will need to include appropriate monitoring as well as impact management and the provision for regular auditing to verify environmental compliance.

The EIA Report concludes with key recommendations and identifies critical environmental activities that need to be executed during the project life-cycle. As certain of the critical environmental activities, ie mitigation measures, for the raw water component of the uMWP-1 are either not the responsibility of the applicant or there is shared responsibility with other entities mitigation of the impacts from the construction and operation of the dams and infrastructure is not in any way assured at this stage of the process.

Specific interventions are required by roleplayers who will not be legally bound by the conditions of environmental authorisation and the EMPr. How will their responsibilities and budgets be defined?

### ADDITIONAL CONSIDERATIONS

- We suggest that the DUCT and uMzimvubu Catchment Management Partnership Programmes for workable models for rehabilitating and restoring catchments are considered;
- Climate Change. We support the recommendation that studies to establish the net greenhouse gas footprint of Smithfield Dam are undertaken, and that the greenhouse gas emissions from the dam following impoundment be monitored to determine the difference between the emissions with and without the reservoir. This must be documented and the lessons learnt must provide guidance for managing greenhouse gas emissions for future DWS dams;
- The inclusion of a hydro-electric power facility on the water conveyance infrastructure as an alternative to the national grid makes good sense.

Thank you for the information.

Yours faithfully



C SCHWEGMAN



## UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/3/94/2

### COMMENT SHEET – Review of Draft EIA Report

*(Complete and return to Donavan Henning by **15 August 2016**)*

<b>Date</b>	14 August 2016		<b>Official use</b>
<b>Name of organisation (if applicable)</b>	N/A		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	Jessica Cockburn		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	4 Cross Street Grahamstown 6139	4 Cross Street Grahamstown 6139	
<b>Telephone No.</b>	072 1022875		
<b>Fax No.</b>	N/A		
<b>Email</b>	jessicacockburn@gmail.com		
<b>Location where report was reviewed:</b>	Online, via email		

**Comments:** (note - additional pages may be included if the space provided is insufficient)

Dear Donovan

My comments on the Draft EIA Report for the UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT relate to two issues:

- 1) They relate primarily to my concerns about the **threat which this water project, in particular the pipeline, poses to the critically endangered Blue Swallow population** nesting in the affected area. Furthermore,
- 2) Secondly, I am also concerned about **the manner in which the potential threats to the Blue Swallow have been dealt with in the EIA process and the transparency and quality of the EIA process** for this project to date, and feel that there has been a lack of transparency and insufficient attention paid to the severity of the threat to this critically endangered bird species.

I will elaborate on these two issues below, and ask that you please respond to my comments in writing, and that you address my concerns in this EIA process.

### 1) Threat to Blue Swallows:

According to the Environmental Impact Assessment Draft avifaunal Specialist Study (direct quotes):

*“However the EIA phase now requires us to assess this option, which will pass through the Impendle Nature Reserve and Important Bird Area. Given that the road will be on the lower slopes of the mountain, and in parts through settled areas, we believe the destruction of habitat to be of medium significance. However we note that Wakelin and Hill (2007) previously stated that no grassland within 4km of Blue Swallow nests should be destroyed (which will occur for this road). Disturbance of birds such as Blue Swallows on top of the mountain (approximately 2km) by noise and vibration during road construction is a more serious concern.”*

And:

*“The tunnel does pass under a core Blue Swallow *Hirundo atrocaerulea* breeding area, identified as an Important Bird Area. The drilling or tunnelling process could potentially impact on Blue Swallows breeding above, through disturbance by noise or vibration. Disturbance could result in loss of breeding productivity for the relevant population of swallows, or total breeding failure for the relevant season, or even long term abandonment of nest sites by breeding pairs. For such a threatened species any loss of breeding productivity would be highly significant. We recommend that construction of the relevant section of tunnel may only take place in the swallows’ non-breeding season (April to August – exact dates to be confirmed by specialist in relevant seasons). We will require more technical information on the extent to which tunnel drilling will create noise and vibration, and the nature of the adits.”*

And:

*“There is no doubt that it would be better for avifauna and particularly Blue Swallows if this area was not used for the balancing dam. The scoping phase avifaunal report recommended that an alternate site be sought, however the proponent has informed us that is not possible. This report recommends that the Mbangweni Dam site be selected. Construction may however not take place during the Blue Swallows breeding season (approximately September to March – (exact dates to be confirmed by an avifaunal specialist in the relevant season). We will require more information on the exact nature of noise created by construction of the dam wall.”*

Based on these three sections of this report, it is obvious that there is **significant threat facing the Blue Swallow Population from a number of aspects of this project**. I do not feel that the project can continue without paying special attention to finding a way around this blue swallow breeding area. Even building and drilling out of breeding season could affect the swallows, since their nests might collapse from the vibrations or be damaged in other ways through construction activities.

**With only 35 breeding pairs remaining IN THE WHOLE WORLD, one cannot allow this level of impact on this population, and I do not believe that any mitigation efforts would be sufficient to reduce the risk. The pipeline should not be allowed to go under the habitat of these critically endangered birds, and neither should the balancing dam be constructed in the Baynesfield site.**

**2) Concerns about the manner in which potential threats are dealt with in the EIA process and the transparency and quality of the EIA process to date:**

The name of the ecological expert authority who conducted the terrestrial fauna and flora assessment is not clear – was this Ronald Phamphe from Nemaï Consulting? Surely a local expert not have been a better choice, considering these are threatened ecosystems and critically endangered species.

It would appear that there was insufficient public participation notice given in the lead up to this project. A friend of mine who lives on one of the affected farms only heard about this project over a year into the process – how is this possible? This casts doubt on the transparency and quality of the EIA process to date.

The comments in the avifaunal report about relocation of the balancing dam in the Baynesfield area indicates a lack of serious attention being paid to recommendations by the avifaunal experts *“The scoping phase avifaunal report recommended that an alternate site be sought, however the proponent has informed us that is not possible”*. If the proponents do not take this kind of recommendation seriously in the EIA process, that also calls into question the transparency and quality of the process, since it is after all an ENVIRONMENTAL impact assessment, and the impacts of the project on the environment and on CRITICALLY ENDANGERED species need to be addressed in all seriousness.

**I call on Nemaï Consulting to re-consider the serious threat which this project poses to Blue Swallows, and to take heed of the suggestions from the avifaunal expert about the threats to the Blue Swallows.**

**There are only 35 breeding pairs of these birds left, and this EIA process needs to be cognisant of that and make plans to move the pipeline and balancing dams away from these sensitive habitats.**

I would hereby like to please register as an Interested and Affected Party for the UMKHOMAZI WATER PROJECT PHASE 1 – RAW WATER COMPONENT.

My name: Jessica Cockburn

Address: 4 Cross Street, Grahamstown, 6139

Phone number: 072 1022875

E-mail address: [jessicacockburn@gmail.com](mailto:jessicacockburn@gmail.com)

I look forward to further correspondence from you on this matter. In the interests of future generations, and all of nature, let us do all we can to save the Blue Swallows.

Yours faithfully,

Jessica Cockburn

**For the attention of**

Mr D Henning  
 Nemai Consulting  
[donavanh@nemail.co.za](mailto:donavanh@nemail.co.za)

**Date:** 12 August 2016

**Your ref:** D Henning

**Our ref:** A Armstrong/sp/MAT3272

**Direct dial:** 031 940 0501

**Email:** aldinearmstrong@eversheds.co.za

**By e-mail**

Dear Sirs,

**RESPONSE BY RCL FOODS CONSUMER (PTY) LTD (RCL) TO THE PROPOSED  
 UMKHOMAZI WATER PROJECT PHASE 1: POTABLE WATER COMPONENT:  
 DRAFT EIA REPORT AND THE EMP**

**INTRODUCTION**

1. We are instructed by RCL Consumer Foods (Pty) Ltd (RCL) to submit comments and/or objections to the draft Environmental Impact Assessment Report (draft EIAR) of the potable water component to the proposed Umkhomazi Water Project Phase 1 brought by Umgeni Water Amanzi. RCL owns the following properties that will be affected by the proposed pipeline project, according to the draft EIAR.

-Erf 41 of Portion 6 Umlaas Road

-Erf 1174 of Portion 20 Umlaas Poort

-Erf 1174 of Portion 10 Umlaas Poort

-Erf 881 of Portion 6 Hopewell

-Erf 881 of Portion 43 Hopewell

-Erf 30 Umlaas Road

2. RCL submitted representations during the scoping phase of the project and had discussions with representatives of Knight Piesold, Umgeni Water (G. Subramanian) in March 2014, with Umgeni Water (Dharam Kadathlala) in November 2015, and with the environmental assessments practitioner (EAP),

**Partners:** Peter van Niekerk (Managing Partner), Andrew Turner (Senior Partner, Dbn), Donovan Avenant, Deon de Beer, Robyn de Kock, Tyron Fourie, Michael Hough, Leigh Jepson, Lauren Kelso, Sandro Milo, Sara-Jane Pluke, Greg Shapiro, Tanya Waksman, Grant Williams

**Snr Associates:** Robyn Downs, Helen Geldard, Lara Wills

**Associates:** Anastassios Anestidis, Michelle Arbuckle, Daniella Brain, Monique Gresse, Kelly Hutchesson, Glynn Kent, Heather Marsden, Naledi Mdyesha, Justine Musiker, Michael Peters, Farril Rosen, Laura Schiebusch, Tomiwa Toriola

**Consultants:** Aldine Armstrong, David Asherson, Angela Clark, Richard Pemberton

Nemai Consulting (D. Henning) in December 2015. Attached marked Annexures "A1" and "A2" is correspondence arising out of the December meetings.

3. The concerns raised by RCL related to the proposed routing over the above mentioned portions.
4. Specific attention was given to the routing across Erf 41 Portion 6 Umlaas Road, notably labelled Option 1 (the green route) on Appendix "A2" of Annexure "A1" and Annexure "A2", (turquoise route) in Figure 36 on page 122 ( the Blue route) on page 130 of the draft EIA report. This routing dissects the property preventing development that has been approved. Details of this is provided below. Two alternate routes were proposed by RCL as depicted in Appendix 3 of Annexures A1 and A2. A third route was proposed by the engineers Knight Piesold (KP) in its report dated 19 January 2016, attached as Annexure B. The route is reflected in figure 9 on page 8 of that report and is carried through into the draft EIAR as Option 1F (the green line) in figure 51 on page 130 of the draft EIAR. This has been accepted by the engineers, the specialists, and the EAP as the preferred route over erf 41, portion 6 Umlaas Road.
5. In respect of the other sites, RCL has concerns relating to construction of the pipeline due to its vicinity to its chicken houses. RCL has strict biosecurity rules. These rules relate to the prevention of the transmission of disease and the prevention of conditions or vectors that will cause discomfort and affect the immune systems of the birds that may affect the health and breedability of the birds. The breeding operation cannot accommodate excessive noise and dust or any blasting and vibrations arising out of construction activities. The social and economic impacts that can result if these recommendations are not implemented will result in a fatal flaw to this application. Those details are also provided below.
6. On a general note, there is an error in the executive summary of the Potable Water draft EIA at page I where it states that this document serves as the draft EIA report for the raw water component where it should read potable water component.
7. Further, the header of the report incorrectly reflects that it is the final scoping report.

#### **ERF 41 OF PORTION 6 UMLAAS ROAD**

8. RCL's concerns in respect of the routing over this property relates to Option 1, the green route on Appendix "A2" of Annexure "A1" and "A2", turquoise route in Figure 36 on page 122 and the Blue route on page 130 of the draft EIA report ( all the same route represented in different figures). The development of a logistics hub and warehouse has been approved on Erf 41 Portion 6 Umlaas Road in terms

of an environmental authorisation under the National Environmental Management Act, 1998 (NEMA) and under the Municipal Town Planning Scheme. The proposed Option 1 pipeline would prevent this development from proceeding due to the fact that it dissects the property into two. As a consequence of the discussions held with both Umgeni Water and NEMA it was agreed that Option 1 would fall away as an alternative route entirely.

9. Further as a consequence thereof RCL submitted two alternative proposed routings in order for the pipeline to be able to connect to the tie-in point of the existing aqueduct. Those alternatives are reflected at Appendix 3 of annexures A1 and A2, and in Figure 6 of the document produced by KP at Annexure "B". KP then presented a revised route as reflected in the blue route at Figure 9 of Annexure "B". It appears as if the pipeline route in Figure 9 is the same as the green line pipeline route reflected as Option 1F in figure 51 on page 130 of the EIA Report. (It is recorded that the draft EIAR report is confusing as depending on which figure one is considering the labelling and colour of the respective pipelines changes.) Whilst RCL would prefer an alternate route proposed by it as reflected in Figure 6 it hereby submits its comments in relation to the route as reflected in Figure 9 of Annexure "B" and Figure 51 Option 1F of the draft EIAR.
10. RCL was given to understand By Umgeni Water that Option 1 as it relates to Erf 41 Portion 6 Umlaas Road would fall away entirely. It is concerned to note that this is not reflected throughout the report. It is noted that Option 1 is still included in figure 51.
11. It is recorded however that Option 1 F is recommended as the preferred option, and the best practicable environmental option, in the discussions of the alternatives, and as is recorded at page 388 and 389 of the report.
12. RCL objects to the draft EIAR in that it still incorrectly records Option 1 over erf 41 portion 6 Umlaas Road, as an alternative in the following instances:
  - On the condensed locality map on page II and listed as an alternative in the table at page V;
  - Option 1 is still reflected in Figure 9, the locality map on page 14;
  - Option 1 as it relates to Erf 41 Umlaas Road is included as an alternative at page 62 and as such this reference should be amended.
  - Appropriate routing considerations as it effects Erf 41 were not considered and are not reflected on page 64.

- Table 28: Potable water pipeline routes: Discarded and Feasible options - page 114. It is noted that Option 1 as it relates to Portion 41 Umlaas Road is still reflected and is not discarded as an alternative. Option 1F is not included as a feasible option.
  - The same applies to table 129.
  - Figure 36 still depicts Option1 on erf 41.
  - Figure 51 on page 130 - Option 1 as it relates to Erf 41 is still reflected and is not acceptable. Option 1F as it appears in Figure 51 is acceptable to RCL. RCL accepts the discussion of route Option 1F as it appears in Figure 51 and discussed on page 132 and 133.
13. The draft EIAR does not address or quantify the social and economic impacts of Option 1 as opposed to option 1F, and the devaluation of property in respect of Umlaas Road Erf 41, and the consequential damages, and as such renders the report fatally flawed in this regard.
14. At paragraph 9.7.6 on page 148 of the EIAR the additional alternatives to the pipeline route in the Umlaas Road area as suggested by RCL is discussed. They are marked in black and blue on figure 75, and in Appendix A3 of Annexure A1 and A2. The yellow alternative pipeline option 1E as it relates to erf 41 is also not an option as it still compromises the use of a significant portion of the authorised area both in terms of its rezoning and in terms of its EA. RCL remains of the view that the yellow route could be more refined to align it more with the blue route. Option 1F as it appears in Figure 51 on page 130 does appear to be a compromise between option 1E and the blue route as proposed by RCL.
15. This route appears to be acceptable to RCL.
16. The executive summary states: "*The EIA report provides an appraisal of all the environmental and technical considerations associated with the various alternatives through a comparative analysis to eventually distil the best practicable environmental option (BPEO).*" Option 1 F is concluded to be the BPEO on pages 388 and 389 of the draft EIA Report.
17. RCL supports the recommendation of Option 1F over Erf 41 Portion 6 Umlaas Road as being the preferred option, and the best practicable environmental option, as is recorded at page 388 and 389 of the report **It is recorded that RCL cannot accept any other alternative but option 1F as it relates to Erf 41 Portion 6 Umlaas Road.**

## **CONSTRUCTION AND OPERATIONAL ACTIVITIES AS IT AFFECTS THE REMAINING SITES**

18. According to the draft EIAR The following sites will be affected by the construction and operational activities associated with the pipeline.
- Erf 1174 of Portion 20 Umlaas Poort
  - Erf 1174 of Portion 10 Umlaas Poort
  - Erf 881 of Portion 6 Hopewell
  - Erf 881 of Portion 43 Hopewell-Erf 30 Umlaas Road
19. RCL requested certain amendments to the routes which appear to have been accommodated in the draft EIAR, in particular as it relates to erf 1174 Portion 20 of Umlaas Poort, Erf 881 of portion 43 Hopewell.
20. The proposed pipeline passes between Erf 881 and Portion 6, Hopewell and Erf 881 Portion 43, Hopewell. It proceeds through a valley towards Farm 1174 Portion 10 Umlaas road. RCL records its concerns over the manner of construction proposed through the valley. Is the pipeline going to follow contours or be suspended? RCL records that it cannot tolerate blasting and that an alternate method of construction would have to be used in this area. This is to be confirmed and settled with RCL prior to the finalisation of the EMP and the construction programme.
21. Further, RCL uses a common road over these two properties that link the five rearing farms. It is critical that the use of this road not be disrupted. RCL requires that the construction of the pipeline route that will pass under the road be timed during the clean out phase of the closest farm that will be the most affected, with the tie-in to the pipeline being done at a later stage. This is also to be confirmed and settled with RCL prior to the finalisation of the EMP and the construction programme.
22. RCL referred the applicant to Tongaat Hullett who is the lessee of Erf 881 Portion 6 Hopewell for comment. RCL reserves its rights in this regard on the assumption that the applicant has constructively engaged with Tongaat Hulett. Notwithstanding that Tongaat Hulett leases the land from RCL, RCL still operates the two farms that are conducted from that property.
23. Notwithstanding that the pipeline does not traverse Erf 1174 Portion 10 Umlaas Road, and is positioned on Portion 1 of Farm no 17536, as KP states at paragraph 1.1.3 on page 2 of its report at Annexure B, the proposed pipeline route is still



close enough to RCL's farms to create unacceptable impacts during construction and operations which impacts must be mitigated and timed as detailed below.

24. RCL notes the amended route 1F as it relates to Erf 30 Umlaas Road. RCL records that where the route passes between the northern corner of its property Erf 30 Umlaas Road and that of Farm 885 Portion 114 there may be limited space to accommodate the pipeline and the construction servitude, as detailed at page 152 bullet 2 under "Advanced works" and as reflected in the photograph figure 11 on page 10 of Annexure B. It is recorded that there is a common drain within the vicinity of the proposed pipeline used for the washing of the houses that cannot be impacted upon. Further the pipeline cannot encroach closer to the uppermost broiler houses in the northern corner of the site, the proximity of the pipeline to the chicken houses already being extremely close as depicted in figure 6 and 11 of Annexure 6. This is also to be confirmed and settled with RCL prior to the finalisation of the EMP and the construction programme.
25. The draft EIA is deficient in that it does not sufficiently acknowledge the role and position of the RCL facilities in the area and the impacts that may result to RCL and to SA's food security in the event that the impacts to RCL are not avoided or appropriately mitigated, as recorded above and below.
26. All the farms both in KZN and across the country form part of a highly complex value chain where each component of the production line is reliant on each other - from the importation of pedigreed day old chicks from the UK to the final stage of slaughter and onward sale to retailers and restaurants, including KFC, Chicken Licken, Nando's, Woolworths, Spar and Pick n Pay.
27. There are 8 rearing farms of 4 houses each (32 houses). There are 49 000 birds in each house. There are 4 laying farms with 6 houses each (24). There are 26 000 birds in each laying house. There is one broiler farm with 24 houses with 31 000 birds in each house. A disruption to any one of these components will result in a knock on effect amounting to the loss of millions of birds and the loss of food security to the country.
28. If there is a even a 5% disruption to the farms, RCL will suffer direct losses of between R3 683 249,00 and R12 586 123,00. This does not take into account the multiplier effect on the value chain and on the losses in market share. This has the potential to run into millions. This calculation is also on the assumption that no blasting will take place.

