

MINUTES OF THE MEETING/DISCUSSIONS
HELD WITH INTERESTED AND AFFECTED PARTIES (I&AP's): DONORA FALLS
HYDRO PROJECT:
28 OCTOBER 2010
09H00
Project Nr. 17/2/3/E-7

1. Participants:

- | | |
|-------------------------------|--------------------------------|
| • Mr. Douw Steyn | Weltevreden Boerdery. |
| • Mr. Rob Maguire | Waterberry Farm. |
| • Mr. Paul Oosthuizen | Project Engineer. |
| • Mr. Barry Victor | Neighbouring Farmer. |
| • Mr. Van Zyl Manktelow | Neighbouring Farmer. |
| • Mr. Johan van der Merwe | Applicant. |
| • Mrs. Stephnie van der Merwe | Applicant. |
| • Ralf Kalwa | Rhengu Environmental Services. |

2. Apologies:

None.

3. Welcome and Background:

Ralf thanked the participants for the opportunity to meet. Ralf briefly explained the role of interested and affected parties in an Environmental Impact Assessment Process and encouraged everyone to participate in an open and transparent manner. They should feel free to voice their comments and provide input at any stage of the process.

Furthermore, Ralf indicated that the purpose of this Focus Group Meeting was specifically planned to inform those parties which were directly affected by the **irrigation from the canal** (4 farms are affected). This is being done to ensure that they are informed of the project specifics before the project is opened to the public domain. In this way the applicant wishes to maintain good neighbour relations and hopefully address any urgent issues timeously and in a sensitive manner.

This meeting is but one of a set of meetings which will be held during the Public Participation Phase. Comments and concerns raised today will however be included in the participation process and by attending this meeting the farmers/participants have registered their interest in the project. These minutes will be included in the Environmental Assessment documentation.

A detailed Background Information Document (BID) was handed to each member at the meeting.

Ralf and Paul provided the following Background Information:

- Discussions with Government authorities in Nelspruit have taken place recently and it was determined that the Donora Falls Hydro Project (Pty). Ltd. represented by Johan and Stephnie van der Merwe would have to undertake an **Environmental Impact Assessment** as per the following activities in Listing Notice Nr. 1:
- **Government Notice: 544 of 18 June 2010 Gazette Number: 33306: Listing Notice1:**
- **Activity 39:** The expansion of canal/s, within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased development footprint but excluding where such expansion will occur behind the development setback line.
- **Activity 52:** The expansion of facilities or infrastructure for the transfer of water from and to or between any combination of the following:
 - (i) water catchments,
 - (ii) water treatment works; or
 - (ii) impoundments, where the capacity will be increased by 50 000 cubic metres or more per day, but excluding water treatment works where water is treated for drinking purposes.
- **Activity 9:** The construction of facilities or infra structure exceeding 1000 metres in length for the bulk transportation of water, sewage or stormwater,
 - (i) with an internal diameter of 0.36 metres or more; or
 - (ii) with a peak throughput of 120 litres per second or more; excluding where:
 - (a) such facilities or infra structure are for bulk transportation of water, sewage or storm water drainage inside a road reserve; or
 - (b) where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.
- **Activity 11:** The construction of canals....., where such construction occurs within a water course or within 32 metres of a watercourse, measured from the edge of the watercourse, excluding where such construction will occur behind the development setback line.
- To comply with **Environmental Legislation** an **Application** has been submitted to the Department of Economic Development, Environment and Tourism (DEDET), in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations of 2010.
- The purpose of this assessment process is to investigate the impact of implementing such activities at the Farm: Doornkraal Portion 5.

Having said this, Rhengu Environmental Services (RES) were appointed to undertake this assessment process. As part of this assessment process a **Public Participation Process (PPP)** must be initiated to involve all potential interested and affected parties. This meeting would form part of this process.

The project will include the following specific aspects:

- Raise the **existing** weir by 500 mm.
- Enlarge the **existing** canal to 2m X 1.5m wide where necessary over a distance of 1278m to convey water at 3m³/second (10 800 m³/hour = 259 200 m³/day).
- Install a **sluice gate** at the end of the canal to **feed** the rest of the canal for the farmers downstream.

- Install a **water meter** at this point to ensure that the correct allocated amount of water is sent down the canal to the farmers downstream.
- Install a **pressure pipe** (1.2m diameter) from the canal to the hydro station.
- Build the **hydro building** (approx. 48sqm) with an outlet.
- Generate **1.8 Mega Watt** of electricity.
- Construct a **maintenance road** to the hydro site (distance 250m and less than 4m wide).
- Build **22kV overhead power line** to join up with the Eskom network (400m).

4. Public Participation and Meeting:

RES has met with officials from DEDET who are the lead authority for this authorisation. The department has issued an instruction to commence with the Basic Assessment. A **Newspaper Advertisement** inviting public participation will be published in the Lowvelder (regional newspaper) on **29 October 2010**.

Advertisements will also be placed at the entrance/access to the site on the Brondal tar road and at local communal sites/shops etc. in the area. Furthermore the advertisements will also be sent via e-mail to all direct neighbours and persons that register through the Public Participation Process.

Ralf concluded that the purpose of this meeting was geared towards informing all the relevant parties about the scope of the development and to ensure that all the parties remain up to date on the relevant issues that will be investigated in the assessment phase. Furthermore, this meeting will afford the parties an opportunity to raise their concerns and submit suggestions pertaining to the issues that require assessment.

The following issues were raised during the meeting:

Issue	Response
1. Electricity: Barry enquired whether the farmers downstream could benefit from the electricity that will be generated at the hydro plant?	No. The electricity will be sold to the National Grid.
2. Electricity: Van Zyl wanted to know how much power would be generated?	1.8 Mega Watt of electricity will be generated and put into the National Grid.
3. Project Costs: What will the project cost?	In the region of R 15 million.
4. Project Costs: Will the costs of the project be covered by the sale of the power generated?	Yes, but it is a long term project.
5. Condition of Canal: The meeting agreed that the canal required quite a lot of maintenance and that any improvement to the condition of the canal would be beneficial to all parties downstream. The members were positive about the canal being fixed albeit for 1278 metres.	Comments noted.
6. Water Rights: The members at the meeting wanted assurance that the water rights would not be affected in any way AND that their allocations would be guaranteed?	All water rights would be honoured and all allocations per user would be maintained. Ralf also reiterated that a specialist (Althea van der Merwe) had been appointed to handle all aspects pertaining to water use; water licensing; registration, and liaison with the Department of Water Affairs.
7. Water Supply during Construction: Rob enquired how their water supply in the canal would be affected during construction. The downstream farmers require a sustainable supply of water at all times?	Paul and Johan confirmed that the construction process would be staggered to ensure a sustainable supply of water through the canal; during construction. Johan also added that he would augment the supply of water in the canal from his storage dam as and when required to ensure a steady flow into the canal. Both confirmed that the timing of construction and repair of the canal would have to be pre-planned carefully and one would have to adapt according to prevailing weather conditions. As it is the canal is often shut down for repair work. Liaison with all parties, as has been the case up until now, will be important. These aspects will however be defined in the Construction Environmental Management Programme (CEMP) which will form part of the EIA documentation.
8. Water Supply: How much water must be diverted into the canal over and above the allocated amount to generate the power in the hydro plant?	3m ³ per second.
9. Construction Timing: The meeting had different views as to the timing of construction. There are pro's and con's for both a winter and a summer construction period.	This aspect would have to be refined; however the water supply to the farmers through the canal must be maintained at all costs during the construction period (winter or summer).