29. The summary of the impacts arising at page 39 does not correctly reflect the economic and social impact on RCL if the construction and operational impacts are not avoided.
30. Table 8 sets out the competent authority's specific requirements. It is noted at paragraph F that the impacts and effects of the development on the surrounding area must be identified. The impacts on RCL have not been recorded.
31. Paragraph I states that a construction and operational phase EMPR must include mitigation and monitoring issues. The requirements of RCL recorded above, and below must be included.
32. Further, paragraph J makes reference to blasting being required based on geotechnical conditions encountered. It is categorically stated that no blasting can take place on any farms owned by RCL or within 1 (one) kilometre of any of its poultry facilities. Alternative construction methods must be used.
33. No spoil sites can be within the vicinity of any of the RCL chicken houses.
34. Site Camp 2 Hopewell discussed at page 163 needs to be positioned in consultation with RCL.
35. The summary of the socio economic impact assessment and the social impact assessment from pages 263 to 268 fails to acknowledge the economic and social contribution of RCL both in terms of its viability and in terms of its contribution to food security in South Africa. It fails to take cognisance of the employment of the 100 direct employees and the some 8000 employees employed around the country that are reliant on the success of the KZN facilities. This failure is repeated in the technical economic impact assessment at pages 273 to 279.
36. The summary of the traffic impact assessment should also note the sensitivity of the RCL farms during the construction phase.
37. Table 50 from page 282 which identifies potential impact associated with key list of activities insufficiently notes the potential impacts to RCL.
38. The paragraph entitled "Issues raised by environmental authorities and I&AP's" at paragraph 12.1.3 from page 286 whilst it includes some of RCL's concerns, it does not note the real risk of disease and conditions that may impact on the sensitive well-being of the birds that must be controlled by strict biosecurity measures. Those measures are attached marked **C1-3**. Whilst biosecurity was raised in the meetings with the applicant there has been no further contact from the EAP in this regard in order to include it in the EIAR. This must be included as a condition of

authorisation and included in the EMP. The details and operational logistics must be recorded in an agreement with RCL prior to construction, and must be binding on all contractors. The consequences of the failure of Biosecurity are recorded in the veterinarian report attached marked **D**.<sup>1</sup>

39. In terms of table 51 and the pre-construction phase at page 289, it must be noted that negotiations and agreements with RCL must take place during the preconstruction phase. Significant attention is given to Baynesfield Trust whereas little attention has been given to RCL which requires the same attention.
40. Insofar as the project phase is concerned at table 52 on page 290 there can be no construction camps or storage of handling of material and fuel within the vicinity. It is reiterated that there can also be no blasting. An alternate means of laying the pipeline must be employed as opposed to blasting within at least 1 kilometres of any chicken house. The EMP in this regard must be settled in consultation with RCL.
41. In terms of the operation phase at table 53 on page 291 application and the settling of the EMP must be had with RCL in terms of maintenance or any other activities that may be required in respect of the operation of the pipeline. No direct access can be had to RCL's properties and issues of bio-security must be adhered to.
42. RCL's concerns are inadequately recorded at table 55 which relates to potential issues impacts within the construction phase and at table 56 which relates to those issues of the operation phase. As such, they are not discussed in the relevant paragraphs in the body of the EIA report.
43. RCL is not recorded in the ratings table at table 59 at page 316. There is no recognition of RCL in the discussion of the agricultural impact at paragraph 12.8 on page 326.
44. Insufficient attention has been given to the impact of noise and vibrations on the poultry at RCL chicken facilities at paragraph 12.11 on page 340.
45. The construction of the pipelines within the vicinity of RCL chicken houses must be timed during the 3-4 washing period – the only time during the year that the chicken houses may be empty.
46. The RCL's requirements detailed above must be included as conditions of the environmental authorisation (EA) if granted, and in the Environmental Management programme (EMP). Further specific RCL conditions are recorded below.

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<sup>1</sup> Whilst this report refers to the Isundu substation the construction impacts will be the same.

## RCL MANDATORY REQUIREMENTS FOR EA AND EMP CONDITIONS

47. Besides above, the following are mandatory conditions upon which RCL may accept the construction and operation of the proposed pipeline within the vicinity of its chicken houses:
- 47.1. Compliance with all biosecurity protocol to be agreed upon in consultation with RCL and in accordance with annexures C.
  - 47.2. No blasting within 1 km of a chicken house;
  - 47.3. Dust suppression by water or enclosure of hoses;
  - 47.4. Temporary fencing between construction of the pipeline and the chicken houses
  - 47.5. No construction camps within the vicinity of chicken houses (500m)
  - 47.6. No ablutions
  - 47.7. No waste sites
  - 47.8. No stockpiles or spoil sites
  - 47.9. No prevention of access or interruption of delivery trucks to and from the chicken farms
  - 47.10. No interruption to RCL's waterline
  - 47.11. No interruption RCL's borehole accessibility
  - 47.12. No storage or handling of hazardous fuel or goods
  - 47.13. No noise from vehicles or construction
  - 47.14. No disruption to access and egress of RCL facilities and to the delivery and transportation of chicks and eggs.
  - 47.15. Construction of the pipelines and pass ways under roads on RCL farms must be timed to be carried out during RCL's house cleaning periods
  - 47.16. Rehabilitation of property must be done immediately after construction.

## CONCLUSION

48. The draft EIAR needs to be amended prior to being submitted as final in order to incorporate the RCL requirements relating to Option 1 F over Erf 41 Portion 6 of Umlaas Road, and to remove reference to Option 1.
49. The draft EIAR needs to be amended prior to being submitted as final in order to incorporate the RCL requirements relating to the remaining sites that will be affected by the construction and the operation of the pipeline project.
50. The draft EIAR needs to be amended prior to being submitted as final in order to incorporate the significant financial and social contribution RCL is making to the economy. The final EIA needs to record the significant loss to RCL, the economy in general, to food security and the social fabric that will result due to any disruption to the RCL facilities and value chain, should the impacts not be avoided (such as blasting) and the mitigation measures not be implemented.
51. The conditions contained above need to be incorporated into the recommendations contained at page 404 of the draft EIAR.
52. The final EIAR was amended above needs to be provided to RCL prior to authorisation.
53. The conditions contained in this document, including the biosecurity protocols, need to be incorporated into the EA as conditions of authorisation, as well as incorporated into the EMP.
54. All conditions and biosecurity protocols re binding on all contractors.
55. RCL needs to be consulted in order to refine and formalise the above prior to construction taking place.

Yours sincerely,



**Aldine Armstrong**  
Eversheds

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**For the attention of**  
Mr D Henning  
Nemai Consulting  
[donavanh@nemail.co.za](mailto:donavanh@nemail.co.za)

**Date:** 17 December 2015

**Your ref:** D HENNING

**Our ref:** A ARMSTRONG/MAT3272

**Email:** [aldinearmstrong@eversheds.co.za](mailto:aldinearmstrong@eversheds.co.za)

**By e-mail**

Dear Sir

**Umkhomazi water project**

Thank you for meeting myself and Mr Alan Reddy from RCL Consumer Foods (Pty) Ltd (previously known as Rainbow Farms (Pty) Ltd) ("RCL") on the 10 December 2015. The purpose of the meeting was to confirm the various alignments of the pipeline relating to the Umkhomazi Water project.

RCL confirms that it has no objections to the alignment of the dark blue line shown as Pipeline Option 1C on annexure A1. However RCL has very strict protocols when it comes to the protection of its biosecurity during the construction and maintenance phases of the pipeline. RCL Foods will provide details during the EIA phase. Umgeni water and its contractors would have to confirm that the necessary protection measures can be implemented. The construction may have to occur in a phased manner to limit disruption to its operations.

RCL would like to have access to water from that pipeline once it has been established. Kindly investigate whether this would be possible.

The green corridor reflected in Annexure A2 is not accepted as it dissects the Property Umlaas Road erf 41. This site has recently been rezoned and received an environmental authorisation for the development of a warehouse. We confirm that you are in agreement that this corridor must be removed from further assessment as it is not appropriate. Kindly provide us with an updated figure where the green corridor has been removed in order to satisfy RCL Foods and any potential developers of erf 41 that the pipeline will not be traversing that property.

We attach Annexure A3 which provides two alternate alignments - depicted in blue and black. It was agreed that Umgeni's planning and engineering department would consider these alignments as possible alternatives. It would be appreciated if after your discussions you could revert to us regarding these alignments.

We look forward to receiving your response.

Yours faithfully

  
**Aldine Armstrong**

Eversheds




**Partners:** Peter van Hecke (Managing Partner), Andrew Turner (Senior Partner, Dbn), Donovan Avenant, Robyn de Kock, Miro Dvorak, Tyrone Fourie, Michael Hough, Leigh Jepson, Lauren Kelso, Wynne Kossuth, Sandro Mlo, Sara-Jane Plike, Greg E Shapiro, Tanya Waksman, Grant Williams  
**Snr Associates:** Robyn Downs, Nicole Slighly, Lara Wills  
**Associates:** Natalia Andriolakis, Spencer Cason, Helen Gelderd, Samantha Gramoney, Kely Hutchesson, Heather Mersden, Justine Musiker, Thalia Frozesky, Laura Schibusch  
**Consultants:** Aldine Armstrong, David Asherson

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**WINNER**  
INTERNATIONAL  
LAW FIRM  
OF THE YEAR

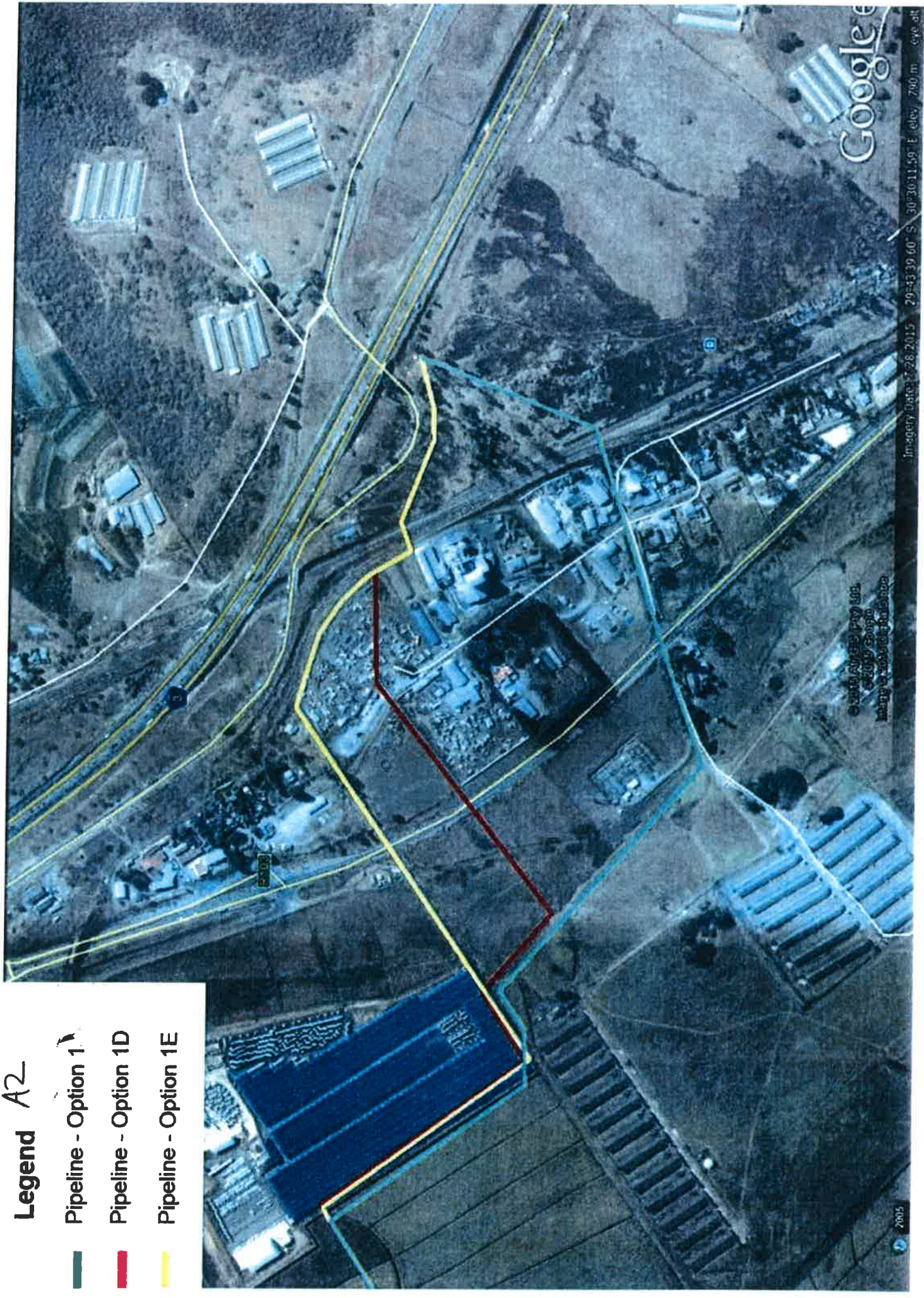
# Legend A1

-  Pipeline - Option 1
-  Pipeline - Option 1C
-  Powerline Link

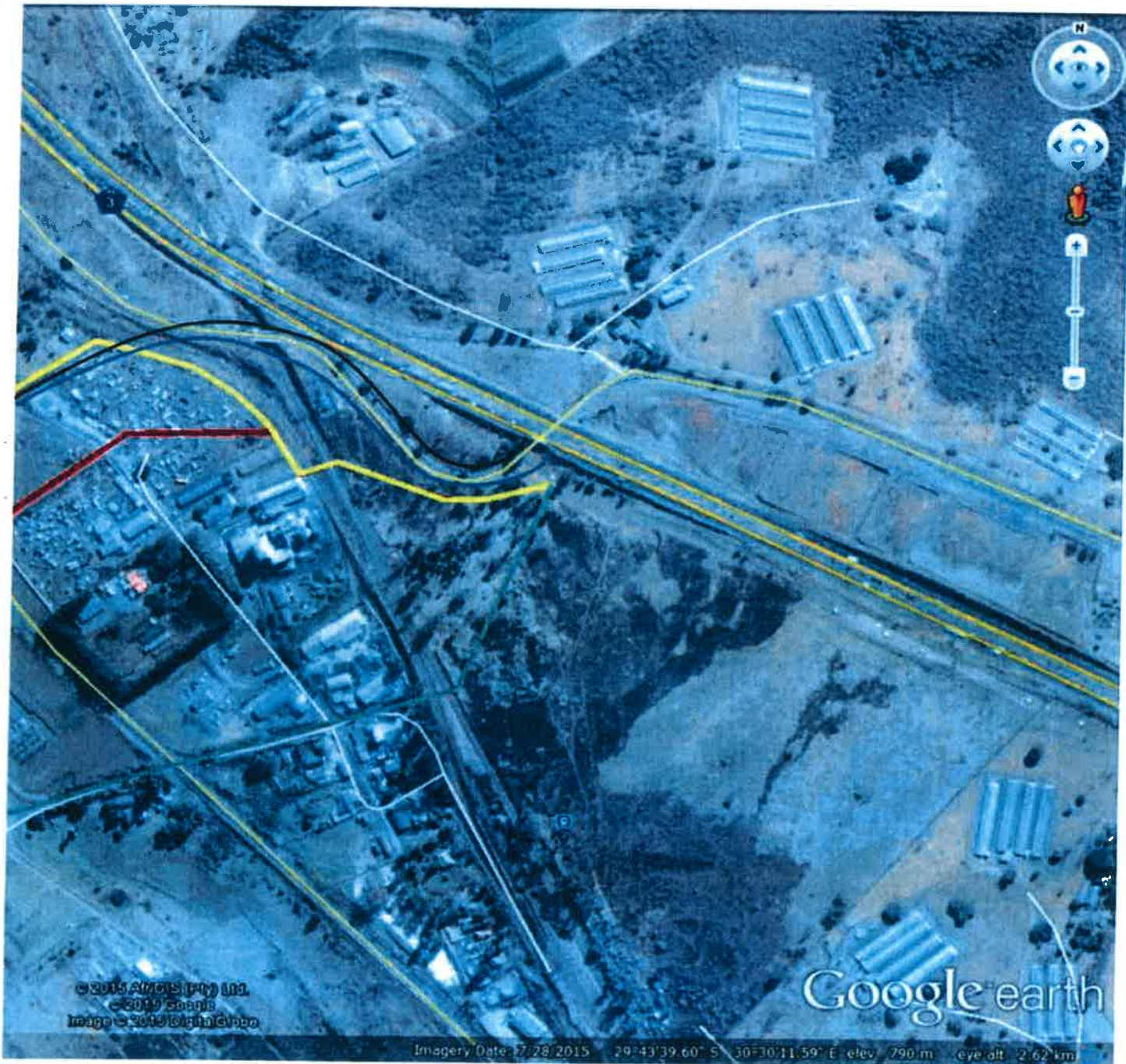


# Legend A2

- Pipeline - Option 1A
- Pipeline - Option 1D
- Pipeline - Option 1E







A3

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**For the attention of**  
 Mr D Kadathlal  
 Umgeni Water-Amanzi  
[Dharam.kadathlal@umgeni.co.za](mailto:Dharam.kadathlal@umgeni.co.za)

**Date:** 25 November 2015  
**Your ref:** D Kadathlal  
**Our ref:** A ARMSTRONG/MAT3272  
**Email:** aldinearmstrong@eversheds.co.za

**By e-mail**

Dear Sir

**Umkhomazi water project**

Thank you for meeting myself and Mr Hannes van der Merwe from RCL Consumer Foods ( Pty) Ltd (previously known as Rainbow Farms (Pty) Ltd) ( "RCL") on the 23<sup>rd</sup> of November 2015. The purpose of the meeting was to confirm the various alignments of the pipeline relating to the Umkhomazi Water project.

RCL confirms that it has no objections to the alignment of the dark blue line shown as Pipeline Option 1C on annexure A1. RCL would like to have access to water from that pipeline once it has been established. Would this be possible?