General Comments:

None.

The meeting adjourned at 11h30.

MINUTES OF THE MEETING/DISCUSSIONS
HELD WITH DEPARTMENT OF WATER AFFAIRS AND PROJECT ROLE PLAYERS:
DONORA FALLS HYDRO PROJECT:
06 DECEMBER 2010
09H00
Project Nr. 17/2/3/E-7

5. Participants:

- | | |
|--------------------------------|--|
| • Mr. Douw Steyn | Farmer: Weltevreden Boerdery. |
| • Mr. Barry Victor | Neighbouring Farmer. |
| • Mr. Johan van der Merwe | Applicant. |
| • Mrs. Stephanie van der Merwe | Applicant. |
| • Ms. Lufuno Rambau | DWA: EIA's. |
| • Ms. Mpho Sebola | DWA: Water Quality. |
| • Ms. Prudence Dzambukeri | DWA: Abstraction and Storage. |
| • Mr. Sampie Shabangu | DWA. |
| • Paul Oosthuizen | Project Engineer. |
| • Liz Lambert | Maleka Environmental Consulting. |
| • Althea van der Merwe | Maleka Environmental Consulting. |
| • Dr. Andrew Deacon | Project Ecologist: Specialist Studies. |
| • Ralf Kalwa | Rhengu Environmental Services: EAP. |

6. Apologies:

Ian de Jager: Project Engineer.

7. Welcome and Background:

Ralf thanked the participants for the opportunity to meet. Ralf requested everyone to introduce themselves and provide some background as to their specific role in this process and or their responsibilities where applicable.

Furthermore, Ralf indicated that the purpose of this Focus Group Meeting was specifically planned to:

- Inform DWA of the implications of the proposed project, and,
- To allow DWA an opportunity to submit their requests/ideas and queries in order to ensure that the Project Team take cognisance of these aspects during the EIA process.

A detailed Background Information Document (BID) was handed to each member at the meeting.

Ralf and Paul provided the following **Background Information**:

- Discussions with Government authorities in Nelspruit have taken place recently and it was determined that the Donora Falls Hydro Project (Pty). Ltd. represented by Johan and Stephnie van der Merwe would have to undertake an **Environmental Impact Assessment** as per the following activities in Listing Notice Nr. 1:
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 - (i) water catchments,
 - (ii) water treatment works; or
 - (ii) impoundments, where the capacity will be increased by 50 000 cubic metres or more per day, but excluding water treatment works where water is treated for drinking purposes.
- **Activity 9:** The construction of facilities or infra structure exceeding 1000 metres in length for the bulk transportation of water, sewage or stormwater,
 - (i) with an internal diameter of 0.36 metres or more; or
 - (ii) with a peak throughput of 120 litres per second or more; excluding where:
 - (a) such facilities or infra structure are for bulk transportation of water, sewage or storm water drainage inside a road reserve; or
 - (b) where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.
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- The purpose of this assessment process is to investigate the impact of implementing such activities at the Farm: Doornkraal Portion 5.

Having said this, Rhengu Environmental Services (RES) were appointed to undertake this assessment process. As part of this assessment process a **Public Participation Process (PPP)** must be initiated to involve all potential interested and affected parties. This meeting would form part of this process.

The project will include the following specific aspects:

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- Enlarge the **existing** canal to 2m X 1.5m wide where necessary over a distance of 1278m to convey water at 3m³/second (10 800 m³/hour = 259 200 m³/day).
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- Install a **water meter** at this point to ensure that the correct allocated amount of water is sent down the canal to the farmers downstream.
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- Build the **hydro building** (approx. 48sqm) with an outlet.
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- Construct a **maintenance road** to the hydro site (distance 250m and less than 4m wide).
- Build **22kV overhead power line** to join up with the Eskom network (400m).

8. Public Participation and Meeting:

RES has met with officials from DEDET who are the lead authority for this authorisation. The department has issued an instruction to commence with the Basic Assessment. A **Newspaper Advertisement** inviting public participation was published in the Lowvelder (regional newspaper) on **29 October 2010**.

Advertisements have also been placed at the entrance/access to the site on the Brondal tar road and at local communal sites/shops etc. in the area. Furthermore the advertisements have also been sent via e-mail to all direct neighbours and persons that registered through the Public Participation Process.

The following issues/comments/queries were raised during the meeting and the site visit:

Issue	Response and Action
<p>1. SS: Oxygen Levels: When the water is returned to the river after it has been through the turbine the oxygen levels of the water will be different to what it was before it was used to generate electricity!</p>	<p>1. The project team does not agree with this observation however Dr. Deacon will look into this aspect during his studies. If there are differences, Dr. Deacon will assess whether the change in oxygen levels are significant.</p> <p>2. Dr. Deacon also requested that members in the meeting please send him any literature which they may have on these types of issues or previous studies which may be of use to him in this regard. Please submit these documents to Ralf Kalwa at rhengu@mwweb.co.za and he will ensure that Dr. Deacon obtains copies of all documentation.</p>
<p>2. SS: Fish Ladder: Will a fish ladder be constructed at the weir?</p>	<p>1. Yes, a fish ladder will be included at the weir to ensure a connectivity between the upper weir waters and the below weir waters. Dr. Deacon has worked on fish ladder proposals over the past 20 years and is well known for his expertise in this field.</p>
<p>3. PD and SS: Lawful Water Use: Is there an existing lawful water use registered for the water in the canal and from the river? Additional to this from which entitlement will the additional volume of water into the canal be sourced?</p>	<p>1. Yes, all water use has been registered and entitlements are in place. Althea van der Merwe will handle all water related aspects and applications (DWA) and will ensure that copies of these rights are submitted as per due process.</p> <p>2. The Project Engineers and AvdM will address the comment on source of additional water and under which entitlement it will be registered. Dr. Deacon's survey results will also guide the decision making process in this regard.</p>
<p>4. General: Water Abstraction vs Water Diversions: A discussion ensued between various members in the meeting around the technicality of whether this project was about a water abstraction versus a water diversion and or whether we are dealing with water storage? Also an argument was raised pertaining to the relevance of applying for S (21) (h)?</p>	<p>1. Althea van der Merwe (AvdM) will take this discussion further with the various role players at DWA. This technicality does not however affect the EIA investigation at this stage of the process. AvdM interpretation is that we are dealing with a water diversion as the water is returned 1.2 km further down back into the river. AvdM will finalise all DWA application implications (list of activities) following further discussions with DWA.</p>
<p>5. MS: Temperature and Water Quality: Please check up on the temperature and the quality of the water that is returned into the Nels River (after discharge) and before it is diverted out of the river into the canal.</p>	<p>1. Dr. Deacon will include these aspects into his study and he will also recommend that a Bio-Monitoring System is included in his recommendations for future monitoring programmes.</p>
<p>6. General: Water Flow (Quantity and Volume): A discussion ensued between various members in the meeting around the quantity of water in the river, in the canal and how this will be controlled and measured? SS also wanted to know what the long term flow average was in the river?</p>	<p>1. It was decided that 3 water measuring sites/meters would be installed: One at the canal entrance, one at the sluice gate to the farmers and one at the hydro station.</p> <p>2. PO/Ian de Jager will enquire about the water flow average of the river!</p>
<p>7. LR: Riparian Zone, Elevation- and Floodline Levels: The study must indicate the outline of the riparian zone and the 1:100 year floodline</p>	<p>1. Dr. Deacon will demarcate/delineate the riparian zone.</p> <p>2. PO/Ian de Jager will demarcate the floodline and elevation levels.</p>