The green corridor reflected in Annexure A2 is not accepted as it dissects the Property Umlaas Road erf 41. This site has recently been rezoned and received an environmental authorisation for the development of a warehouse. We confirm that you are in agreement that this corridor must be removed from further assessment as it is not appropriate.

We attach Annexure A3 which provides two alternate alignments - depicted in blue and black. It was agreed that Umgeni's planning and engineering department would consider these alignments as possible alternatives. It would be appreciated if after your discussions you could revert to us regarding these alignments.

We look forward to receiving your response.

Yours faithfully

  
**A Armstrong**  
 Eversheds




**Partners:** Peter van Niekerk (Managing Partner), Andrew Turner (Senior Partner, Dbn), Donovan Avenant, Robyn de Kock, Miro Dvorak, Tyrone Fourie, Michael Hough, Leigh Jepson, Lauren Kelso, Wynne Kossuth, Sandro Milo, Sara-Jane Pluke, Greg Shapiro, Tanya Waksman, Grant Williams  
**Snr Associates:** Robyn Downs, Nicole Stiglingh, Lara Wills  
**Associates:** Natalia Androtiakos, Spencer Cason, Helen Gelderd, Samantha Gramoney, Kelly Hutchesson, Heather Marsden, Justine Musiker, Thalia Prozesky, Laura Schiebusch  
**Consultants:** Aldine Armstrong, David Asherson

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AI

**Legend**

-  Pipeline - Option 1
-  Pipeline - Option 1C
-  Powerline Link






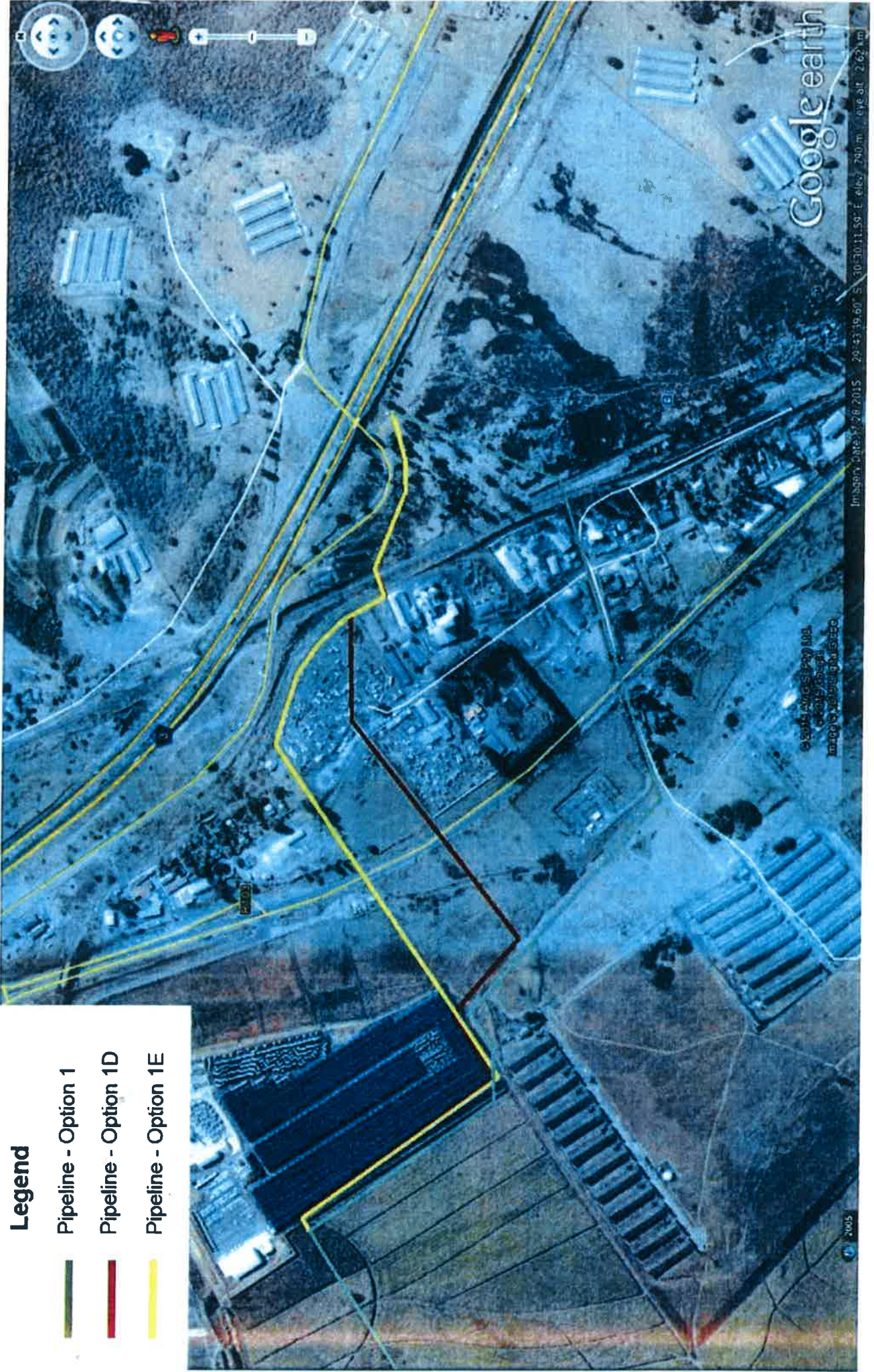
Google earth

© 2005 Google  
Imagery Date: 6/24/2015 29°45'02.31" S 107°25'39.59" E 666.786 m Eye alt: 2.23 km

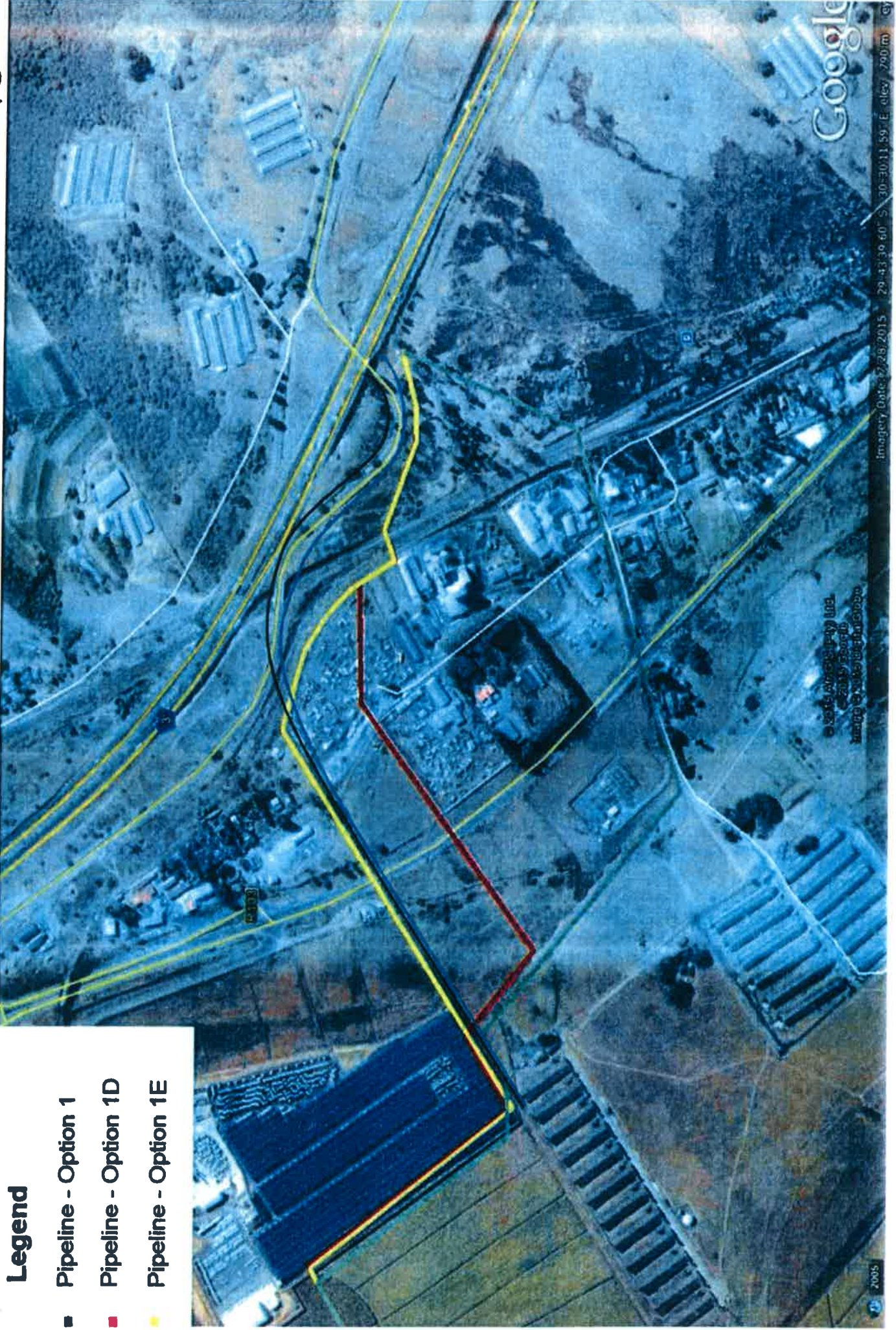
A2

### Legend

-  Pipeline - Option 1
-  Pipeline - Option 1D
-  Pipeline - Option 1E



A3



**Legend**

- Pipeline - Option 1
- Pipeline - Option 1D
- Pipeline - Option 1E

Technical Note	
To: Umgeni Water	From: Amal Doorgapershad
Att.: Gavin Subramanian	E-mail: adoorgapershad@knightpiesold.com
E-mail: gavin.subramanian@umgeni.co.za	Proj. No: DU30300413/01
Date: 2016/01/19	Doc No: KP: 30300413/01/TN01

## ROUTE ALTERATION PROPOSED BY RCL CONSUMER FOODS

### 1 Initial meeting

An initial meeting was held between representatives of Umgeni Water, Knight Piésold and Rainbow Farms (Now RCL Consumer Foods) in March 2014 to discuss the proposed uMkhomazi Pipeline Route. At the time of the initial design, five properties along the route were identified as being owned by RCL. The initial routes were discussed and revisions to the parts of the route affecting the RCL owned properties were agreed to by all parties.

#### 1.1 Affected properties

##### 1.1.1 Erf 881 Portion 6 Hopewell

There were no objections to the pipeline route through Erf 881 Portion 6. RCL notified Umgeni Water that the land is leased by Tongaat Hulett for the growing of cane and discussions regarding the construction duration should be held with Tongaat Hulett as well (Refer to Fig. 1).



Fig. 1 – uMkhomazi pipeline route affecting Erf 881 Portion 6 and Erf 881 Portion 43 Hopewell

### 1.1.2 Erf 881 Portion 43 Hopewell

The route traversing through Erf 881 Portion 43 Hopewell was amended to ensure that the pipeline centreline was a minimum distance of 50m away from the buildings (Refer to Fig. 1) as RCL has strict biosecurity protocols in relation to the construction and maintenance of the pipeline. RCL Foods will provide details during the EIA phase. Umgeni Water and its contractors would have to confirm that the necessary protection measures can be implemented. The construction may have to occur in a phased manner to limit disruption to RCL's operations. A portion of this property is leased by Tongaat Hulett.

### 1.1.3 Erf 1174 Portion 10 Umlaas Poort

There were no objections to the pipeline route alongside Erf 1174 Portion 10 Umlaas Poort as this portion of the pipeline will be constructed in the adjacent property which is not owned by RCL (Refer to Fig. 2).

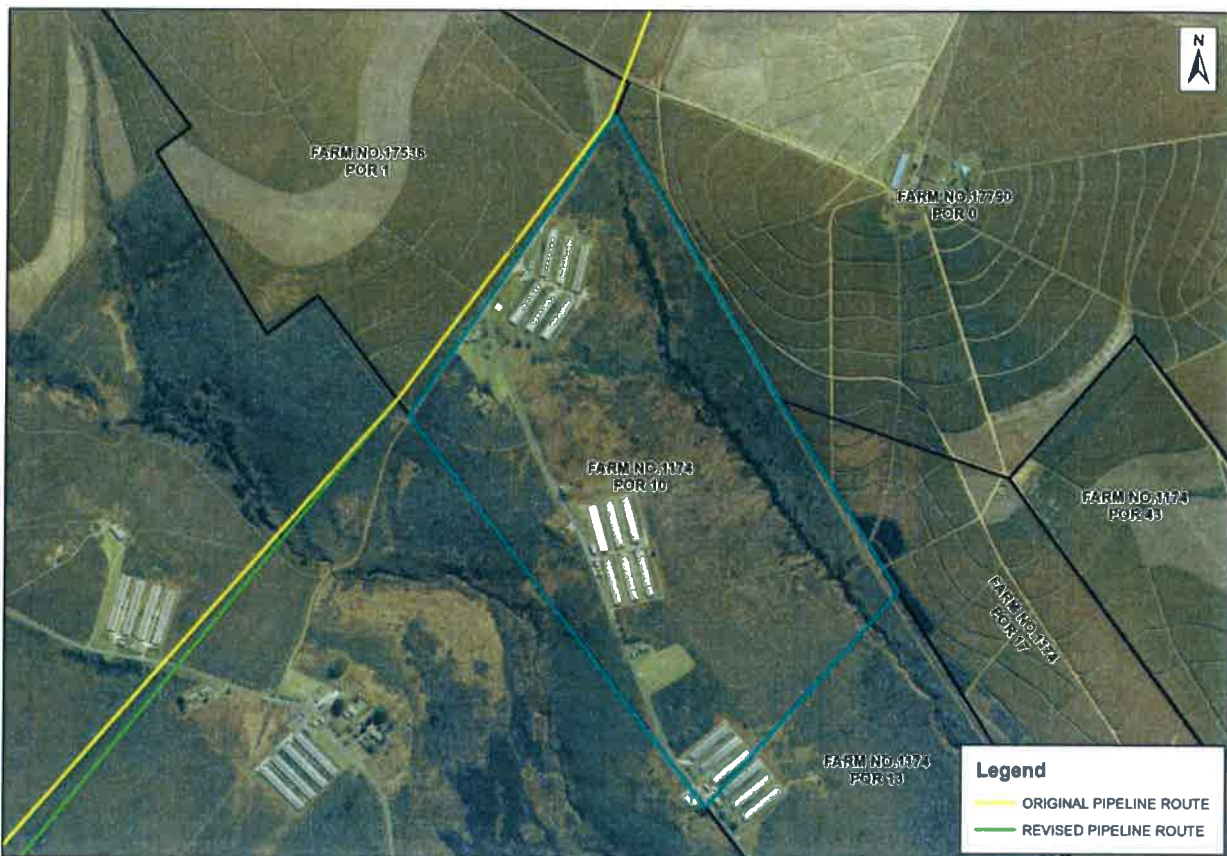


Fig. 2 – uMkhomazi pipeline route through Erf 1174 Portion 10 Umlaas Poort

### 1.1.4 Erf 1174 Portion 20 Umlaas Poort

In accordance with a request from RCL, the route traversing through Erf 1174 Portion 20 Umlaas Poort was amended to ensure that the pipeline centreline was an adequate distance away from the buildings to ensure minimal noise disturbances to the livestock (Refer to Fig. 3).

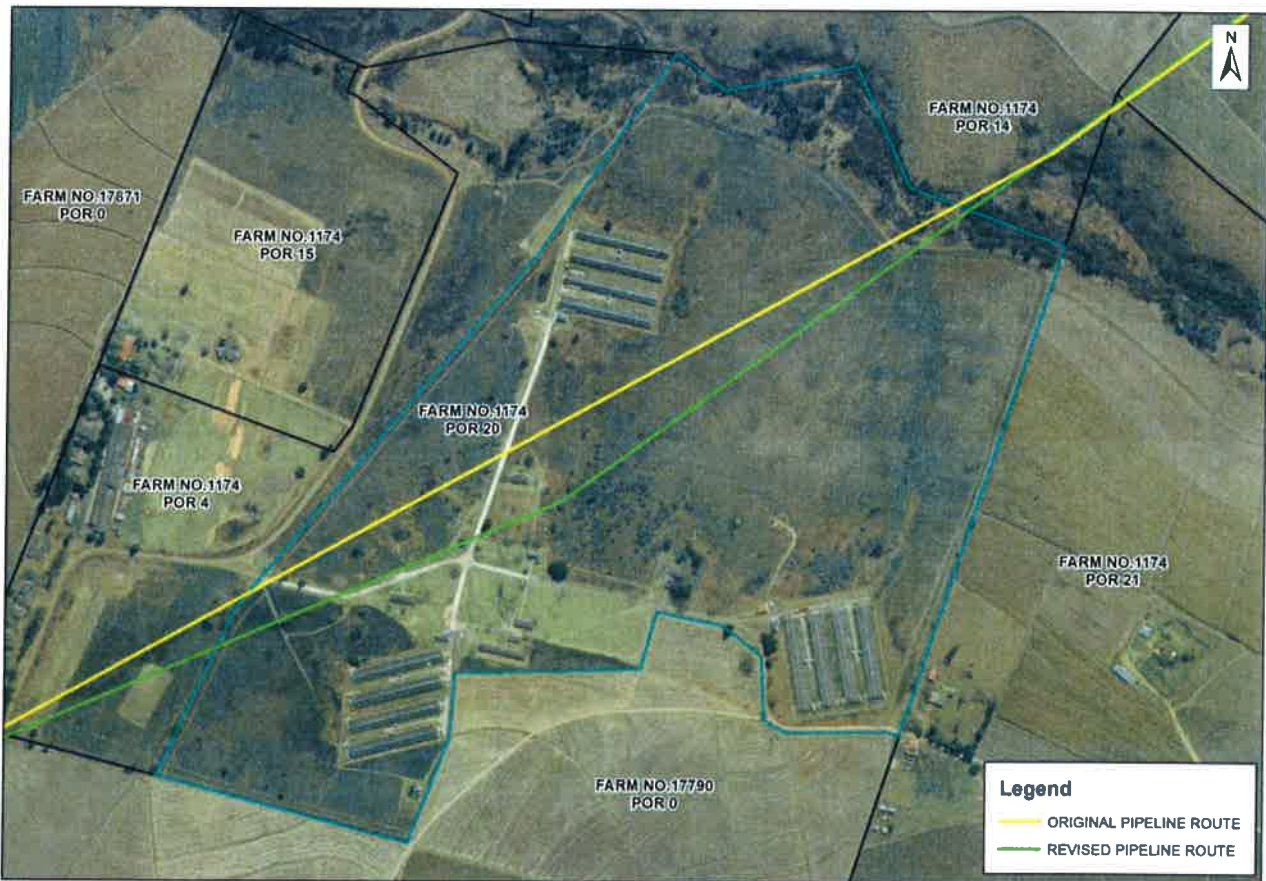


Fig. 3 –Umkhomazi pipeline route through Erf 1174 Portion 20 Umlaas Poort

### 1.1.5 Erf 30 Umlaas Road

The original pipeline route also traversed through property Erf 30 Umlaas Road also owned by RCL. The route was agreed to by RCL however other land owners in the area did not agree to the proposed route and an amended route was selected. The revised route had minimal impact to Erf 30 and was not objected to by RCL (Refer to Fig. 4).



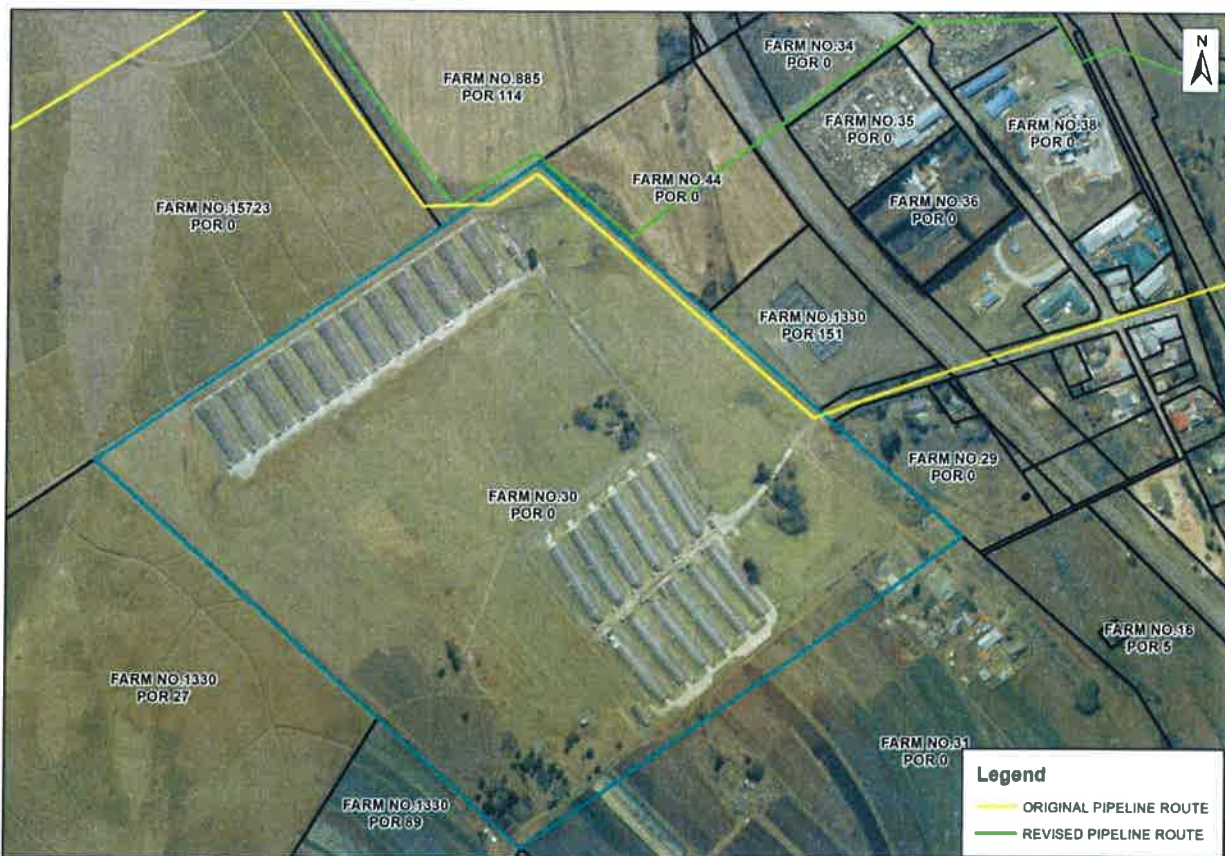


Fig. 4 – uMkhomazi pipeline route through Erf 30 Umlaas Road

## 2 Follow-up meeting

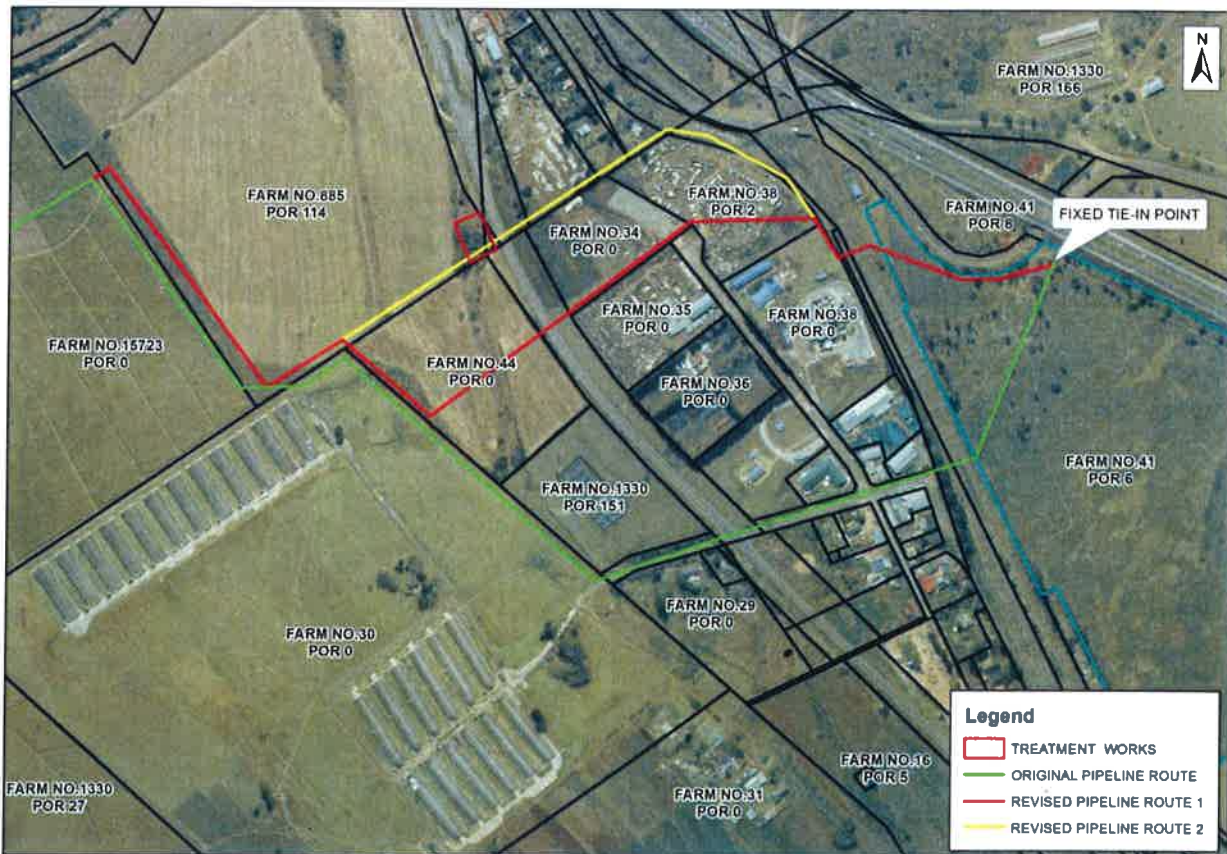
A second meeting regarding the Umkhomazi Water Project was held between Donovan Henning of Nemai Consulting, Aldine Armstrong of Eversheds and Alan Reddy of RCL Consumer Foods (RCL) on 10 December 2015. The purpose of the meeting was to confirm the various alignments of the pipeline relating to the uMkhomazi Water Project. During this meeting RCL confirmed the amended routes affecting the aforementioned properties; however a sixth property was identified as being affected by the pipeline route.

### 2.1 Additional affected properties

#### 2.1.1 Erf 41 Portion 6 Umlaas Road

At the time of the initial route planning, the owners of last property affected by the pipeline route could not be determined (Erf 41 Portion 6 Umlaas Road) and therefore no consultations were held with the owners.

In the latter part of 2015 it was found that this property is owned by RCL; who objected to the pipeline route through the property in a letter stating: "The green corridor (Refer to Fig. 5) is not accepted as it dissects the Property Umlaas Road erf 41. The site has recently been rezoned and received an environmental authorisation for the development of a warehouse. We confirm that you are in agreement that this corridor must be removed from further assessment as it is not appropriate. Kindly provide us with an updated figure where the green corridor has been removed in order to satisfy RCL Foods and any potential developers of erf 41 that the pipeline will not be traversing that property."



*Fig. 5 – uMkhomazi pipeline route through Erf 41 Portion 6 Umlaas Road*

The pipeline route was revised (indicated in red in Fig. 5) to minimise the impact on Erf 41 Portion 6 as well the impact to businesses using the through road. This route however was also rejected by a few land owners as the route would traverse through their business properties. A second revised route was determined (indicated in yellow in Fig. 5); however this route still impacted on Erf 41 Portion 6. This route would also pass through a recently constructed treatment works site. Therefore this route was ruled out as well.

## 2.2 Route alternatives

Two route alternatives were put forth by RCL indicated in black and in blue in Figure 6. An assessment of both the routes was carried out and is discussed in Sections 2.2.1 and 2.2.2.

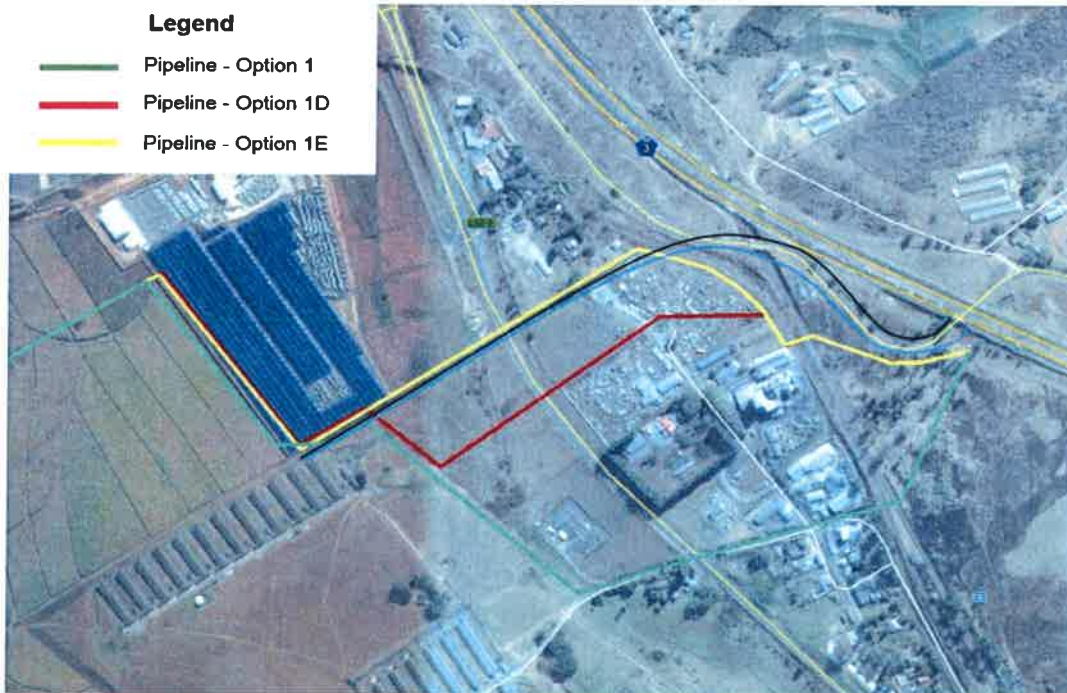


Fig. 6 –Alternate routes for the Umkhomazi pipeline by RCL

### 2.2.1 Analysis of Alternate Route 1 (Indicated in black in Fig. 7)

Alternate route 1 proposes crossing the R103 at point 1 and travelling alongside the R103 for approximately 100m before crossing the existing railway line at point 2. Thereafter the pipeline route would continue to travel alongside the R103 between the N3 and R103 between points 3 and 4. Due to the location of the tie in point, this would require crossing the R103 for a second time at point 4 in order to tie-in to the existing '57 Pipeline.

This route is not favoured for the following reasons:

- **Road crossing (pipe-jack) at point 1:** An additional pipe-jack would be required at point 1 that would result in increased cost and additional approvals from DOT.
- **Crossing the existing railway at point 2:** Pipe jacking is not an option as there is insufficient space for a receiving pit on the eastern side of the railway crossing. Impractical to construct using open cut techniques due to the high cut embankments and the need to take the railway line out of operation during construction.
- **Proximity to the National road (N3) at point 3:** A wayleave would be required; however, this is unlikely to be approved by SANRAL as the pipeline would be required to be benched into the N3 embankment, which could undermine the freeway layerworks construction and potentially lead to traffic hazard on the N3. There are also safety concerns during construction.
- **Restricted working space:** The narrow strip of land between the N3 and R103 at point 3 would result in restricted working space, which presents a significant challenge for laying a large diameter pipeline.

Given that there is an alternative route that avoids the issues above, this route is not supported (see 2.3).

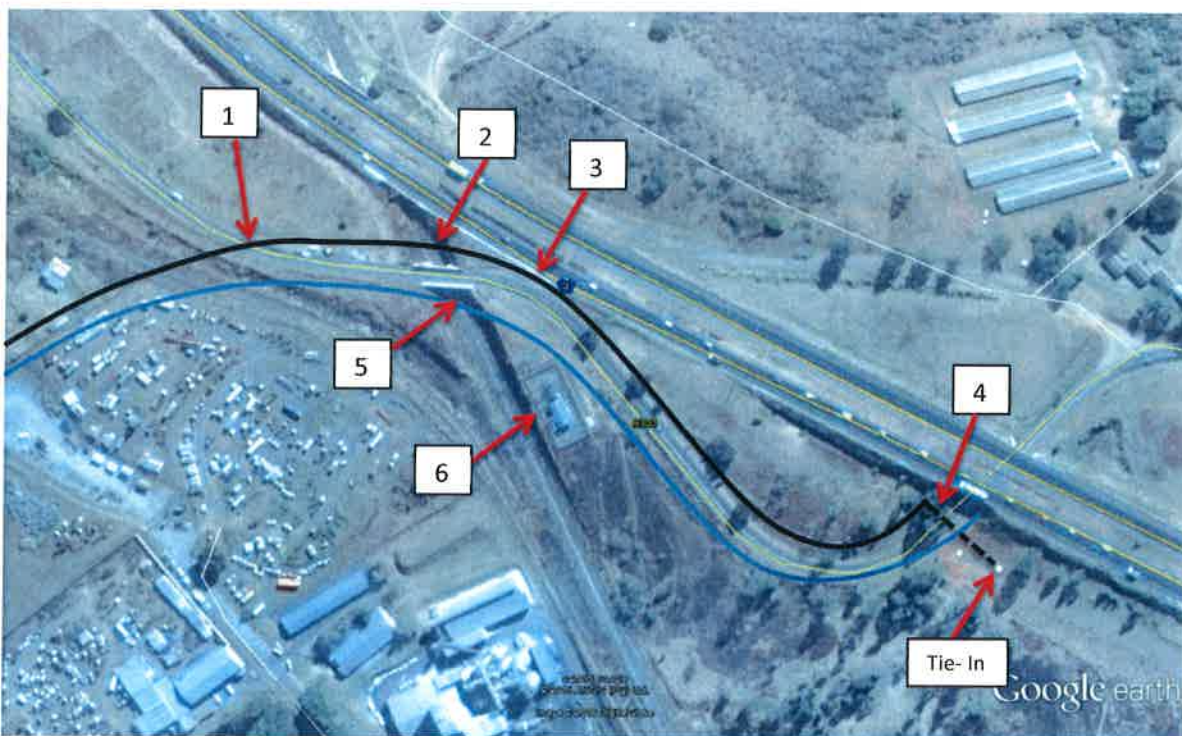
### 2.2.2 Analysis of Alternate Route 2 (Indicated in blue in Fig. 7)

Alternate route 2 proposes routing the pipeline alongside the R103 for approximately 120m before crossing the existing railway line at point 5. Thereafter the pipeline route would continue alongside the R103, passing the electrical sub-station at point 6. The pipeline would continue to travel alongside the R103 before tying in to the existing '57 Pipeline at the tie-in point.

This route is not supported for the following reasons:

- Crossing the existing railway at point 2: A very deep pipe jack would be required, which would result in safety concerns and additional costs to the project. Impractical to construct using open cut techniques due to the high cut embankments and the need to take the railway line out of operation during construction.
- Restricted working space: The narrow strip of land between the R103 and the sub-station at point 6 would result in restricted working space, which presents a significant challenge for laying a large diameter pipeline.

Given that there is an alternative route that avoids the issues above, this route is not supported (see 2.3).



*Fig. 7 –Analysis of alternate routes for the Umkhomazi pipeline by RCL*



Fig. 8 –View of railway crossing site proposed by alternate route 2 (point 5)

### 2.3 Revised Route Proposed by KP

Taking into consideration all concerns put forth by RCL regarding Erf 41 Portion 6, the route indicated in blue in Fig. 9 is proposed.