<p>levels.</p> <p>8. SS: Crocodile Irrigation Board: Do the farmers that source water from the canal and weir belong to the Crocodile River Major Irrigation Board?</p> <p>9. General: Release of Water from the Hydro Plant: How will the water be returned to the river?</p>	<p>1. RK/Ian de Jager (Project Engineer with PO) will enquire from the farmers in question.</p>
	<p>1. A gabion mattress will be installed below the water release point to allow for a gradual dissipation of water back into the Nels River.</p>

General Comments:

None.

The meeting and site visit adjourned at 12h30.

Copies of E Mails, Notifications and Receipt of Reports

From: Johan Eksteen [johan@mtpa.co.za]
Sent: 12 April 2011 09:37
To: Hannes Botha
Cc: rhengu@mweb.co.za
Subject: FW: DONORA HYDRO PROJECT NELS RIVER SPECIALIST STUDY DR ANDREW DEACON AQUATIC AND TERRESTRIAL
Attachments: Microsoft Word - EXECUTIVE SUMMARY AND CONCLUSIONS.pdf



Johan Eksteen
 Manager Ecological Services
 Mpumalanga Tourism and Parks Agency

Tel: (+27) 13 759 5576
 Mobile: (+27) 83 579 2427
 Fax: (+27) 13 759 5590
 E-mail: johan@mtpa.co.za
 Postal: P/Bag X11338, Nelspruit, 1200
 Website: www.mpumalanga.com

From: Ralf Kalwa [mailto:rhengu@mweb.co.za]
Sent: Tuesday, April 12, 2011 9:21 AM
To: 'Ralf Kalwa'; Barry Victor; Douw Steyn; Frans Buys; John; L Potgieter; Louis Marais; Morathi Tseki; Rob Maguire; Van Zyl Manktelow
Cc: Ian@IFEngineering.co.za; 'althea van der merwe'; 'Paul Oosthuizen'; alpine@lantic.net; 'Andrew Deacon'; Michael Nyirenda; SSLanga@mpg.gov.za; Rambau Lufuno Patricia; Sebola Mpho (NSP); dzambukerip@dwa.gov.za; Shabangu Sampie Howard (NSP); Johan Eksteen
Subject: RE: DONORA HYDRO PROJECT NELS RIVER SPECIALIST STUDY DR ANDREW DEACON AQUATIC AND TERRESTRIAL

Project Reference: 17/2/3/E-7

Dear Interested and Affected Party and Government Officials

The Specialist Study: **Aquatic and Terrestrial Ecology: Dr. Andrew Deacon** for the EIA on the proposed Donora Hydro Station on the Nels River has been completed.

Hard Copies are available for perusal at the following venues:

1. The Mbombela Library: Nelspruit: Contact Person: Ms. Pinky Shabangu.
2. On the farm: Nora Falls: Contact Person: Ms. Stephnie van der Merwe: Cell: 082 829 7912

CD Copies:

I have sent copies of the Report on CD to all of you that have supplied me with your postal address.

Executive Summary and Discussion, Conclusions and Recommendations:

I have made copies of the executive summary, discussion, conclusions and recommendations in the document attached.

Hard Copies have also been delivered to:

1. DEDET: Nelspruit: Mr. Michael Nyirenda.
2. MTPA: Nelspruit: Mr. Johan Eksteen.
3. DWA: Mr. Sampie Shabangu (3 copies).

I would like you to peruse the report as a stand-alone document and submit your comments, changes and responses to this office by **close of business on 20 May 2011** to the contact points listed below:

Address: P. O. Box 1046 Malelane, 1320 or,

Fax: 086 685 8003 or,

E Mail: rhengu@mweb.co.za

My thanks go out to all of you that have participated in this important process to date.

Kind regards,

Ralf Kalwa
Rhengu Environmental Services
Cell: 082 414 7088

From: John Crawford-Brunt [John@klf.co.za]
Sent: 14 April 2011 11:41
To: Ralf Kalwa
Subject: RE: DONORA HYDRO PROJECT SPECIALIST STUDY

Brooklands postal address:

P.O. Box 1397
Sabie
1260

From: Ralf Kalwa [mailto:rhengu@mweb.co.za]
Sent: 11 April 2011 08:11 AM
To: Fransbuys@nelweb.co.za; Van Zyl Manktelow; Barry Victor; Rob Maguire; Douw Steyn; John Crawford-Brunt; L Potgieter; Louis Marais; Morathi Tseki
Subject: RE: DONORA HYDRO PROJECT SPECIALIST STUDY

Dear All

I am ready to send you a CD with a copy of the Specialist Report: Aquatic- and Terrestrial Ecology included. Could you please each confirm your postal addresses by return e-mail?

Kind regards,

Ralf Kalwa
Rhengu Environmental Services
Cell: 082 414 7088

IMPORTANT NOTICE The SAFCOL Group supports the Forestry Sector Charter and aspires to become leaders in transformation within the industry. SAFCOL and its subsidiary Komatiland Forests (Pty) Ltd achieved a B-BEEE rating of Level 3 measured using the Forest Sector Charter Scorecard. As part of our commitment to responsible forest management, we voluntarily subscribe to the principles and criteria of the Forest Stewardship Council™ (FSC™). Komatiland Forests sells FSC certified timber and lumber on the market. Please ensure you use FSC certified paper if you need to print this e-mail.