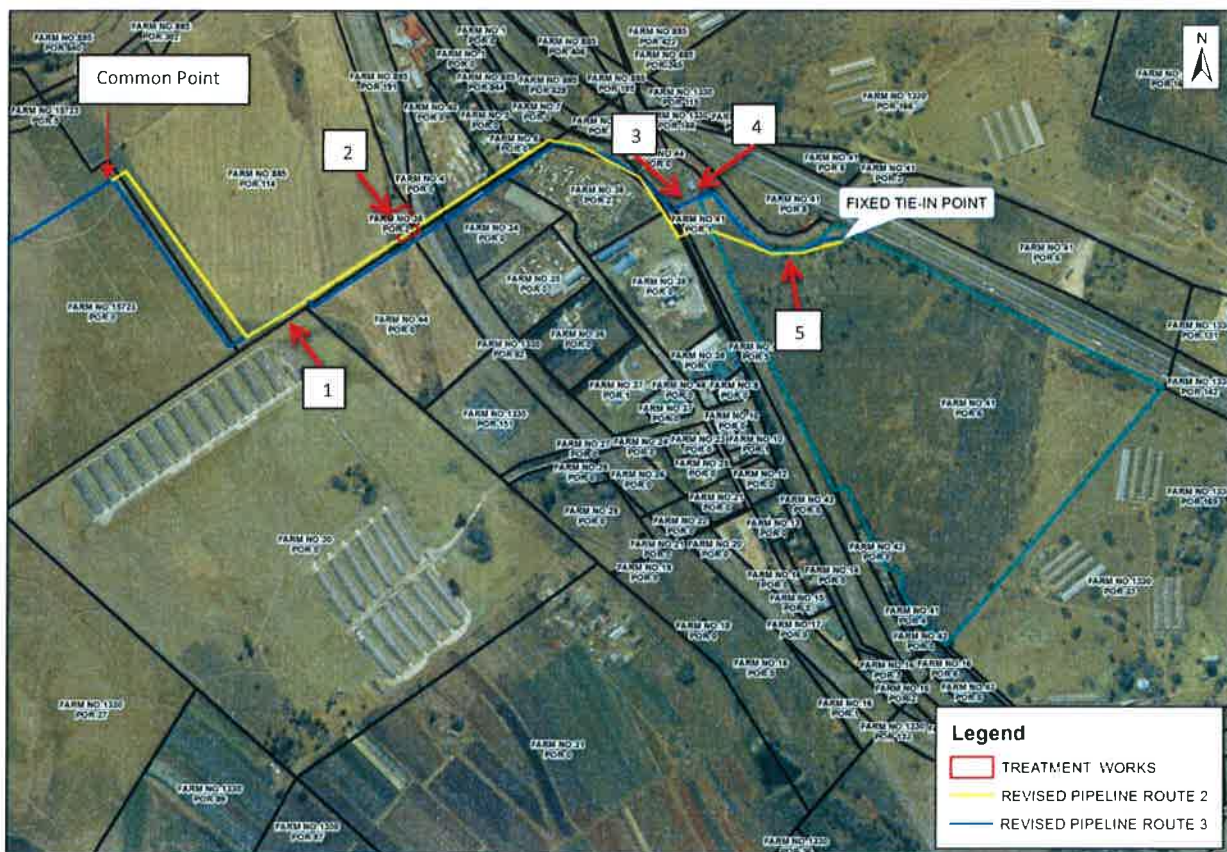


Fig. 9 – Revised route for the uMkhomazi pipeline by Knight Piésold

### 2.3.1 Analysis of Revised Route 3 (Indicated in blue in Fig. 9)

The pipeline would travel in a south easterly direction in Erf 15723 Crookes before turning left into Erf 885 Portion 114 Vaalkop & Dadelfontein. The pipeline would then turn right into Erf 44 Umlaas Road and travel perpendicular to the R603 and cross under the R603 via a pipe jack before continuing toward the railway line via the north-western boundaries of Erf 34 and Erf 38 Umlaas Road and cross under the railway line via a pipe jack. The pipeline would then travel alongside the sub-station on the northern boundary of Erf 41 Portion 6. The pipeline will then run alongside the R103 within Erf 41 Portion 6 before tying-in to the '57 pipeline at the tie-in point.

This proposed route is similar to the route proposed in revised route 2 (Indicated in yellow in Fig. 5 and 6) with slight deviations.

- This proposed route has been design to avoid Erf 885 Portion 114 Vaalkop & Dadelfontein as far as possible. This is to avoid additional costs that would be incurred from removing and reinstating the car ports as shown in Fig. 10. However in order to avoid constructing too close to the RCL buildings located on Erf 30 Umlaas Road, locating a portion of the route within Erf 885 Portion 114 is unavoidable (Refer to point 1 Fig. 9).
- The reason for then crossing over into Erf 44 Umlaas Road is to avoid the treatment works (Refer to point 2 Fig. 9).
- The proposed rail pipe-jack has been kept closer to the substation (Refer to Fig. 9 Point 3 and 4); however permission for the location of this pipe-jack must be obtained from Transnet and Eskom.
- This proposed route avoids construction in Erf 41 Portion 6 Umlaas Road as much as possible; however this routing has resulted in an increase in the number of bends and thus an increase in the cost of construction (Refer to point 5 Fig. 9).

### 2.3.2 Design analysis of Revised route 2

- The length of the revised route 2 (indicated in yellow in Fig. 9) is 1592.27m from the common point.
- The route from this point contains 10 bends
- Bend category 0° - 15° = 2
- Bend category 16° - 30° = 3
- Bend category 31° - 45° = 2
- Bend category 46° - 60° = 0
- Bend category 61° - 75° = 0
- Bend category 76° - 90° = 3

### 2.3.3 Design analysis of Revised route 3

- The length of the revised route 3 (indicated in blue in Fig. 9) is 1616.14m from the common point.
- The route from this point contains 14 bends
- Bend category 0° - 15° = 2
- Bend category 16° - 30° = 4
- Bend category 31° - 45° = 1
- Bend category 46° - 60° = 1
- Bend category 61° - 75° = 2
- Bend category 76° - 90° = 4



*Fig. 10 – Aerial View of Car ports constructed on Erf 885 Portion 114 Vaalkop & Dadelfontein*



*Fig. 11 – Car ports constructed on Erf 885 Portion 114 Vaalkop & Dadelfontein*

## **2.4 Summary**

In summary the alternate routes proposed by RCL are not considered feasible and are not recommended for further investigation. An amended route has however been proposed by Knight Piésold and is hereby submitted for comment and review.


<b>RAINBOW FARMS (PTY) Ltd</b>		Document Ref:	Q	FS	H&S	E
<b>Agricultural Farms</b>				7.2.3.10.3		
<b>TOTAL INTEGRATED MANAGEMENT SYSTEM</b>		Rev no:	6			
<b>BROILERS PROTECTIVE CLOTHING STANDARD</b>		Page :	1 of 1			
		Date:	24 Feb 2014			
Approved By:	Divisional Agricultural Manager	Signed :				

<b>ON SITE Dress Code</b>				<b>TRANSIT Dress Code</b>	<b>Artisan/ Maintenance &amp; Engineering Dress Standard</b>	<b>CONTRACTORS</b>					
<b>Farm Workers, Visitors, Ecowize +Maintenance</b>				<b>Farm Workers + Chick Placement crew</b>	<b>Catching Crew</b>	<b>Ecowize</b>	<b>Shavings Crew</b>	<b>Grounds Maintenance Crew</b>	<b>Feed Supplier</b>	<b>Coal Heaters</b>	
<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• Blue Rainbow T-shirt</li> <li>• Blue 2 piece overalls</li> <li>• Socks</li> <li>• Black gumboots</li> <li>• White Rainbow material mop cap OR Blue Rainbow doek</li> </ul>	<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• Blue Rainbow T-shirt</li> <li>• Blue overall</li> <li>• Socks</li> <li>• Black gumboots</li> <li>• White Rainbow material mop cap</li> </ul>	<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• White Rainbow T-shirt</li> <li>• Blue two piece overall</li> <li>• Socks</li> <li>• White gumboots</li> <li>• White Rainbow material mop cap</li> </ul>	<ul style="list-style-type: none"> <li>• Blue Rainbow overall dress</li> <li>• Socks</li> <li>• Black gumboots</li> <li>• Blue doek</li> <li>• Blue Rainbow T-shirt</li> </ul>	<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• Green Rainbow T-shirt</li> <li>• Green one piece overall with pockets</li> <li>• Socks</li> <li>• White Rainbow material cap</li> <li>• White gumboots</li> </ul>	<ul style="list-style-type: none"> <li>• Washable black safety shoes</li> <li>• Grey 2 piece overall with pockets on the side</li> <li>• Black shorts</li> <li>• Socks</li> <li>• White T-shirt</li> <li>• Black Rainbow peak cap</li> </ul>	<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• Blue T-shirt</li> <li>• Blueic/Khaki one piece overall</li> <li>• Socks</li> <li>• Washable black gumboots</li> <li>• Dust mask</li> <li>• Reflector Vest</li> </ul>	<ul style="list-style-type: none"> <li>• White hard hat – Supervisors</li> <li>• Red hard hat &amp; navy blue shirt – Team leader</li> <li>• Blue shirt - Managers</li> </ul>	<ul style="list-style-type: none"> <li>• Black boxer shorts</li> <li>• Blue T-shirt</li> <li>• Blue 2 piece overalls</li> <li>• Socks</li> <li>• Black gumboots</li> <li>• Dust mask</li> </ul>	<ul style="list-style-type: none"> <li>• Grey one piece overall</li> <li>• Back material cap</li> <li>• Black gumboots</li> </ul>	<ul style="list-style-type: none"> <li>• Red one piece overall</li> <li>• Black gumboots</li> <li>• Blue T shirt</li> <li>• Black shorts</li> </ul>	<ul style="list-style-type: none"> <li>• Black boots</li> <li>• Face shield</li> <li>• White apron</li> <li>• Red plastic arm gloves</li> <li>• Overalls</li> <li>• Socks</li> </ul>

- Note:**
- All Farm staff, Maintenance crew, Managers, Contractors & Visitors must SHOWER IN before ENTERING the farm site and SHOWER OUT when EXITING the farm site.
  - All personal clothing is retained in locker and may not be taken into the farm site
  - Each FEMALE STAFF are provided with 2 sets of underwear ( bra + panties) which they are required to wear on site and the sets are not PERMITTED to be removed from the farm/hatchery site

CONTROLLED  
COPY



	<b>RAINBOW FARMS PTY LTD</b> Agricultural Division Total Integrated Management System <b>VETERINARY CONTROLLED MANUAL</b> <b>BIOSECURITY</b>	Date issued:	18 September 2014
		Revision No :	6
		Doc No :	7.9.1.16
		Page no's :	1 of 7
Approved By : Production Managers			

1.	BIO SECURITY	Responsibility
1.1	<p>Bio-security is the protection of biological entities from factors that influence its adaptation, performance or survivability. Bio-security is often understood to be limited to disease control and tends to forget all the other stress factors that adversely affect the animal. Most often it is easier to minimise the environmental and management stresses than to eliminate the risk of disease challenge or exposure.</p> <p>Bio-security procedures, and the enforcement thereof, will differ according to the value of the birds, the risk of excessive losses occurring, and the impact of excessive losses of these birds on the production capabilities of the Company. Pedigree poultry are more expensive than broiler breeders, which in turn, are more expensive than broilers and the bio-security levels that are implemented at these integration points must be appropriate to their value and risk.</p> <p>Reduction of the disease challenge in poultry requires that there are adequate measures in place that reduce the exposure levels of poultry to disease-causing organisms. These areas of reduction need also to occur at different levels within the Company as well as different levels within the integration. Reduction of disease transmission must address the following areas of contact:</p> <ul style="list-style-type: none"> <li>• <i>country to country,</i></li> <li>• <i>company to company,</i></li> <li>• <i>region to region,</i></li> <li>• <i>operation to operation,</i></li> <li>• <i>complex to complex,</i></li> <li>• <i>site to site,</i></li> <li>• <i>crop to crop,</i></li> <li>• <i>house to house,</i></li> <li>• <i>bird to bird.</i></li> </ul> <p>The main areas of disease control rest with the reduction of bird stress, the reduction of challenge by disease causing organisms, adequate containment of outbreaks of disease and/or the controlled exposure to certain diseases to induce immunity.</p>	All personnel
2.	<b>CONTAINMENT OF DISEASE OUTBREAK</b>	
2.1	<p>Outbreaks of disease will always occur where poultry are housed under intensive conditions. The size and divergence of the population and the environment stresses will favour certain disease conditions. Some diseases by virtue of their route of spread will be easier to transmit than others.</p>	All personnel
3.	<b>DISEASE STATUS</b>	
3.1	<p>Diseases are categorised by their ability to cause mortality, the rate at which they spread, the route by which they spread, their presence or absence in the country, and their economic impact on the industry. Diseases may be transmitted either vertically through the egg, or horizontally from bird to bird. Younger poultry tends to be more susceptible to diseases than older birds. Outbreaks of diseases such as Fowl Typhoid, Salmonellosis, Tuberculosis, Newcastle Disease, Highly pathogenic Avian influenza and others, are veterinary controlled diseases and all outbreaks must be reported to the relevant Authority, who will impose certain control procedures to which the Company must adhere. Outbreak of contagious diseases such as Newcastle Disease require more stringent bio-security and any control measures recommended by the responsible veterinarian must supersede the standard practices. Outbreaks of infectious diseases such as infectious Bronchitis, Infectious Coryza and vertically transmitted diseases such as Epidemic Tremor can effectively be controlled through the correct application of the standard practices. A "shower on and shower off" approach should be adopted wherever a disease outbreak occurs. Outbreaks of diseases under intensive conditions seldom follow the natural routes of infection. In most cases, the disease is transmitted beyond the bird's house environment through fomites. A fomite is a mechanical transporters of an organism from one place to another. People, particularly their hands, hair, clothing, footwear and vehicles moving between different bird populations, are most often the responsible fomite. Such diseases transmissions can occur over wide distances, even internationally. Other common fomites include dust, dander (feathers), vermin and predators, particularly the carrion eaters (e.g. crows).</p>	All personnel



**RAINBOW FARMS PTY LTD**  
 Agricultural Division  
 Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued:	18 September 2014
Revision No :	6
Doc No :	7.9.1.16
Page no's :	2 of 7

Approved By : Production Managers

3.	DISEASE STATUS	Responsibility
3.1	<p>People visiting more than one operation must plan the visits to follow the integration chain:</p> <ul style="list-style-type: none"> <li>i) GP Operations-COBB: Rearing → Laying → Hatchery</li> <li>ii) Agricultural: Rearing → Laying → Hatchery → Broilers</li> <li>iii) Processing: Processing Plant</li> </ul> <p>The visitation sequence to sites is always from youngest flock age to oldest flock age. In the event of a disease outbreak, the disease control will always supersede the age sequence.            Should the integration of operations not be followed a 3 day (72 hours) lapses between operations should be applied.            Also take note, prior to visiting the GP operations-COBB a rectal swab should be taken a week prior to visiting the operation. Access to the sites will be determined by these results.</p>	All personnel
4.	<b>QUARANTINE</b>	
4.1	<p>Quarantine is a control measure that restricts and monitors the movement of all things into, onto or through an area or facility. This is routine for importation and veterinary controlled diseases. It is the responsibility of the Agricultural Manager and Divisional Veterinarian of such a facility to ensure the enforcement of such a quarantine measure. The responsible veterinarian/ Agricultural Manager may impose any additional veterinary restriction necessary to ensure the prevention and control of any disease outbreak.</p>	
5.	<b>PROTECTION ZONES OUTSIDE THE BIRD'S ENVIRONMENT</b>	
5.1	<p>This is deemed to be any additional control measures beyond the outer confines of the site perimeter that one may be able to establish around an operation or part thereof. This is particularly important when controlling disease outbreaks and when dealing with more valuable poultry such as with backward integration and importation.</p>	Agricultural Manager/ Divisional Veterinarian
6.	<b>COUNTRY TO COUNTRY</b>	
6.1	<p>No poultry from another country must be moved onto Company property without the permission of the responsible Veterinarian and the Group Agricultural Director. Isolation and quarantine measures as determined by the responsible veterinarian must be instituted so as to eliminate the introduction of disease and new parasitic populations onto Company premises. People, visiting operations from another country in which there was contact with poultry or other avian species, must not visit a poultry site for at least three days (72 hrs) after entering the country.</p>	
7.	<b>COMPANY ENVIRONMENT</b>	
7.1	<p>No poultry from another company must be moved onto Company property without the permission of the responsible Veterinarian and the Group Agricultural Director. Isolation and quarantine measures as determined by the responsible veterinarian must be instituted so as to eliminate the introduction of disease and new parasitic populations onto Company premises. People, visiting operations in another company in which there was contact with poultry or other avian species, must not visit a poultry site for at least three days (72 hrs).</p>	Agricultural Director/ Divisional Veterinarian
8.	<b>REGIONAL ENVIRONMENT</b>	
8.1	<p>No poultry from one region must be moved into another region without the permission of the responsible Veterinarian and the Agricultural Director. People visiting operations in another region, in which there may be contact with poultry, must not visit a poultry site for at least three days (72 hrs) prior to visiting the other region and for at least three days (72 hrs) after returning. Should the operations be different, and then at least a three-day (72 hrs) interval should apply when visiting the operation higher up the integration.</p>	Agricultural Director/Divisional Veterinarian



**RAINBOW FARMS PTY LTD**  
 Agricultural Division  
 Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued:	18 September 2014
Revision No :	6
Doc No :	7.9.1.16
Page no's :	3 of 7

Approved By : Production Managers

<b>9.</b>	<b>OPERATIONAL ENVIRONMENT</b>	
9.1	No poultry from one operation must be moved onto another operation without the permission of the responsible Veterinarian and the Agricultural Director. People visiting more than one operation must plan the visits to follow the integration chain. Vehicles and equipment should not be moved between operations. Where this is unavoidable, every precaution must be taken to avoid cross-contamination.	Agricultural Director/Divisional Veterinarian
<b>10.</b>	<b>COMPLEX ENVIRONMENT</b>	
10.1	<p>A complex, often referred to as a transit facility, disease free area, or disease secure area, is a group of sites within a geographical location. As far as possible, vehicle movement on the complex between farms should be limited to the Farmer's vehicle, and feed and maintenance vehicles. Vehicles entering a site must be sprayed down. Epol vehicles are sprayed on departure from the Feed mill. Tyres should be sprayed at the entrance to the complex and to the site.</p> <p>A dedicated 'dirty' vehicle must be available for use in the event of a noticeable disease outbreak on one or more farms within a complex, or in order to transport persons who are dressed in protective clothing. Such a vehicle must be thoroughly disinfected (inside of the vehicle) on returning to the complex block and prior to transporting any other persons.</p> <p>The visitation sequence to sites is always from youngest flock age to oldest flock age. In the event of a disease outbreak, the disease control will always supersede the age sequence. Under these conditions affected flocks will always be visited last, even after visiting an older healthy flock. If in doubt on the disease status of flocks, <u>ask the advice of the responsible veterinarian.</u></p>	All
<b>11.</b>	<b>REDUCTION OF DISEASE CHALLENGES</b>	
11.1	Reducing the disease challenges requires that there is a systematic reduction in the number of disease causing organisms within the protection zones around the bird as well as a reduction of these organisms within the bird's environment.	Divisional Veterinarian
<b>12.</b>	<b>PLACEMENT, TRANSFERS AND DEPLETION</b>	
12.1	All placements, transfers, and depletion must be synchronised to ensure that sites are placed in a suitable sequence within complexes and operations.	Farm Manager
<b>13.</b>	<b>SITE ENVIRONMENT</b>	
13.1	<p>The farm bio-security is the most crucial point for disease control since it is the switch over from the bird's environment to the open environment and vice versa. A farm must enforce general bio-security principles from the start of depletion (farm is open). Only certain procedures such as showering onto the farm may change at this point. It does not imply that disease transmission cannot occur. Other bio-security restrictions should remain in place.</p> <p>A farm must enforce routine control from the point of the last bird removal (farm is fully open). In the event of a disease outbreak, the farm should remain closed until the responsible veterinarian declares the farm clean. Nothing should be taken onto or off a closed farm unless it has been showered, disinfected, or fumigated at the point of entry to the farm. Certain exceptions to this do exist and include live birds and dry cargo such as shavings and feed.</p>	Farm Manager
<b>14.</b>	<b>HOUSEKEEPING</b>	
14.1	The farm must be maintained so as to minimise the breeding, and any overt protection given to vermin, predators or other organisms. The grass must be kept short and the aprons free of grass and weeds. Vermin are vulnerable to predation when crossing these exposed areas. Drainage should be adequate to remove excess water, especially storm water and clean out. Water should not accumulate on site in open pools, as stagnant water is an ideal breeding ground for insects and other organisms. No rubble or waste debris should be stored on the farm and equipment should be stored in such a way as to avoid offering shelter or protection to vermin or predators.	Farm Manager/Maintenance