Ralf Kalwa

From: "Ralf Kalwa" <rhengu@mweb.co.za>
To: "Frans Buys" <Fransbuys@nelweb.co.za>; "Van Zyl Manktelow" <gomogomo@mweb.co.za>; "Barry Victor" <MVictor@global.co.za>; "Rob Maguire" <robmag@iafrica.com>; "Douw Steyn" <gerbrandsteyn@gmail.com>; "John" <John@KLF.co.za>; "L Potgieter" <lipot@vodamail.co.za>; "Louis Marais" <Louismar@lantic.net>; "Morathi Tseki" <Morathi.tseki@sasol.com>
Sent: 04 November 2010 15:30
Attach: ADVERT.doc; Microsoft Word - BID DONORA FALLS.pdf
Subject: ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Dear Interested and Affected Party

Please take note of the intention to develop a hydro plant on the farm Doornkraal 244 Portion 5. This is a call on all neighbours who have not registered their interest to participate in the Public Participation Process as part of the Environmental Impact Assessment Study.

Please peruse the attached advertisement and Background Information Document.

In order to ensure that you are identified/registered as an interested and/or affected party please submit your name, contact information (e-mail/telephone/fax number) and interest in the matter in writing to the contact person on the advertisement on/or before **26 November 2010**.

Kind regards,

Ralf Kalwa
Rhengu Environmental Services

22/06/2011

Ralf Kalwa

From: "Ralf Kalwa" <rhengu@mweb.co.za>
To: "Douw Steyn" <gerbrandsteyn@gmail.com>; "Barry Victor" <MVictor@global.co.za>; <alpine@lantic.net>; <mec1@lantic.net>; "Andrew Deacon" <AndrewD@sanparks.org>; "Paul Oosthuizen" <OosthuPJ@eskom.co.za>; <mec2@lantic.net>; <shabangus2@dwa.gov.za>; "Rambau Lufuno Patricia" <Rambaul@dwa.gov.za>; <sebolam@dwa.gov.za>; <dzambukerip@dwa.gov.za>
Cc: <lan@IEngineering.co.za>
Sent: 07 December 2010 15:36
Attach: MIN MEETING NR 2 DWA DECEMBER 2010.doc
Subject: COPY OF MINUTES DONORA FALLS DWA MEETING 6 DECEMBER 2010

Dear All

Many thanks for your attendance and positive involvement at yesterday's meeting.

Please peruse the attached minutes for correctness and submit changes before or at close of business on 17 December 2010. If I do not hear from you again then I will assume that the contents of the minutes are correct.

Kind regards,

Ralf Kalwa
Rhengu Environmental Services
Cell: 082 414 7088

22/06/2011

Ralf Kalwa

From: "Ralf Kalwa" <rhengu@mweb.co.za>
To: "Van Zyl Manktelow" <gomogomo@mweb.co.za>; "Barry Victor" <MVictor@global.co.za>; "Rob Maguire" <robmag@iafrica.com>; "Douw Steyn" <gerbrandsteyn@gmail.com>
Cc: <ian@IEngineering.co.za>; "Paul Oosthuizen" <paul.oosthuizen@eskom.co.za>; <alpine@lantic.net>; "Andrew Deacon" <AndrewD@sanparks.org>; <mec1@lantic.net>
Sent: 29 October 2010 11:41
Attach: MIN MEETING NR 1 I&P's OCTOBER 2010.doc
Subject: MINUTES OF FOCUS GROUP MEETING DONORA FALLS HYDRO PROJECT

Dear Interested and Affected Party**Project Reference: 17/2/3/E-7: Donora Falls Hydro Project: Brondal Area.**

Many thanks for your participation at the Focus Group Meeting on 27 October 2010. Please find attached the Minutes of the meeting. Please peruse the contents of the minutes and submit any changes by return mail before or on 5 November 2010. If I do not hear from you I will accept that the minutes are correct.

Kind regards,

Ralf Kalwa
Rhengu Environmental Services
Cell: 082 414 7088

22/06/2011

PLEASE SIGN AND FAX BACK 086 685 8003



RHENGU ENVIRONMENTAL SERVICES

PO Box 1046
Malelane
1320

Cell: 082 414 7088
Fax: 086 685 8003
E-mail: rhengu@mweb.co.za


RECEIPT OF DOCUMENTATION:
SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY:
DONORA HYDRO EIA PROJECT
PROJECT REFERENCE: 17/2/3/E-7

RECEIVED BY: *DEDET:*

SIGNATURE: 

DATE: *11/4/2011*

FROM: RALF KALWA

SIGNATURE: 

DATE: *11/4/2011*

PLEASE SIGN AND FAX BACK 086 685 8003



RHENGU ENVIRONMENTAL SERVICES

PO Box 1046
Malelane
1320

Cell: 082 414 7088
Fax: 086 685 8003
E-mail: rhengu@mweb.co.za

RECEIPT OF DOCUMENTATION:
SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY:
DONORA HYDRO EIA PROJECT
PROJECT REFERENCE: 17/2/3/E-7

RECEIVED BY: *DKA / SANDIE SIMSANGU*

SIGNATURE: *[Handwritten Signature]* *11 APR 2011*

DATE: *11/4/2011*

FROM: **RALF KALWA**

SIGNATURE: *[Handwritten Signature]*

DATE: *11/4/2011*

PLEASE SIGN AND FAX BACK 086 685 8003



RHENGU ENVIRONMENTAL SERVICES

PO Box 1046
Malelane
1320

Cell: 082 414 7088
Fax: 086 685 8003
E-mail: rhengu@mweb.co.za

RECEIPT OF DOCUMENTATION:
SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY:
DONORA HYDRO EIA PROJECT
PROJECT REFERENCE: 17/2/3/E-7

RECEIVED BY: *Mbombela library*

SIGNATURE: *[Signature]* (*Pinky Shabangu*)

DATE: *11/4/2011*

FROM: RALF KALWA

SIGNATURE: *[Signature]*

DATE: *11/4/2011*

PLEASE SIGN AND FAX BACK 086 685 8003



RHENGU ENVIRONMENTAL SERVICES

PO Box 1046
Malelane
1320

Cell: 082 414 7088
Fax: 086 685 8003
E-mail: rhengu@mweb.co.za

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SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY:
DONORA HYDRO EIA PROJECT
PROJECT REFERENCE: 17/2/3/E-7

RECEIVED BY: *MTPA: Johan Eksteen*

SIGNATURE: *[Signature]*

DATE: *11/4/2011*

FROM: RALF KALWA

SIGNATURE: *[Signature]*

DATE: *11/4/2011*



Ref: 4624
Enquiries: Dr. H. Botha
Tel: 013 262 4844
Fax: 013 262 4858

Mr. Ralf Kaiwa
Rhengu Environmental Services
P.O. Box 1046
MALELANE
1320

Fax: 086 685 8003

Dear Mr Kaiwa

**SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY: DONORA FALLS HYDRO PROJECT:
BRONDAL AREA: MPUMALANGA PROVINCE**

Your letter reference 17/2/3/E-7 of date April 2011 has reference.

The Mpumalanga Tourism and Parks Agency (MTPA) do not object to the proposed construction of the Donora Hydro-electrical Station on portion 5 of the farm Doorkraal 244 JT. After studying the Aquatic Specialist Study for this development the MTPA require the following mitigation measures to be implemented by the developers:

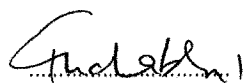
1. A measuring device and an operated sluice gate must be in place to provide the appropriate flows in the stretch of river between the weir and the hydro station.
2. Fishways should be constructed with rock and concrete to form pools in a rough ladder formation to enable fish to migrate up and down over the weir. The placements of these fish ladders must be established by a acknowledged fish specialist and the fish ladders built to fit in with the natural contours of the site. The steps should not be higher than 15cm and the pools should be large enough to facilitate areas for fish to rest.
3. Large trees, but especially *Breonadia salicina* (Matumi) and *Pterocarpus angolensis* (Kiaat) may not be removed or damaged.
4. The existing canal is constructed largely of soil and should be retained to assist small mammals and other animals which may accidentally fall into the canal with a means of escape from the water.
5. The pipeline route must be aligned in such a way that no damage is done to large indigenous trees such as *Breonadia salicina* (Matumi) and *Pterocarpus angolensis* (Kiaat) along the route.

Private Bag X11338 Nelspruit, 1200, N4 National Road, Hall's Gateway, Matlafin
Tel: +27 (13) 759 5300/01 Fax: +27 (13) 755 3928 Reservations: +27 (13) 759 5432
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**SPECIALIST STUDY: AQUATIC AND TERRESTRIAL ECOLOGY: DONORA FALLS HYDRO PROJECT:
BRONDAL AREA: MPUMALANGA PROVINCE**

6. The completed pipeline must be covered with soil removed from the trench to assist burrowing animals such as *Leptotyphlops distanti* (Distant's Thread Snake), *Amblyodipsas concolor* (Natal Purple-glossed Snake), *Scelotes mirus* (Montane Dwarf Burrowing Skink), *Acontias gracilicauda gracilicauda* (Thin-tailed Legless Skink), *Acontias breviceps* (Short-headed Legless Skink) and *Chrysospalax villosus* (Rough-haired Golden Mole)
7. Water released from the hydro station must be dissipated over rock piles to prevent eroding the river bank, aerate the water, and also prevent fish from trying to swim up-stream towards the hydro station.
8. The transmission line route must be aligned in such a way that no damage is done to large indigenous trees such as *Breonadia salicina* (Matumi) and *Pterocarpus angolensis* (Kiaat) along the route.
9. Collisions are the biggest single threat posed by transmission lines to birds. Methods to make transmission lines more visible to birds include the standard Eskom bird perch, marking wires and conductors with white wire spirals and black crossed bands, bird flappers and diverters which swivel in the wind, glow in the dark, and use fluorescent colours designed specifically for bird vision, anti-perching devices, covering of the central phase with insulating material and the modification of the structures to increase the distance between conductors.
10. No animals including snakes, should be killed or injured by workers during the construction and operation phases of the project.
11. A suitable qualified aquatic scientist must be appointed to design and implement an aquatic monitoring programme in the river reach between the Donora weir and the hydro-electric station. This programme must at least monitor the effect of the reduced flow in the river due to the abstraction of water for hydro-electricity, water quality (especially oxygen) and temperatures at sites upstream and downstream of the hydro-electric station releases and the ability of fish species to use the fishway at the weir.

Kind Regards



MR. C. NDABENI
CHIEF EXECUTIVE OFFICER
DATE: 23.05.2011

PLEASE SIGN AND FAX BACK 086 685 8003



RHENGU ENVIRONMENTAL SERVICES

PO Box 1046
Malelane
1320

Cell: 082 414 7088
Fax: 086 685 8003
E-mail: rhengu@mweb.co.za

RECEIPT OF DOCUMENTATION:

**PROJECT REFERENCE: 17/2/3/E-7: DONORA FALLS HYDRO PROJECT:
PORTION 5 OF THE FARM DOORNKRAAL 244: BRONDAL AREA,
MPUMALANGA PROVINCE.**

RECEIVED BY: Organisation: *DEDET*
Person: *Michael NYIRENDA*

SIGNATURE:

A handwritten signature in black ink, appearing to be "Michael Nyirenda", written over a horizontal line.

DATE:

6/7/2011

FROM: RALF KALWA

SIGNATURE:

A handwritten signature in black ink, appearing to be "Ralf Kalwa", written over a horizontal line.

DATE:

6/7/2011

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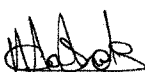
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PORTION 5 OF THE FARM DOORNKRAAL 244: BRONDAL AREA,
MPUMALANGA PROVINCE.

RECEIVED BY: Organisation: DWA
Person: CYNTHIA MASHELE

SIGNATURE: 

DATE: 6/7/2011

FROM: RALF KALWA

SIGNATURE: 

DATE: 6/7/2011

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PROJECT REFERENCE: 17/2/3/E-7: DONORA FALLS HYDRO PROJECT:
PORTION 5 OF THE FARM DOORNKRAAL 244: BRONDAL AREA,
MPUMALANGA PROVINCE.

RECEIVED BY: Organisation: *Library*

Person: *Pinky Shabangu*

SIGNATURE: *[Handwritten Signature]*

DATE: *6/7/2011*

FROM: RALF KALWA

SIGNATURE: *[Handwritten Signature]*

DATE: *6/7/2011*

PLEASE SIGN AND FAX BACK 086 685 8003



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RECEIPT OF DOCUMENTATION:

**PROJECT REFERENCE: 17/2/3/E-7: DONORA FALLS HYDRO PROJECT:
PORTION 5 OF THE FARM DOORNKRAAL 244: BRONDAL AREA,
MPUMALANGA PROVINCE.**

RECEIVED BY: Organisation:

Person: *Herbert N Laba*

Thaba Chawa Municipality

-083 273 6557

SIGNATURE:

DATE: *6/07/11*

FROM: RALF KALWA

SIGNATURE:

DATE:

From: Ralf Kalwa [mailto:rhengu@mweb.co.za]
Sent: 14 September 2011 08:45
To: 'Ralf Kalwa'; Barry Victor; Douw Steyn; Frans Buys; John; L Potgieter; Louis Marais; Morathi Tseki; Rob Maguire; Van Zyl Manktelow
Cc: Shabangu Sampie Howard (NSP); Ian@IFEngineering.co.za; 'Paul Oosthuizen'; 'althea van der merwe'; 'Andrew Deacon'; Michael Nyirenda; Rambau Lufuno Patricia; Sebola Mpho (NSP); 'dzambukerip@dwa.gov.za'; 'nilecrocs@mweb.co.za'; 'PHILLIP HINE'
Subject: RE: DRAFT ENVIRONMENTAL REPORT DONORA FALLS HYDRO PROJECT

Dear Interested and Affected Party

Please find attached Dr. Deacon's response to the **only query** we had on the Draft Environmental Assessment Report. This response will be included as Appendix 11 in Dr. Deacons Specialist Report.