**RAINBOW FARMS PTY LTD**  
 Agricultural Division  
 Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued:	18 September 2014
Revision No :	6
Doc No :	7.9.1.16
Page no's :	4 of 7

Approved By : Production Managers

15.	ACCESS CONTROL	Responsibility
15.1	<p>Site staff should be the only people on the farm. No site staff must have had contact with other poultry or domestic birds for at least 72 hours prior to entering a closed farm (where possible). Only essential visits by authorised personnel such as mechanics, farmers, maintenance and working crews etc., should be allowed onto the farm. No authorised personnel including outside contractors, must have had contact with other non-Company poultry.</p> <p>Non-Agric and non Rainbow visitors need authorisation prior to entering a site from the Divisional Agricultural Manager /Agricultural Director.</p>	<p>Site Staff            /Farm Managers            Agricultural Manager            /Agricultural Director</p>
16.	<b>PERIMETER FENCE</b>	
16.1	<p>The farm must be completely fenced with sufficient deterrents for predators, vermin and unauthorised access. There must only be one available access point onto the farm and this must be under the control of the Site staff. This access point must control vehicle, equipment and people movements (where applicable). Only poultry considered to be part of the farm flock must be allowed on the farm and must be placed in a house. No domestic or wild animals must be allowed within the perimeter fence. All other free range and wild birds must be actively discouraged from the farm through the control of any activity that may attract (feed spillages) or harbour (nesting) these birds.</p>	<p>Farm Manager            /Maintenance/Site Staff</p>
17.	<b>SHOWER FACILITY</b>	
17.1	<p>The shower unit is the point separating the farm from the outside environment and this area must be maintained to protect the farm. The shower complex should therefore be uni-directional with the shower unit inline. Access to the shower must be under control of the site staff. All transit or personal clothing and personal items must be stored on the external side of the shower. It is thus important to have sufficient clothes hooks and storage space available.</p> <p>Any item not suited to showering, must not be taken beyond the shower unit. Such items must rather be fumigated unless too large to be accommodated in the fumigation room, in which case it must be disinfected. Anyone or anything entering the shower unit must be thoroughly cleansed prior to discharge onto the site side of the unit.</p> <p>In order to promote proper and complete showering, there must be adequate hot and cold running water, and items such as soap and shampoo must always be available within the shower cubicle.</p> <p>All persons entering or going out of the farm must shower with soap and shampoo and wash their hair. No personal belongings to go through the shower.</p> <p>Take only items you are prepared to wash. This applies to jewellery and other personal items such as spectacles, wristwatches and cultural bands.</p> <p>NO personal items such as keys, cell phones are allowed except authorized personnel for business purpose usage</p> <p>No dirty-side gumboots must be taken into or worn on the farm-side of the shower facility. Gumboots must be taken off prior to entering the room. The shower block must be cleaned and disinfected at least once per day. The shower cubicle and the external room of the shower block should be cleaned and disinfected by the responsible person at the end of the working day. The cleaning equipment must return to the internal side of the site through the fumigation room.</p>	<p>Farm Managers            /Site Staff</p>



**RAINBOW FARMS PTY LTD**  
Agricultural Division  
Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued: 18 September 2014  
Revision No : 6  
Doc No : 7.9.1.16  
Page no's : 5 of 7

Approved By : Production Managers

<b>18.</b>	<b>PERSONAL PROTECTIVE WEAR</b>	
<b>18.1</b>	<p>The purpose of protective clothing is to provide the people on the farm with a standard uniform that has not had outside contact or contamination and therefore poses no risk to the poultry. The protective clothing must also be utilised to distinguish between departments and the various Bio-security zones. ( Refer to Protective Clothing)</p> <p>All staff to shower before wearing transit clothes, before entering shower facility on farm. After showering on farm the correct PPE for the farm must be worn. PPE inspection must be inspected monthly and must be kept in a good condition.</p> <p>Feed delivery drivers entering a closed farm must dress in red protective clothing. They should then avoid contact with persons dressed in blue and not have any access to poultry houses. Foot powder for the control of fungal infections may be available to persons on the farm. Personal items that cannot be showered in are not allowed. The farm protective clothing must be cleaned and stored on the farm side of the shower.</p>	Farm Manager/Prod Manager
<b>19.</b>	<b>EQUIPMENT</b>	
<b>19.1</b>	<p>All equipment entering a farm must be suitably disinfected through fumigation or spraying with a disinfectant. Surfaces may be wiped with a moist disinfectant cloth.</p> <p>All farm equipment must be sanitised during the clean-out phase. Farm equipment must be dedicated to a farm or have a 7-day (minimum) outside storage period to reduce the risk of disease spread. House equipment such as feeders, or cockerel pans, crates, plastic sheeting, partitions, nest boxes, etc. should not leave a farm to be used on another farm.</p>	Farm Manager/Site Staff
<b>19.2</b>	Site Staff food being brought onto the site is put into a sealed container which must be washed.	
<b>19.3</b>	Cigarettes are brought onto the site only in a sealed packet, fumigated and used until finished and never taken off site.	
<b>20.</b>	<b>FUMIGATION ROOM</b>	
<b>20.1</b>	<p>Fumigation is the process of decontamination of an object through the use of a gaseous compound. Since gases can penetrate tiny holes, this form of disinfection is ideal for most objects that are otherwise difficult to clean. Farms must have some form of disinfection procedure for incoming items. In the absence of any spray disinfection at the access gate, a fumigation room must be provided at the office/shower complex.</p> <p>Everything entering the farm must be fumigated before used on the farm. A minimum of 10g prills per square meter must be used in fumigation room</p> <p>The fumigation room must have two accesses - one opening onto the site, and the other to the external environment. The external access must be used for loading all objects that need to be taken onto the farm. The farm-side access must be used for receiving fumigated goods onto the farm and for dispatching potentially contaminated goods from the farm. Only one access must be open at any time. <b>(Refer to Fumigation)</b></p>	Farm Manager
<b>21.</b>	<b>OFFICE BLOCK</b>	
<b>21.1</b>	The office must be a separate room. No shoes or gumboots must be worn inside this room. The office should be kept clean and tidy at all times.	Farm Manager/Site Staff
<b>22.</b>	<b>PLACEMENT, TRANSFERS AND DEPLETION</b>	
<b>22.1</b>	All placements and transfers are periods of high risk for the transfer of diseases. All vehicles and equipment must be cleaned and disinfected between loads at the point of origin of the birds. For depletion this should occur at the point of discharge and again at the point of complex/farm entry.	Farm Manager



**RAINBOW FARMS PTY LTD**  
 Agricultural Division  
 Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued:	18 September 2014
Revision No :	6
Doc No :	7.9.1.16
Page no's :	6 of 7

Approved By : Production Managers

<b>23.</b>	<b>FOOT BATHS</b>	
23.1	Every entrance to a poultry house on the farm must have a footbath. The footbath must contain a disinfectant as per the company's supplier agreement, which is at the recommended dilution of the supplier and which is replaced every second day. The level of the solution must always be sufficient to cover the entire foot of the gumboot. All personnel entering or exiting the house must put both feet in the footbath.	Farm Manager/Site Staff
23.2	Every entrance to houses/office/farm/egg room must have a footbath which must be cleaned daily and have enough water with correct dilution of disinfectant in it. (Hygiene Q45 1:100).	
<b>24.</b>	<b>BIRD PROOFING</b>	
24.1	All openings in the outer structure of the house must be covered with a suitable netting material that will prevent all unwanted birds from entering the house (Where possible). This includes curtain openings, roof ridges, fan cowls, wall cracks, louver openings, and ventilation openings. Doors must always be kept closed when not in use.	Farm Manager/Site Staff/ Maintenance
<b>25.</b>	<b>VERMIN/RODENT CONTROL</b>	
25.1	All openings in the outer structure of the house must be sealed so as to exclude vermin entry into the house. This must be done in conjunction with bird proofing. There should be no gross evidence of vermin in the house and the house should be monitored for signs of vermin presence. Documents as supplied by the responsible veterinarian must be strictly enforced by the operations. Regular baiting of vermin stations and their breeding areas must be enforced and recorded on the pest control forms. Weekly Pest control inspections to be conducted (refer to Pest Control Procedure). Housekeeping must be of such a standard as to deter the vermin from settling. This can be achieved by the removal of rubble and waste materials from the house, the avoidance of feed spillage, and the regular rotation of chemical control products and traps.	Farm Manager/Production Manager
<b>26.</b>	<b>SPECIALIST CREWS</b>	
26.1	Specialist crews and persons performing specialist tasks are frequently called upon to visit more than one farm per day. These crews and their equipment pose a significant risk to the farms that they visit and must be even more careful over bio-security. These 'specialists' also include persons or groups and their vehicles that are not recognised as typically specialist, such as grounds maintenance, egg collection trucks, placement, transfer, depletion, utility drivers, and mortality disposal.	Farm Manager/Prod Manager
<b>27.</b>	<b>VEHICLE ACCESS</b>	
27.1	Vehicle access gates must be locked at all times and the farmer must enforce access control. No persons on foot shall gain access to a closed farm through the vehicle access gates. Bicycles, motorbikes and such vehicles are not allowed on the farm unless dedicated to that farm. All vehicles entering a closed farm must be suitably disinfected prior to entry. This means that the vehicles wheels and mudguards area must be sprayed down with a recommended solution of disinfectant. The disinfectant used, must be applied at the recommended dosage rate and should not be unduly corrosive or damage the painted surfaces of vehicles. Vehicle drivers, including tractor drivers, must not alight from their vehicles whilst on the farm unless the driver has gone through the correct access control procedures. Drivers of dedicated vehicles may alight from the vehicles within the designated area as they should have passed through the shower facility on entering the farm. Farm-dedicated vehicles must not leave their area of dedication. Mortality collection vehicles must not enter any farm and must always follow strict visitation sequences and disinfection procedures.	Farm Manager/Prod Manager
<b>28.</b>	<b>VISITATION RECORDS</b>	
28.1	A visitor register must be maintained to record all visitors who visit the site. Such records should include the reason for the visit, and comments pertinent to the visit.	Farm Manager/Prod Manager
<b>29.</b>	<b>OTHER PERSONNEL</b>	
29.1	Where a transit facility is available, shower into transit clothing, at the transit change room, which is at the main farm office. At the farm, follow the same procedure as set out above.	All
<b>30.</b>	<b>SHAVING DELIVERIES</b>	




**RAINBOW FARMS PTY LTD**  
Agricultural Division  
Total Integrated Management System  
**VETERINARY CONTROLLED MANUAL**  
**BIOSECURITY**

Date issued:	18 September 2014
Revision No :	6
Doc No :	7.9.1.16
Page no's :	7 of 7


Approved By : Production Managers

30.1	Delivery drivers must shower then change into transit clothes at the transit facility (where available). At the farm they have to again shower and change into the designated protective clothing. At the farm entrance the vehicle tyres are to be sprayed with the correct dilution of the appropriate disinfectant solution. Under no circumstances is the driver to leave the immediate vicinity of his vehicle. Farmers /Site staff are to note the date and time of arrival of the shavings delivery. The Visitors book must be filled in.	Farm Manager/Prod Manager
31.	<b>GENERAL</b>	
31.1	Site Staff leaving site during the NWD, is not to be encouraged. Site Staff are to remain on site during their tea break. Site Staff leaving the farm for the lunch period must shower back on site.	Farm Manager/Prod Manager/Site Staff
31.2	Any items moved from one farm to another are to be fumigated by both dispatching and receiving sites. All vehicles must be washed/sprayed at the farm entrance gate before entering the farm complex.	

	<b>RAINBOW FARMS (PTY) Ltd</b> Total Integrated Management System		<b>Doc Ref:</b>	<b>Q</b>	<b>FS</b>	<b>H&amp;S</b>	<b>E</b>	
				6.4	7.2.3.10	4.4.6	4.4.6	
	<b>KZN AGRIC - BIOSECURITY &amp; PERSONAL HYGIENE PROCEDURE</b>		<b>Revision No:</b>	7				
			<b>Date:</b>	20 October 2014				
<b>Page:</b>			1 of 7					
<b>Approved By:</b>	Divisional Agricultural Manager/ Breeder/ Broiler and Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>						


		<i>Responsibility</i>
<b>1.</b>	<p><b>OBJECTIVE</b></p> <p>To provide a set of documents as procedures for implementation outlining Bio-security principles applied on all Rainbow farm operations by Rainbow staff. It provides an understanding that the personal hygiene of staff and visitors, the disinfection of fomites (inanimate objects taken onto sites/farms) are important preventative measures in limiting the exposure of chickens (all ages) to disease causing organisms.</p>	
<b>2.</b>	<p><b>BIO-SECURITY</b></p> <p>Bio-security defined as follows:</p> <ul style="list-style-type: none"> <li>• It is a program designed to prevent the exposure of chickens (all ages) to disease causing organisms by reducing the introduction and spread of pathogens into and between farms.</li> <li>• A defensive health plan with planned sanitation and hygiene procedures that keep diseases from entering the operation.</li> <li>• It is, together with other disease control measures, also the cheapest and most effective way of disease prevention among chickens.</li> </ul>	
<b>2.1</b>	<p><b>LEVELS OF BIO-SECURITY</b></p> <p>Three levels of bio-security are defined:</p> <p><b>Conceptual Bio-security:</b> The primary level of Bio-security and it involves the setting of a poultry operation and its various components. In Rainbow Farms (Pty) Ltd Rearing, Breeders (Laying), Hatchery and Broiler sites, this is a given and cannot be changed.</p> <p><b>Structural Bio-security:</b> This is the second level of Bio-security and includes the farm layout, the erection of fences, drainage, change rooms, material used for construction and types of housing. All the basic physical structures are in place to ensure the Bio-security is implemented. Maintenance of these structures is in place with improvements and breakdowns occurring on a daily basis (Refer to Design and Facilities Procedure).</p> <p><b>Operational Bio-security:</b> The third level of Bio-security comprises of management and routine procedures intended to prevent the introduction and spread of disease within a complex or region. These activities can be adapted at short notice to respond to disease and other emergencies. A comprehensive set of operational documents known as Veterinary Control Documents (VCD) are compiled by the Divisional Veterinarian, approved by the Divisional Agricultural Managers and managed by the Agric SHEQ Coordinators. The Divisional Veterinarians and the Divisional Agricultural Managers are ultimately responsible for the implementation of all Bio-security procedures.</p> <p>Although Bio-security measures address all 3 levels, all information contained in Veterinary Control Documents (VCD) are aimed at the third or operational level.</p>	<p><i>Div Agric Manager/ Div Vet/ SHEQ Coord</i></p>



	<b>RAINBOW FARMS (PTY) Ltd</b> Total Integrated Management System	<b>Doc Ref:</b>	<b>Q</b>	<b>FS</b>	<b>H&amp;S</b>	<b>E</b>	
		6.4	7.2.3.10	4.4.6	4.4.6		
	<b>KZN AGRIC - BIOSECURITY &amp; PERSONAL HYGIENE          PROCEDURE</b>	<b>Revision No:</b>	7				
		<b>Date:</b>	20 October 2014				
<b>Page:</b>		2 of 7					
<b>Approved By:</b>	Divisional Agricultural/ Breeder/ Broiler Production & Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>					


		<i>Responsibility</i>
<b>2.2</b>	<b>IDENTIFICATION OF BIO-SECURITY RISKS AND ASSESSMENT</b>  Each of the following risks have been identified and accessed on the influence it may have on the safety of chickens on Rainbow farms.	
<b>2.2.1</b>	<b>Environment</b> Issues of importance here include: <ul style="list-style-type: none"> <li>• Proximity of public roads to poultry houses,</li> <li>• Removal of litter off site after depletion,</li> <li>• Proximity of other poultry and other farms,</li> <li>• Presence of open water sources near site,</li> <li>• Absence of vegetation around houses and good maintenance of perimeter fences</li> </ul>	<i>All Maintenance Personnel</i>
<b>2.2.2</b>	<b>Farm Characteristics</b> These include: <ul style="list-style-type: none"> <li>• All in all out system on every site,</li> <li>• No access of wild birds onto farms,</li> <li>• Restricted visitor access,</li> <li>• Entrance gates to be locked at all times.</li> </ul>	<i>Farm Manager/ contractor personnel</i>
<b>2.2.3</b>	<b>Flock Characteristics</b> The importance of the following is established: <ul style="list-style-type: none"> <li>• Flocks on site originate from more than one flock,</li> <li>• Flock placements from similar aged flocks,</li> <li>• More than one hatchery is used to supply chicks,</li> <li>• Health status of breeder flock is known</li> <li>• No thinning is practised or allowed</li> </ul>	<i>Production/Farm Managers</i>
<b>2.2.4</b>	<b>Dead Bird Disposal</b> The disposal of dead chickens (mortalities) is important in minimising the spread of disease. Refer to Mortality Handling.	<i>Farm Personnel</i>
<b>2.2.5</b>	<b>Birds and other Animals</b> <ul style="list-style-type: none"> <li>• there must be no contact with any other birds domestic or wild,</li> <li>• no contact with any other animals near or in houses is allowed</li> </ul>	
<b>2.2.6</b>	<b>Pests</b> Strict Pest Control programs must be in place. Refer to Pest Control Procedure.	
<b>2.2.7</b>	<b>People</b> Staff is required to adhere to certain restrictions when moving around on Rainbow Farms according to the BOP manual.	<i>All</i>
<b>2.2.8</b>	<b>Management</b> Management of flock placements, depletion, turnaround time are considered a risk if not controlled.	<i>All</i>

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	<b>RAINBOW FARMS (PTY) Ltd</b> Total Integrated Management System	<b>Doc Ref:</b>	<b>Q</b>	<b>FS</b>	<b>H&amp;S</b>	<b>E</b>	
			6.4	7.2.3.10	4.4.6	4.4.6	
	<b>KZN AGRIC - BIOSECURITY &amp; PERSONAL HYGIENE          PROCEDURE</b>	<b>Revision No:</b>	7				
		<b>Date:</b>	20 October 2014				
<b>Page:</b>		3 of 7					
<b>Approved By:</b>	Divisional Agricultural/ Breeder/ Broiler Production & Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>					