The Final Report **including the above and the floodline demarcation** will be submitted to DEDET this week.

Kind regards,

Ralf Kalwa

From: Ralf Kalwa [mailto:rhengu@mweb.co.za]
Sent: 30 August 2011 12:15
To: 'Ralf Kalwa'; Barry Victor; Douw Steyn; Frans Buys; John; L Potgieter; Louis Marais; Morathi Tseki; Rob Maguire; Van Zyl Manktelow
Cc: Shabangu Sampie Howard (NSP); Ian@IFEngineering.co.za; 'Paul Oosthuizen'; 'althea van der merwe'; 'Andrew Deacon'; Michael Nyirenda; Rambau Lufuno Patricia; Sebola Mpho (NSP); 'dzambukerip@dwa.gov.za'; 'nilecrocs@mweb.co.za'; 'PHILLIP HINE'
Subject: RE: DRAFT ENVIRONMENTAL REPORT DONORA FALLS HYDRO PROJECT

Dear Interested and Affected Party

Thanks to all of you who have been part and parcel of this important project.

1. We only received **one request for additional information** from the Department of Water Affairs (DWA). The request centered around the hydrology of the river.
2. Dr. Andrew Deacon went to site on **19 August 2011** to address the request from DWA. His findings will be forwarded to you all as soon as he completes his findings, thereafter we will submit the Final Basic Assessment Report to the various role-players.
3. Please also find attached the **Floodline Demarcation** which was completed by the Engineers recently. Hydro site 1 is the preferred site for the Hydro Plant Building. It is found outside the 1:100 floodline.

Kind regards.

Ralf Kalwa

From: Ralf Kalwa [mailto:rhengu@mweb.co.za]
Sent: 07 July 2011 03:12
To: Barry Victor; Douw Steyn; Frans Buys; John; L Potgieter; Louis Marais; Morathi Tseki; Rob Maguire; Van Zyl Manktelow
Cc: Shabangu Sampie Howard (NSP); Ian@IFEngineering.co.za; 'Paul Oosthuizen'; 'althea van der merwe'; 'Andrew Deacon'; Michael Nyirenda; Rambau Lufuno Patricia; Sebola Mpho (NSP); 'dzambukerip@dwa.gov.za'; Ralf Kalwa; 'nilecrocs@mweb.co.za'; 'PHILLIP HINE'
Subject: DRAFT ENVIRONMENTAL REPORT DONORA FALLS HYDRO PROJECT

**PROJECT REFERENCE: 17/2/3/E-7: DONORA FALLS HYDRO PROJECT:
 PORTION 5 OF THE FARM DOORKRAAL 244: BRONDAL AREA,
 MPUMALANGA PROVINCE.**

Dear Interested and Affected Party

Thanks for all your input and participation towards this project so far.

The **DRAFT** Basic Assessment Report has been completed and is available for perusal and comments as follows:

Hard Copies have been left or posted to/at:

1. The Nelspruit Public Library: Ms. Pinky Shabangu.
2. The Offices at Department of Water Affairs: Nelspruit: Ms. Lufuno Rambau.
3. The Offices of the Planning Division: Thaba Chewu Local Municipality. (Sabie).
4. The Offices of the MTPA: Dr. Hannes Botha.
5. The SAHRA: Mr. Philip Hine.
6. The Applicant: Mr. Johan van der Merwe.

The Report consists of two sections:

1. The Report Section.
2. The Appendices Section.

The Appendices Section is **too large** and cannot be sent via e-mail. I have however attached the Report Section for your convenience.

I will have also sent you each a CD with **electronic copies of the Report and the Appendices**.

Please submit your comments, input, corrections to this office in writing by close of business on **22 August 2011**.

Many thanks and kind regards,

Ralf Kalwa
Cell: 082 414 7088

APPENDIX F:
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PROGRAMME

**CONSTRUCTION OF A HYDRO PLANT AND ASSOCIATED INFRA-STRUCTURE
AND WORKS:
DONORA FALLS HYDRO PROJECT: PORTION 5 OF THE FARM DOORNKRAAL
244 JT: BRONDAL AREA,
MPUMALANGA PROVINCE
PROJECT REFERENCE: 17/2/3/E-7**

1. ENVIRONMENTAL MANAGEMENT PLAN: CONSTRUCTION ACTIVITIES

This environmental management plan consists of a Construction Environmental Management Plan (CEMP), and will address the construction phase of the Hydro Plant, the canal and the raising of the weir. It will also address the construction of the fishway/fishladder and the trenching and placement of the pipeline and ESKOM cable.

1.1. Monitoring and Auditing

Rhengu Environmental Services (RES) represented by Ralf Kalwa, will ensure that all the **conditions** as set out in the **Record of Decision (ROD)**, and the **requirements as issued by DEDET**, are met and implemented as stipulated.

The ECO must submit to DEDET, a monthly audit report on the construction activities of the development.

The role of the ECO and independent audit teams are well defined in the framework of Integrated Environmental Management (IEM). The developer, together with the ECO will ensure **compliance** in terms of this process.

1.2. Roleplayers: Contact Details:

- | | |
|---|--------------------|
| 1. Project Engineer: Ian de Jager | Cell: 082 577 0677 |
| 2. Developer/Applicant: Johan van der Merwe | Cell: 082 557 6199 |
| 3. ECO: Ralf Kalwa | Cell: 082 414 7088 |

2. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

This plan must be read in conjunction with the **Contract Documents**, the **Building Specifications** and where applicable the **Bill of Quantities**. This environmental management plan consists of a Construction Management Plan (Construction Environmental Management Plan: CEMP) and will address the construction phase of the proposed development as described in Basic Assessment Report.