		<i>Responsibility</i>
<b>2.2.9</b>	<b>Hygiene</b> Attention is given to hygiene whilst chickens are on site by means of a shower on and off policy putting on protective clothing and to proper cleanout procedures.	<i>Farm Personnel</i>
<b>3.</b>	<b>SANITATION AND ACCESS CONTROL</b>	<i>Div Agric/ Production/ Farm Manager</i>
<b>3.1</b>	<b>Staff, Contractor, Maintenance Crew and Visitor Access Requirements</b> All visits are strictly in accordance with flock ages starting at the youngest flock and moving up the age ladder. (Refer to Staff and Visitor Requirements).  All staff and visitors are required to shower on and off sites as per Best Operating Manual (BOP) and conditions of employment. The maintenance crew is regarded as official staff and therefore subjected to the same stringent requirements as all other employees.  Fumigation tools are handled as per Generic/VCD Manual Fumigation.	<i>Div Agric/ Production/ Farm Manager</i>
<b>3.2</b>	<b>Staff Hygiene Practices</b>	<i>All</i>
<b>3.2.1</b>	<b>Personal Hygiene</b> Documented standards (Locker Standard, Personal Hygiene Standard and Hand Wash Standard) have been established addressing the following issues: <ul style="list-style-type: none"> <li>• smoking</li> <li>• eating</li> <li>• drinking</li> <li>• lockers / canteen</li> <li>• hand sanitation</li> <li>• jewellery</li> </ul> These standards are displayed in all the locker rooms and various parts throughout the facility.	<i>All</i>
<b>3.2.2</b>	<b>Protective Clothing</b> The details of protective and other garments are documented in the <b>Protective Clothing Standard</b> , which is reviewed annually.  All staff are issued with a pair of rubber gumboots on the farms and its worn every day. Replacements are made when required. On all Rearing, Laying, Hatchery & Broiler production farms, personal clothes are removed before showering, and protective clothes are put on before entering a farm or hatchery. All hatcheries have shower facilities for staff. All protective clothing is washed on site or sent to commercial laundries. Dirty clothes are replaced by clean clothes on a daily basis for the hatcheries and engineering workers. Clothes are washed twice a week for farm workers. Protective clothing is not allowed to be taken home. Damaged clothing and shoes are replaced.	<i>SHEQ Coord/ Admin  Production Personnel</i>
<b>3.2.3</b>	<b>Medicals</b> All new employees are required to undergo a medical examination as part of their employment contract. Existing employees are required to undergo a medical examination once every year.  These records are reviewed to identify medicals, which are due. Hygiene regulations include requirements regarding medical conditions and personnel are required to report all cases to the Occupational Health Practitioner for attention.	<i>All/ Clinic</i>

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	<b>KZN AGRIC - BIOSECURITY &amp; PERSONAL HYGIENE PROCEDURE</b>	Revision No:	7				
		Date:	20 October 2014				
Page:		4 of 7					
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		<b>Responsibility</b>
<b>3.2.4</b>	<p><i>Injuries and Illness</i></p> <p>Employees returning from sick leave (more than 7 days) must provide a sick note. Employees do not undergo a medical examination at clinic as this is logistically difficult due to the distances between farms. Mobile clinics manager by an approved health contractor, visit sites according to an annual medical surveillance programme. Records are retained.</p> <p>All open wounds are treated and covered with non-porous gloves. The following conditions must be reported to the clinic. Diarrhoea, vomiting, jaundice, fever, skin lesions / infections and discharges from the ears, eyes and nose. The site's sister will decide fitness to work.</p> <p>All injuries that occur while working must be reported to the Farm Manager or Hatchery Manager and handled appropriately to ensure that no contamination of products or other employees occur.</p> <p>Refer to Incident Management And Control Of Non-Conformity And Non-Conforming Material.</p> <p>Incident reports are trended on the Quality Action Request (QAR) Database Nonconformance / Corrective Action Data Register by the Agric SHEQ Coordinator and Risk Control Officer.</p>	<p><i>Production Personnel/ Clinic</i></p> <p><i>Farm/ Hatchery Manager</i></p> <p><i>SHEQ Coord/ Risk Control Officer</i></p>
<b>3.2.5</b>	<p><i>Verification of Personal Hygiene and Bio-security</i></p> <p>Activity audits are conducted in accordance with the Internal Auditing Procedure and Schedule. These audits are verified monthly by the Food Safety Team.</p> <p>After disinfection of poultry houses, Hygiene Surveys are conducted to verify the effectiveness of the procedure followed.</p>	<p><i>Div Vet/ Div Agric/Production Managers</i></p>
<b>3.3</b> <b>3.3.1</b>	<p><b>Building and Equipment</b></p> <p><i>Cleanout after Depletion and Disinfection</i></p> <p>The removal of litter must be done effectively and speedily with trucks properly covered with tarpaulins to prevent contamination of the area. (Refer to Washing and Disinfection.)</p> <p>Cleanout and washing is done by an outsourced contractor using approved chemicals.</p> <p>Hygiene surveys are conducted after disinfection is conducted and sent to the Rainbow Veterinary Laboratory for evaluation. (Refer to Microbiology Chemical Methods and Schedules).</p>	<p><i>Production/ Farm/ Div Vet/ Cleaning Contractor</i></p>
<b>3.3.2</b> <b>3.3.2.1</b>	<p><i>Sanitation during Cycle</i></p> <p>Egg fumigation</p> <p>Eggs are fumigated on a daily basis on all laying sites before moved into egg storage room on site (Refer to BOP)</p>	
<b>3.3.2.2</b>	<p><b>Foot Baths</b></p> <p>A foot bath system is in place at each house on all the sites. Foot baths are filled with disinfectant.</p> <p>The correct use and composition of foot dips is a crucial link when applying Bio-security.</p>	<p><i>Farm Manager</i></p>
<b>3.3.2.3</b>	<p><b>Hand Sanitation Daily Procedures</b></p> <p>Each site should have at least one hand wash basin with running water and soap to enable staff to wash their hands regularly. On breeding farms the regular use of a hand sanitizer is emphasised</p>	

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		<b>Date:</b>	20 October 2014				
<b>Page:</b>		5 of 7					
<b>Approved By:</b>	Divisional Agricultural/ Breeder/ Broiler Production & Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>					


		<i>Responsibility</i>
	due to the fact that egg to egg microbial cross-contamination may occur.	
<b>3.3.2.4</b>	<b>Litter Treatment Associated with Disease Outbreaks</b> In an event of infectious disease being present in a specific house and its wide spread by means of litter is regarded as a potential threat, its treatment is described in Litter Management.	
<b>3.3.2.5</b>	<b>Vehicles</b>	
<b>3.3.2.5.1</b>	<b>At transit / complex entrance</b> The spray and disinfection of vehicles entering the sites is applied to all vehicles entering the premises.	
<b>3.3.2.5.2</b>	<b>At site entrance</b> The entrance of vehicle to an active site after placement is restricted only to feed deliveries and designated site vehicles. The driver has to adhere to Bio-security requirements described in Staff and Visitor Requirements.	
<b>3.4</b>	<b>Water Quality and Treatment</b> Treatment methods, evaluation of quality and interpretation of results are described in Water VCD.  The chemical evaluation of water quality is performed every 6 months collected from every source such as boreholes, and the microbiological evaluation from every header tank site / farm each cycle for broilers, and monthly for rearing and breeding flocks from each site.  Sampling methods, schedules and submission procedures to outsourced laboratories are described in Microbiology Chemical Methods and Schedules.	
<b>3.5</b>	<b>Vermin / Pest Control including Ecto- and Endoparasites</b> The control of rodents is described in Pest Control, control of ectoparasites, the control of endoparasites and the control of litter beetles.  The control procedures describe the chemicals used, routine control methods, as well as the recording documents.	
<b>3.6</b>	<b>Monitoring (Biological and Physical)</b>	
<b>3.6.1</b>	<b>Staff</b> The Salmonella status of staff members from an infected site / house is required in the event he/she becomes infected with any Salmonella serotype and forms part of the control measures. (Refer to Microbiology Chemical Methods and Schedules).  As a condition of employment employees sign a statement that they will not breed any poultry or birds when they join Rainbow on their premises at home, though single pet birds are permitted.	<i>Farm Managers</i>
<b>3.6.2</b>	<b>Buildings after Cleanout</b> Rodac plates are collected from 2 to 4 houses per site after disinfection and sent to the Rainbow Veterinary Laboratory to evaluate the cleanliness of the houses. (Refer to Microbiology Chemicals Methods and Schedules)	<i>All</i>

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		<b>Date:</b>	20 October 2014				
<b>Page:</b>		6 of 7					
<b>Approved By:</b>	Divisional Agricultural/ Breeder/ Broiler Production & Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>					

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<b>3.6.3</b>	<b>Foot Baths</b> Foot baths are replenished with disinfectant every day.	<i>Vet Laboratory</i>								
<b>3.6.4</b>	<b>Water Testing</b> Treatment methods, evaluation of quality and interpretation of results are described in Water VCD.  Sampling methods and submission procedures to outsourced laboratories are described in Microbiology Chemicals Methods and Schedules.	<i>Farm Managers</i>								
<b>3.6.5</b>	<b>Dust and Shaving Samples during Cycle</b> Samples collected from dust (Rearing, Laying & Broilers) and shavings (Breeders, Broilers) are submitted for Salmonella per cycle to the Rainbow Veterinary Laboratory.									
<b>3.6.6</b>	<b>Blood Samples for Serology</b> Blood samples are collected per cycle from Rearing, Laying and Broiler flocks to evaluate the efficacy of current vaccination programs and to assist in diagnosis disease field challenges. Refer to Serology Sampling Schedule.	<i>Farm Manager</i>								
<b>3.6.7</b>	<b>Sample Submission</b> Most samples are collected from production operations and are sent to one of the regional Veterinarian Laboratories for analysis. Though sometimes it may be necessary to use an approved external laboratory for testing.	<i>Vet Laboratory</i>								
<b>3.7</b>	<b>Communication</b>									
<b>3.7.1</b>	<b>Routine Checks</b> During routine site visits and bio-security check-ups injudicious behaviour in respect of bio-security by staff is reported by the Farm manager or Farmer.  Provision is made for emergency breaches of bio-security by maintenance and Area managers. This can only be authorised by the Divisional Agricultural Manager (or delegated substitute) and the Divisional Veterinarian.									
<b>3.7.2</b>	<b>During Emergency Situations</b> An emergency situation is one that compromises bio-security and bird health resulting in increased mortalities and egg production drops, which require special procedures and lines of communication. Fire, flooding, water and feed shortages are also regarded as an emergency, which impacts on bird health. Refer to Emergency Preparedness and Response.  The Farm managers for Rearing, Laying, Hatcheries and Broilers inform the Divisional Agricultural Manager and Divisional Veterinarian in the event of any emergency or if an unexpected increase in mortality occurs. The Divisional Agricultural Manager informs the Agricultural Director.  A number of VCD's provide guidelines for the management and control of diseases and situations: <table border="1" data-bbox="199 1892 1300 2038"> <tr> <td>• Mushy Chick Control</td> <td>• Salmonella Control</td> </tr> <tr> <td>• NCD Action Plan</td> <td>• Management of Increased Mortality</td> </tr> <tr> <td>• Mycoplasma Control</td> <td>• AI Control</td> </tr> <tr> <td>• Dispersal AI Infected Material</td> <td></td> </tr> </table>	• Mushy Chick Control	• Salmonella Control	• NCD Action Plan	• Management of Increased Mortality	• Mycoplasma Control	• AI Control	• Dispersal AI Infected Material		<i>Div Agric/            Production/ Farm            Manager</i>  <i>Div Agric            Manager/ Div Vet</i>
• Mushy Chick Control	• Salmonella Control									
• NCD Action Plan	• Management of Increased Mortality									
• Mycoplasma Control	• AI Control									
• Dispersal AI Infected Material										

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		<b>Date:</b>	20 October 2014				
<b>Page:</b>		7 of 7					
<b>Approved By:</b>	Divisional Agricultural/ Breeder/ Broiler Production & Hatchery Managers/ Regional SHEQ Manager	<b>Signed:</b>					

		<b>Responsibility</b>
<b>3.7.3</b>	<b>Training</b> The Divisional Agricultural Manager, the Area Manager and the Divisional Veterinarian are responsible for identifying training and competency areas (Refer to Training and Training Records)	<i>Div Agric/ Production/ Farm Manager</i>
<b>3.8</b>	<b>Vaccination</b> <b>3.8.1</b> <i>Control of vaccine</i> All vaccines are ordered and delivered to the Rainbow Veterinary Laboratory and dispatched from the Laboratory to the sites (via a controlled cold chain).  As it represents a substantial financial investment, there is strict control with regards to their receipt and dispatch to the sites. Vaccines are stored under controlled refrigerated conditions after dispatch to operations	<i>Div Vet</i>
<b>3.8.2</b>	<b>3.8.2</b> <i>Vaccination Procedure</i> Procedures to vaccinate the chickens on Rearing, Laying, Broilers and Hatchery sites are described in Vaccination Procedures.	<i>Div Vet</i>
<b>3.8.3</b>	<b>3.8.3</b> <i>Vaccination Programs</i> There are programs for each of the different operations and are described in Vaccination.	<i>Div Vet</i>
<b>3.9</b>	<b>3.9</b> <b>Relevant Standard / Legislation</b> This procedure is based on the relevant standards / legislation as per Baseline Standard Matrix.	
<b>4.</b>	<b>4.</b> <b>PERFORMANCE MEASURES AND REPORTING</b> Number and nature of bio-security incidents, trended and analysed at annual management reviews.	<i>SHEQ Coord/ Admin</i>
<b>5.</b>	<b>5.</b> <b>RECORDS</b>	

<b>Title</b>	<b>Input Responsibility</b>	<b>Retention Location</b>	<b>Retention Period</b>	<b>Authority for Disposal</b>	<b>Access Control *</b>
<i>Master Plan</i>	<i>SHEQ Coord/ Admin</i>	<i>I Drive</i>	<i>1 year</i>	<i>SHEQ Manager</i>	<i>5</i>
<i>Hygiene Survey</i>	<i>Rainbow Laboratory</i>	<i>Laboratory</i>	<i>1 year</i>	<i>Laboratory</i>	<i>5</i>
<i>Master List of Chemicals</i>	<i>SHEQ Coord/ Admin</i>	<i>I Drive</i>	<i>2 years</i>	<i>SHEQ Manager</i>	<i>5</i>
<i>Baseline Standards Matrix</i>	<i>SHEQ Coord/ Admin</i>	<i>I Drive</i>	<i>1 year</i>	<i>SHEQ Manager</i>	<i>5</i>

\* 1 = site perimeter security; 2 = direct access control (card / finger reader); 3 = locked cabinet; 4 = fire proof safe; 5 = off site backup / archive



**PRELIMINARY BIOSECURITY DISEASE  
RISKS ASSOCIATED WITH ISUNDU  
SUBSTATION AND POWERLINE**

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PREPARED BY DR ADRIAN KNOETZE  
OCTOBER 2015



## CONTENTS

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Scope .....	3
Introduction .....	3
Disease risks .....	4
Avian influenza .....	4
Newcastle disease .....	5
Salmonella .....	5
Mycoplasma .....	6
Other diseases .....	7
Other .....	7
Conclusion .....	7
References .....	8





## **SCOPE**

The scope of this report is to provide an initial referenced overview of some associated veterinary risks to the RCL food (Rainbow chicken farms) sites effected by the proposed construction of the Isundu substation and power lines.

## **INTRODUCTION**

Compared to several decades ago the poultry industry has under gone extreme intensification. This in combinations with feeding advancements and genetic progress has allowed poultry to be the most cost effective animal protein source globally and increasing in per capita consumption at a global rate that will result in it being the most consumed animal protein source globally by 2020 (OECD-FAO Agricultural outlook, 2014).

Domestically the per capita consumption of poultry products is 31% greater than that of beef, mutton and pork combined (SAPA, 2012)

This increase is driven by the broad cultural acceptance of poultry products as well as the affordability to the South African market.

Rainbow chicken farms produces +- 284 million broiler birds for slaughter per annum. This is distributed into four regions to mitigate disease risk as well as supply local markets. The KwaZulu Natal (KZN) operation accounts for 31% of the company's broiler volume. The company operates as an integration meaning that broiler chicks placed are hatched from Rainbow owned and operated hatcheries receiving fertile eggs from Rainbow owned and operated parent stock farms.

The proposed development and lines affected an area housing 7 of the regions 14 parent stock sites. These sites are responsible for the production of 49 million fertile eggs per annum. IN addition the development affects 4 Rainbow broiler sites responsible for the production of 5.9 million broilers per week.

The disease risk will be discussed in more detail to follow but as a closing of the introduction the affected parent stock complex is responsible for producing +-6% of the countries fertile broiler eggs and loss of production due to disease or disease control would result in dramatic losses to the business affected as well as a shortage in national poultry supply.

The recent highly pathogenic avian influenza (HPAI) outbreak in the United States illustrates the point in that devastated the table laying and turkey industry there. A 0.7% reduction in national table egg production in the United States resulted in a 220% increase in consumer egg prices. (Newton & Kuethe,2015)

## **DISEASE RISKS**

As mentioned above the associated disease risks with poultry production is severely compounded by the intensive nature of their production. In this scenario thousands of birds would be housed in the same airspace with several of these houses on a site. This allows for a large availability of pathogen replication sites within a small geographic location.

With reference to the parent stock operation affected in the proposed development (Known with Rainbow as "the ranch") the entire 7 sites are classified as a single export compartment by the department of agriculture, fisheries and forestry. This would mean that should a disease event occur on any of the 7 sites resulting in loss of the compartmentalisation all 7 farms would simultaneously lose compartmentalisation.

Numerous pathogens exist that can affect poultry but for the sake of brevity this report will deal with the greatest importance from a state disease control perspective as well as the greatest impact on production.

In order to mitigate risks associated with disease Rainbow chicken farms run a strict biosecurity program, documented and implemented. This includes but is not limited to the double showering of staff entering parent stock sites with dedicated clothing provided to wear in transit and on site. Strict bird free employee contracts, 7 day poultry free policy for any visitor approved to enter a site. Disinfection of houses between production cycles. Continuous fumigation and disinfection procedures for items entering a site.

## **AVIAN INFLUENZA**

Avian influenza (AI) is generally accepted as the most important disease of poultry globally. This is based on its rapid spread and pathogenicity for hosts as well as the risk of recombination events resulting in human infections.

Highly pathogenic avian influenza (HPAI) can result in mortality rates between 50%-89%. The routes of transmission is through aerosols and fomites containing virus particles. The transmission between premises has been shown to occur through the movement of people (contaminated clothing and shoes) and equipment. (Swayne et al, 2008)

In a 2009 paper it was shown that visitors to a site resulted in an odds ratio of 8.2 versus sites that did not have visitors. This was with specific reference to highly pathogenic avian influenza. (Henning et al, 2009).

All avian influenza in South Africa is classified as notifiable and thus subject to state response and control if an infection is detected. According to current regulatory guidelines the state advocates stamping out of all NAI infected birds through establishment of a control, quarantine and monitoring zone. (Pienaar,2009) The zone sizes are not stipulated for South Africa however OIE (World animal health) guidelines suggest zones of 1-3km. The result is that any of the sites within the affected development areas that become infected with NAI

will result in all the sites falling into the control zone and possible destruction of all the birds on the sites.

## **NEWCASTLE DISEASE**

Newcastle disease (NCD) is another state controlled disease of poultry. South Africa has an endemic status for NCD meaning that the virus is constantly present in the country and eradication is not possible. Therefore vaccination and biosecurity are advocated as control measures to prevent infections. KZN is still currently experiencing NCD cases as recently as August 2015 (pers. communication Dr A Still, State veterinarian) and thus the risk is very high at this point.