KEY ISSUES: Construction Management Plan

1. This plan is designed for the entire construction period, and includes the rehabilitation of areas where construction activities took place.
2. The Contractor, together with the Environmental Control Officer (ECO) will be responsible to ensure that all construction workers, sub-contractors, suppliers and relevant personnel associated with the construction:
 - Understand the contents of the Construction Environmental Management Plan (CEMP).
 - Ensure that all the construction personnel are fully aware of all environmental issues relating to the construction activities.
 - Adhere to all the precautionary and mitigating measures described in the CEMP.
 - Ensure that all the construction personnel understand the implications and stipulations of the Environmental Rules and Regulations described in the Construction Contract.
3. The ECO shall instruct the Project Manager to suspend the works if the Contractor and/or any Sub-Contractors do not comply with the contents of the CEMP.
4. The ECO will submit monthly audit reports to DEAT, the Contractor and the Developer.
5. The CEMP describes the responsibility of all the staff during the construction phase.
6. The ECO will oversee the operations and ensure compliance with the CEMP.
 - **Non Compliance:** The Contractor is deemed NOT to have complied with the CEMP, the ROD and the EIA if:
 - Within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of the Specifications, Environmental damage ensues due to negligence,
 - The Contractor fails to comply with corrective or other instructions issued by the ECO within a specific time,
 - The Contractor fails to respond adequately to complaints from the public, and/or,
 - Legal action is instituted against the developer in terms of the Environmental laws applicable in South Africa.
7. Prior to construction, the Contractor, in liaison with the ECO will submit a layout plan of the construction site indicating all of the following: storage areas, hazardous substances storage area (if applicable), different stockpile areas, batching plant (where applicable), material stores, waste disposal areas, on site offices, workshops, ablutions, access roads etc. This construction site layout plan must be submitted to DEDET and the ECO prior to site establishment.

2. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: The ECO will monitor compliance of this CEMP		RESPONSIBLE PERSON
ACTIVITY	MANAGEMENT/MITIGATION ACTION	
<p>1. Site Establishment and Management.</p>	<p>1.1. A final walk through the site with the ECO to point out the presence sensitive areas, e.g. Rare Plants/Habitat, Archaeological- and Historical sites/artefacts or any other aspect which requires protection has to be undertaken prior to site establishment.</p> <p>1.2. All staff must be trained to respect the importance of rare/conservation importance plants and artefacts (where applicable).</p> <p>1.3. All cultural finds must be reported to the ECO. The ECO will initiate a process to handle the find.</p> <p>1.4. Special features (rocky outcrops; large indigenous trees; rivers; etc.) must be indicated on the development map and demarcated on site prior to construction. Damage to such features must be rehabilitated and or monetary compensation must be made to the developer.</p> <p>1.5. Establish a Site Office where copies of the EIA, EMP, ROD and a register of all applicable procedures (e.g. handling of hazardous materials) must be kept.</p> <p>2. Limit construction/development site to existing infrastructure and/or to disturbed areas.</p> <p>3. The construction site and storage areas must be safeguarded against fire.</p> <p>4.1. Ensure that the Contractors Site is fully functional in terms of water, sewerage and power supply prior to the contractors coming on site.</p> <p>4.2. Ensure that only approved workers and Sub-Contractors are accommodated and allowed access to the site.</p> <p>5. Demarcate the boundaries of the total construction site for management purposes using steel droppers spaced at regular intervals with a nylon rope/barrier tape between the droppers or any other effective demarcation material/method.</p> <p>6.1. The Contractor shall maintain the demarcation line and ensure that materials used for construction on site do not blow on/or move outside the site or pose a threat to any neighbours or adjoining property owners.</p> <p>6.2. Where applicable, structures must be located in such a manner as to reduce visual intrusion and minimal disturbance to neighbouring properties. Make use of coloured netting or corrugated cladding to hide unsightly features.</p>	<p>Contractor</p>

	<p>7.1. Construction activities are restricted within these boundaries, thus all construction equipment, materials and personnel will remain within this demarcated area at all times.</p> <p>7.2. Ensure that access to the site including related infra-structure and machinery is restricted to authorised personnel only.</p> <p>8.1. Temporary access routes and haul roads are to be used within demarcated areas, and vehicle movement is strictly confined to these roads. No vehicle movement outside these areas is permitted without authorisation from the ECO.</p> <p>8.2. Dust control measures, i.e. dampening access routes with water, must be implemented where necessary. The construction process will largely be undertaken by hand. The impact of dust should therefore be limited.</p> <p>8.3. Damage to any existing roads as a result of construction activities will be repaired to the satisfaction of the ECO and the Developer.</p> <p>9. Indicate clearly which activity is designated to each area within the site, e.g. stockpiling of materials etc. Limit these activities to single sites as per 1.2.</p> <p>10. The Contractor shall ensure that all temporary structures/facilities, equipment, materials and waste used for construction activities are removed after completion of development.</p> <p>11. The contractor shall clear and clean the construction site to the satisfaction of the ECO and the developer upon completion of the development.</p> <p>12. Remove all components of demarcation when the construction phase is completed.</p> <p>13. Rehabilitate disturbed areas. This will include but not be limited to:</p> <p>13.1. Break up any hardened soil surfaces allowing seeds and rainwater an opportunity to penetrate the soil surface.</p> <p>13.2. Brush pack/landscape bare areas and reduce the potential run off of water.</p> <p>13.3. Shape/level off any unnatural areas to fit in with the surrounding landscape.</p>	<p>Contractor/s</p>
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ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>2. Site Preparation and Site Management. (The ECO must be consulted at all times during this process).</p>	<ol style="list-style-type: none"> 1. Vegetation clearing must be kept to an absolute minimum. The ECO must be consulted prior to any removal of vegetation. 2. Selective trimming of woody vegetation (where applicable) may be considered to allow for worker access or infrastructure placement. The ECO will approve all actions in this regard. 3. No large trees (trunk diameter > 250 mm) may be removed. ECO to be consulted if a tree must be removed. Special attention must be afforded to <i>Breonadia salicina</i> (Matumi) and <i>Pterocarpus angolensis</i> (Kiaat) trees. These two species may not be damaged and or removed. 4.1. Control of alien invasive species will be undertaken on the route/construction footprint in line with the requirements of the Conservation of Agricultural Resources Act. The ECO will identify plants (where applicable) which require removal and management. 4.2. Alien invasive plant material will be preferentially removed in entirety through mechanical means (e.g. chainsaw, hand-pulling of smaller specimens). 4.3. Chemical control is only required as a last resort or as a support mechanism to control coppicing and sprouting. 4.4. All exotic trees must be identified and earmarked for removal. The ECO will assist with identifications (where applicable). 4.5. A number of workers must be used to remove the vegetation i.e. 2-4. ECO to monitor. 4.6. Alien invasive plant material will not be stockpiled on site. All plant material controlled will be removed from the site and disposed of at an approved dump site as per Provincial procedures. 4.7. If during the establishment period, any noxious or excessive weed growth occurs, such vegetation will be removed by the contractor. 5. Collection of firewood/seeds/fruit or any biological material (where applicable) is strictly prohibited. 6. No animals including snakes should be killed or injured by workers during the construction- and or the operational phases of the project. 	<p>Contractor/ECO</p>

7. The Contractor is not allowed to deface, paint or mark and/or damage natural features/vegetation on the site.

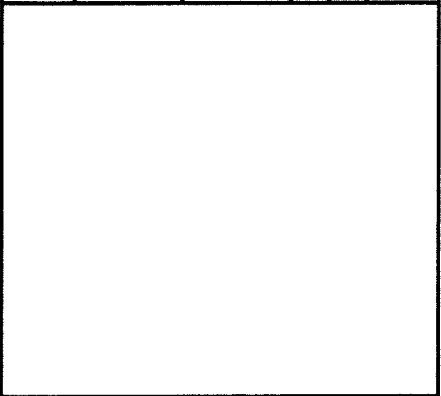
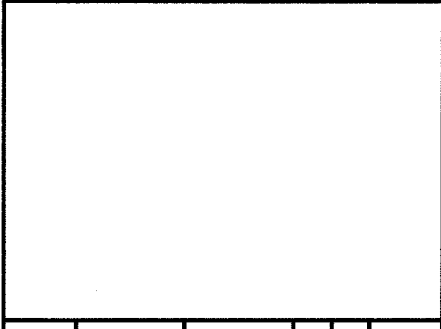
8. Topsoil will have to be removed from all areas where permanent structures are to be constructed and where construction related activities will occur, e.g. pipeline route, building for hydro equipment.