Research shows that the expected mortality rate in unvaccinated/poorly vaccinated flocks is generally higher than 50% and in cases of hyper-immunised birds a 5-20% drop in egg production is experienced lasting several weeks (Suarez, 2008).

Transmission has been shown to be from infected birds through direct contact but more commonly from infected dust or fomite particles. Humans do not carry the infection per se but can develop a conjunctivitis if exposed. Increased infection risk through human activity carrying infectious particles on clothes, shoes and equipment is documented (Suarez, 2008).

NCD can also be transmitted vertically i.e. through the egg from the parent to the offspring. This adds additional risk as an infected flock can result in the spread of the virus to numerous broiler sites through this transmission method (Capua et al, 1993).

Current state movement guideline prevent the unrestricted movement of live birds, mortality, eggs, equipment and manure from infected farms. This document also stipulates the time taken before an infected farm may be re-stocked after infection (Pienaar, 2010). These regulations would result in severe supply restrictions and losses in sales were a NCD outbreak occur in the affected complex of farms.

## **SALMONELLA**

Salmonella infections pertain to a group of numerous serovars of *Salmonella enterica*. Several of these are host adapted to poultry whilst others cause mild pathology to poultry however pose a high risk to humans that can become infected from contact or consumption.

*Salmonella enteritidis* and *Salmonella typhimurium* are the two most significant due human impact, the former being a state controlled disease. *Salmonella gallinarum* and *Salmonella pullorum* are poultry pathogenic serovars both of which are state controlled.

*Salmonella* is extremely poultry adapted with as little  $10^{x1}$  bacteria required to establish an infection. In the case of *S.gallinarum* mortality rates of 10%-93% have been recorded in infected flocks (Gast, 2008).

With regards to the transmission of salmonella infections routes include but are not limited to (Awad et al, 2014, Gast, 2008):

- Infected feed
- Insects (darkling beetles, flies, cockroaches)
- Wild birds
- Rodents
- Contaminated dust
- Humans
- Infected chicks

Rainbow chicken farms insists that all workers or visitors to grandparent farms (sites providing fertile parent eggs) be tested regularly via rectal swab to show Salmonella negativity.

The infection can potentially be vertically transmitted and thus an infected parent flock may result in the production of thousands of infected chicks disseminated to numerous farms. This poses a great public health risk as well as a financially costly eradication process (Gast 2008).

Movement control documents from DAFF also regulate the controlled salmonella serovars in poultry and require the restriction in movement of live birds, eggs and manure. It also restricts the restocking of infected sites and testing requirements to lift quarantine (Pienaar, 2009).

## **MYCOPLASMA**

Mycoplasma is an intracellular bacteria and with regards to the discussion *Mycoplasma gallisepticum* and *Mycoplasma synoviae* are the two most important mycoplasmosis of chickens.

Mycoplasma causes direct pathology as well as immunosuppressive conditions which can result in mortality as high as 30% in infect broiler flocks. As with NCD and Salmonella the infection can be transmitted vertically from an infected parent hen to the offspring (Ferguson-Noel, 2008).

Routes of transmission include carrier wild birds, infected dust, aerosol particles and feathers (Ferguson-Noel, 2008). The survival time of mycoplasma on rubber boots is proven at 2 days and the nasal passage of humans for 24 hours (Ferguson-Noel, 2008). It has also been shown that unwashed human and synthetic hair carry mycoplasma infections for 3 days post exposure or longer (Abolnik et al, 2014).

Due to the nature of transmission through the oviduct the control of mycoplasma infections again can spread from infected eggs to numerous sites and amount to hundreds of thousands of rands to control.

## **OTHER INFECTIONS**

In an attempt to streamline this report several diseases of lesser national significance have been omitted. These however can still pose a risk to the complex affected. Disease with potential transmission risks with increased people and construction activity and the uncontrolled access to the area include:

- Avian Rhinotracheitis virus
- Infectious bronchitis virus
- Infectious Laryngotracheitis virus
- Adenovirus infections
- Mareks disease virus
- Infectious Coryza
- Pasturellosis

## **OTHER**

In addition to the associated direct disease risks the construction phase of the project may pose several generic risks to bird health.

Liberation of dust during construction can risk to the transmission of fomites (as described earlier) that can act as vectors for disease, some listed prior. In addition the generation of dust adds a burden to the primary immune defence system of the bird (mucosal cilia) resulting in increased susceptibility (reduced infective dose) to poultry diseases.

The generation of noise has been linked with poultry house hysteria and smothering. The routine noises do not seem to result in this as the bird has become accustomed to it from a young age. Unusual loud noises such as lightning/thunder strike, roof damages or even trains sounding horns have been linked to smothering and heart attack events in my experience.

## **CONCLUSIONS**

The report highlights briefly some diseases and consequences of infection that are directly linked to human activity as a potential transmission source.

The construction phase will pose a higher risk of these conditions due to the increased people activity close to poultry sites as well as the increased dust and waste generation.

During this and the maintenance phase of the project a greater risk of increased human activity within and neighbouring the affected poultry sites increases the risk of the listed conditions.

Certain key factors such as prior exposure to poultry and bird species as well as biosecurity hygiene (showering, clean protective clothing etc.) cannot be controlled in the development project and thus poses an unknown risk as well.

Please view such a development with the interests of existing agriculture, local and national disease control and national food security in mind.

Dr Adrian Knoetze

BVSc, MSc (Vet. Trop. Dis.)

Divisional veterinarian – KZN and Cobb SA

Rev No: 01 05/10/15

Page | 7 of 9

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**UMKHOMAZI WATER PROJECT PHASE 1 –  
RAW WATER COMPONENT**

- DEA Reference Numbers:**
- Smithfield Dam - 14/12/16/3/3/94
  - Water conveyance infrastructure - 14/12/16/3/3/94/1
  - Balancing Dam - 14/12/16/3/3/94/2

**COMMENT SHEET – Review of Draft EIA Report**

(Complete and return to Donovan Henning by **15 August 2016**)

<b>Date</b>	8 August 2016		<u>Official use</u>
<b>Name of organisation (if applicable)</b>	PRIVATE PERSON		<b>Date received:</b>
<b>Name of Interested and Affected Party</b>	MONIKA SEELE		<b>Our reference:</b>
<b>Address</b>	<b>Postal</b>	<b>Physical</b>	<b>Status</b>
	PO Box 6 Baynesfield 3770 Kwa Zulu NATAL	166 KENSINGTON DRIVE DURBAN NORTH 4051 Kwa Zulu NATAL	
<b>Telephone No.</b>	082 436 9755		
<b>Fax No.</b>	NA		
<b>Email</b>	monsede@gmail.com		
<b>Location where report was reviewed:</b>	WEBSITE		



**Comments:** (note - additional pages may be included if the space provided is insufficient)

I am commenting on the proposed water pipeline that will cross Trewirgie Farm in the Baynesfield area.

I am an affected and interested party as Trewirgie Farm is my home farm where I grew up and I still spend a lot of time on the farm as my family still lives there.

I am opposing this project for the following reasons:

- Concern regarding the effect the drilling and laying of the pipeline will have on the natural environment on the farm; especially regarding the nesting blue swallows. These birds are very susceptible to any changes in their environment and they are critically endangered.
- Concern regarding the effect that the scrubhide will have on the Blue Swallows and also on the natural rank mistbelt grassland that is also endangered.
- Concern regarding the effect that this project will have on the spring water source that supplies all the households on the farm with clean potable drinking water.

The farm was previously declared a natural heritage site because of the pristine environment that has been preserved and a project of this nature will undoubtedly have an impact on this natural environment. The draft EIA report does not highlight the threat of the pipeline on the Blue Swallows of which there are only 100 individuals remaining.



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Tel: 031 - 785 9300 / 9313 • Fax: 031 - 785 2121 • Fax to E-mail: 086 293 7734 •  
Sms line: 083 445 3207 • E-mail: [sonja.britz@mkhambathini.gov.za](mailto:sonja.britz@mkhambathini.gov.za)

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## TECHNICAL SERVICES DEPARTMENT

Your ref: 14/12/16/3/3/3/95  
My ref: 19/7/2/108  
Enquiries: Mrs E Donaldson

15 July 2016

**NEMAI Consulting**  
P O Box 1673  
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[donavanh@nema.co.za](mailto:donavanh@nema.co.za)

**Attention: Mr Donovan Henning**

Dear Sir

### **EIA REPORT FOR ENVIRONMENTAL AUTHORISATION: PROPOSED UMKHOMAZI WATER PROJECT**

Your correspondence with attached reports dated 1 July 2016 refers.

It is noted that the review period for this report extends from 4 July 2016 to 15 August 2016 within which period there is no Council meeting due to the forthcoming elections. The Council resolution of 29 August 2014 therefore remains relevant. Additional comments provided in this response are therefore those of the staff of the Technical department within the Municipality.

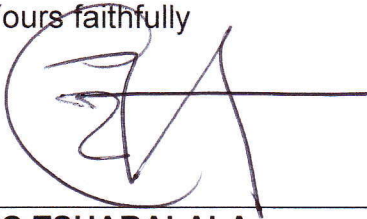
This development impacts on Wards 3 and 4 of this Municipality.

The bulk of the municipality's earlier concerns appear to have been addressed in the revised submission.

1. The proposed pipeline through Umlaas Road has been re-routed to take account of the AfroProp/One-Logistix development and to avoid the main access road servicing this industrial area.
2. It appears that the WTW in Baynesfield is the preferred option which aligns with this Council's earlier recommendation that it not be located in this municipal area which would negatively impact on our smaller commercial farming operations affecting long term viability.

Although it is understood that, from a technical perspective, a primary determinant in siting the infrastructure was ensuring the correct elevation to maintain a gravity fed system, construction of the pipeline will need to proceed with minimum disruption to the agricultural sector.

Yours faithfully

A handwritten signature in black ink, consisting of a large, stylized 'Z' and 'A' with a horizontal line extending to the right.

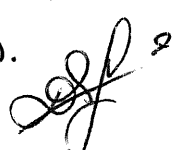
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**ZC TSHABALALA**  
**ACTING TECHNICAL SERVICES MANAGER**

Incwadi yezikhalazo zomphakathi wezizwe zamakhosi kwa Bhidla Traditional Council, no Zashuke Traditional Council ezingaphansi kwa Ngonyama trust, Kanye nomphakathi ongaphansi kowa land Affairs. Amapulazi Alandelayo, Smith Fied Farm, Valley view Farm, Clemont Farm, Kraal Farm, Deep dale Farm. [lot 93 of 1821] Camden Farm Kanye ne Clay born Farm .

1. Izizathu zokungalamukeli idamu lizophazamisa izindawo zokulima Kanye namadlelo.
2. Amathuna, amasiko ethu awavumelani nokumbiwa \ukuphazanyiswa kwamathuna
3. Ukugudlulwa kwemizi Kanye nemigwaqo okugcina kwandisa izindleko zokuthutha kubahlali abampofu.
4. Alizukuyisiza ngalutho umphakathi olakhele
5. Ukuphazamiseka kwezingane ezifundayo.
6. Ukungaphephi kwabantu beyofuna izinto zokuthutha.
7. Umhlonishwa uNgqongqoshe uGugile Nkwinti wathembisa abahlali base mapulazini asebafaka



Received As per Discussion with Mr. Nkosi.  
Way Fwd Provided. 

izicelo zomhlaba ukuthi abasayophinde basuswe emapulazini kuze kube kuphumelela izicelo zabo. Labahlali bamapulazi ababhalwe ngenhla sebazifaka izicelo zokubuyiselwa umhlaba wabo.

Lencwadi ibhalwe

*D.F. Bassi*  
.....

*P.C. Zhabazj*  
.....

# AMANXIWA.

1.SHINGILANI	SHEZI.
2.THULELENI	MADLALA.
3.MAKHOMANE	BHENGU.
4.NYAMAZANE	SBIYA.
5.MAS, TIFU	MKHIZE.
6.NOSIPHO	MKHIZE.
7.NAFTALI	SOKHELA.
8.PIYO	SOKHELA.
9.JIBHAKHOTHI	S,BIYA.
10.VUS,MUZI	S,BIYA.
11.MANDLENKOSI	SOSIBO.
12.JOS,KEYI	SOSIBO.
13.THAMI	HLELA.
14.THULANI	NZIMANDE.
15.S,BONGILE	NZIMANDE.
16.MKHOMBENI	SBIYA.
17.MAMAGOSO	NZIMANDE.
18.MPIPANE	NZIMANDE.
19.KGODO	NZIMANDE.
20.BHOYILE	MAPHANGA.
21.MONDLI	NZIMANDE.
22.BATUSILE	MADLALA.
23.M,BUYISENI	XABA.
24.MDONSWA	NGUBANE.
25.MUZI	ZUMA.
26.MASHELEMBE	KHUMALO.

27.MASBIYA	MTHEMBU.
28.BONGANI	NZIMANDE.
29.FUTHI	NZIMANDE.
30.NCFE	MTHEMBU.
31.MGUDLO.	MTHEMBU.
32.MDUDUZI	SITHOLE.
33.MBONGISENI	NZIMANDE.
34.BUSWAYO.	SOKHELA.
35.BHEKA	HLONGWANE.
36.NCENGENI	SBIYA.
37.GXOBANE	KHUMALO.
38.MZIYABANTU	SOKHELA.
39.BHANOYI	SOKHELA.
40.MANDLA	MNCWABE.
41.BENARD [BHENADI]	SOKHELA.
42.KHOTHASI	NZIMANDE.
43.MANGUBANE,-LETINA.	NZIMANDE.
44.MERIKA	NZIMANDE.
45.BANATHI	NZIMANDE.
46.MGAMBALAZI	NGCOBO.
47.BHANOYI	SOKHELA.
48.SELINA	NZIMANDE.
49.GERALD[GERADI]	STHOLE.
50.S,PHANI	NZIMANDE.
51.JONSON	NZIMANDE.
52.NIVATHI	MNCWABE.
53.MGEBHU	NZIMANDE.
54.HADEBE	DRIVER KWA MBOKODO.

# AMANXIWA ABANTU APHAZAMISEKAYO NANKA,NOMA AHLUKUMEZEKAYO.

- 1.LALISUKAKHONA KUNELAKWA MAPHANGA.
- 2.KWAMWELELA KUNETHUNA LAKWA XABA.
- 3.PHESHEYA KUNEZINGANE ZAKA MADLALA EZAMUKA NOMFULA.
- 4.KUNOMUZI WAKWA SHANGE.
- 5.KWA MAJIYA.
- 6.KWA DUSHU KWA MNCWABE.
- 7.KWA MNCWABE.
- 8.KWA KHUMALO.
- 9.KWA KHUMALO.
- 10.KWA KHESWA.
- 11.KWA GUMEDE.
- 12.KWA DLAMINI.
- 13.KWA MBHELE.
- 14.KWA GUMEDE.
- 15.KWA JOHNSON.
- 16.KWA MALINGA.
- 17.GUMEDE.
- 18.KWA JOBE KANGCOBO.
- 19.KWA JUQU.
- 20.KWA JALI.
- 21.KWA NGCOBO.
- 22.EMKHAMBENI KANDLELA KWABHUSA.
- 25.EMNYEZANENI KONDLELA KAMATSHELA.
- 26.KWA NDLELA KWA BHOBHODA.
- 27.KWASITHOLE KW ROLLY.



- 28.KWA MKHWAZI KWA NDONDOBALA.
- 29.KUYE KOSIBIYA UYISE WONJUZENI.
- 30.KWA SIBIYA KWA GXALINGENWA.
- 31.KWA SIBIYA UYISE KA MBHEFU.
- 32.KWA SIBIYA KO SOMDEWU UYISE KA DUMA.
- 33.KWA SIBIYA UYISE KA MPOMPO.
- 34.KWA HADEBE KUBOKA NGUNINGUNI.
- 35.KA HADEBE KOMTHUTSHANA OZALA OMHLEKENI.
- 36.UMAPHENJANI WAKWA NDLELA.
- 37.KWA XABA UTOM.
- 38.KWA XABA U AGROS KO JENENE.
- 39.KWA XABA KOMTHILILI.
- 40.KWA HLOPHE UYISE KASTIKI.
- 41.KWA NGCOBO KAMA FUMBATHA UYISE WOSHO.
- 42.KWA XABA EZIBUKWENI.
- 43.KUBE UMKHOBENI SHOBA.
- 44.KWA DLAMINI KOMPHULENI.
- 45.KUBE KWA SIBHEKAPHI.
- 46.KUBE KWA SHANGE KOMSHIYENI.
- 47.KUBE KWAMKHWANAZI KA MPEYANE NDODOBALA.
- 48.KWA NDLELA UMBIZA OZABUNONTONDO.
- 49.KWA NDLELA UDONGA OZALA UMBAZENI.
- 50.KWA NDLELA KAMASOKHATHELA.
- 51.KWA NDLELA KWASOMKHATHINI.
- 52.KWA ZONDO KASGQOBO.
- 53.KWA SIBIYA KAMUZIYONKE.
  
- 54.KWA MTHALANE MISHAKI.
- 55.KWA MTHALANE UZILE.

56.KWA DLAMINI UHLOMENI.

57.KWA MTHALANE UHLOMENI FUTHI.

58.KWA DLAMINI SIKABHU ----HHABI.

59.MKHIZE ZINQANE.

60.KWA NDLELA KWA NBIZA.

61.AMATHUNA APHESHEYA ABANTU ABABEMUKA NGAMANZI .

62.KWA NGCOBO ENDLOTSHENI –MZUMBE ENHLANGANWENI

63.KUNETHUNA ENHLANGANWENI YOMKHOMAZI NOHANA.

64.KÁMBOBE UNKOSKAZIOWAFIKA NAMANZI ONGAZIWANGA.KUNESKHOTHA.

65.LALISUKAKHONA PHESHEYA KUNAWAKWA KHUMALO.



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Attention: Donovan Henning

### PROPOSED UMKHOMAZI WATER PROJECT PHASE 1, RAW WATER COMPONENT.

This letter serves as a notice of receipt for the above mentioned document(s) dated **June 2016** (received on 07 July 2016).

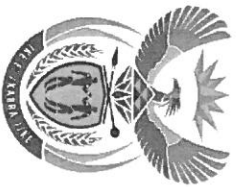
Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

Ms. Nandipha Sontangane

Forestry Regulations & Support

KZN



# agriculture, forestry & fisheries

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	3200	

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Attention: Donovan Henning

### PROPOSED UMKHOMAZI WATER PROJECT PHASE 1, POTABLE WATER COMPONENT.

This letter serves as a notice of receipt for the above mentioned document(s) dated **June 2016** (received on 05 July 2016).

Should any further information be required, please do not hesitate to contact this office.

Yours faithfully

Ms. Nandiphah Sontangane

Forestry Regulations & Support

KZN