9. Topsoil to be handled twice only; once to strip and stockpile and secondly to replace along the contour, level, shape and scarify. The topsoil must be replaced as soon as possible.

10. Topsoil is not be compacted, nor should any object be stored/stockpiled upon it.

11. The Contractor shall prevent pollution incidents on the top soil. ECO to monitor.

12. Contractor to be held responsible for providing construction-, drinking-, and washing water for all the activities on site.



ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>3. Excavation, Backfilling and Levelling.</p>	<ol style="list-style-type: none"> 1. During excavation topsoil has to be stockpiled as specified in 2.7 -2.9. 2.1. Excavation of sand to solid ground to be done carefully and to ensure proper drainage. 2.2. Remove sand and debris, and expose all rocky material to ensure proper binding with concrete. 3. Construction to be done preferably over a stable substratum (rocky substrate) to provide maximum anchoring opportunity. 4. Excess sand (after construction) must be filled in and landscaped into natural sandbanks blending in with the topography of the surroundings. 5. Excess excavated rocky material (rock and boulders) to be used for erosion control/cladding where applicable or for purposes of landscaping. 6. The Contractor shall backfill according to the requirements of progressive reinstatement, i.e. reinstatement of disturbed areas to topsoil profile on an ongoing basis, immediately after selected construction activities are completed, which will allow for passive rehabilitation. 7. Excess stockpiled building material must be removed completely, and all areas levelled. 8. Excess sand and soil resulting from levelling activities of the work area to be stored in low heaps on the access road/or already disturbed areas. 9. Excess topsoil to be spread evenly over the area in a manner that blends in with the natural topography. 10. When heavy machinery has cleared the bulk of material stockpiles, the disturbed areas are to be levelled and cleared of any unnatural foreign material manually using shovels. 11. The existing canal is constructed largely of soil and this approach should be retained to assist small mammals and other animals which may accidentally fall into the canal with a means of escape from the water. 	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>4. Stockpiling of Building Materials.</p>	<ol style="list-style-type: none"> 1. Limit to the demarcated sites only. This site must be located above the 1:100 year flood line preferably on the access road. 2. Consider single sites a priority where possible. 3. Stockpiles of expensive materials i.e. cement, should be removed easily from site in times of no construction or rainy weather. The use of a shipping container should be considered. 4. Allocate space for waste specific sites e.g. waste site for empty cement bags, cement rubble, wooden rubble, metal off cuts etc. These sites must be fenced off and waste must be removed weekly to the designated landfill site in Nelspruit. 5. Specific sites must be allocated for the storage and handling of fuels (where applicable) and liquids required for operational purposes, e.g. oils, lubricants etc. 	<p style="text-align: center;">Contractor</p>
<p>ACTIVITY</p>	<p style="text-align: center;">MANAGEMENT/MITIGATION ACTION</p>	<p style="text-align: center;">RESPONSIBLE PERSON</p>
<p>5. Materials: Handling and Storage.</p>	<ol style="list-style-type: none"> 1. Fuels and other operational liquids (grease, oils, soaps etc.) required during the construction phase to be stored at a central depot in the construction camp at Donora. 2. Fuel Stores and diesel generators to be placed on a concrete, or similar base surrounded by a brick bund/wall. 3. Bunded area to have the volume of 100% of the volume of the largest tank in the storage area plus 100% of the volume of all other tanks. 4. Concrete slab to be sloped towards a sump to enable any spilt fuel/liquid to be removed. 5. Liquid fuel and gas not be stored in the same storage area. Gas to be stored in a locked metal cage. 6. Tanks containing fuel to have lids, which are to remain firmly shut. 7. Only clean empty tanks/drums to be stored on bare ground. 8. Any waste water collected at the sump to be disposed of at hazardous waste site. 9. A "No Smoking" restriction must be enforced inside and within 5m of these stores. 10. Contractor to ensure that there is adequate fire fighting equipment at the fuel stores. The OHAS Act will apply at all times in this regard. 	<p style="text-align: center;">Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>6. Servicing and Refuelling of Construction Equipment.</p>	<ol style="list-style-type: none"> 1. Contractor to ensure refuelling/servicing of equipment to be undertaken within the confines of the construction camp. 2. Contractor to change oils/lubricants at designated locations in the construction camp, except for a breakdown or an emergency. 3. Contractor to ensure that drip trays are available to collect any fluid. Any accidental spillages to be cleaned/removed with immediate effect. 4. Ground surface at refuelling/service areas to be protected against pollution caused by spills and or overfills. Drip trays, absorption blankets and plastic sheeting for protection and clean-up to be used at all times. 5. All water run-off from these refuelling/service areas to be collected, contained on site and stored in watertight containers prior to disposal off-site at a hazardous waste site. 6. All equipment that leaks to be repaired immediately or to be removed from site. 7. All soils, which are contaminated accidentally by spillages, must be stored in closed containers and handled by an approved/accredited Spill Control Expert, e.g. Chops Raats - Savuti Spill Control - Cell: 082 678 6399 (Nelspruit). 	<p style="text-align: center;">Contractor</p>
<p>ACTIVITY</p>	<p style="text-align: center;">MANAGEMENT/MITIGATION ACTION</p>	<p style="text-align: center;">RESPONSIBLE PERSON</p>
<p>7. Waste Management: Solid Waste.</p>	<ol style="list-style-type: none"> 1. All waste to be disposed of off-site at an approved landfill site (Nelspruit Landfill Site). 2. Contractor not to dispose of any waste and/or construction debris through burning or burying. 3. Contractor to supply tamper proof waste bins throughout the site at locations where construction workers are working. 4. If construction workers are to eat on site, contractor has to designate specific areas for this purpose and to provide for access to adequate refuse bins. 	<p style="text-align: center;">Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>8. Waste Management: Liquid Waste.</p>	<p>5. Tamper-proof refuse bins to be emptied on a daily basis. Refuse bins not to be used for any other purpose. The waste to be removed daily to a recognised landfill site. (Nelspruit Landfill Site).</p> <p>6. No mixed concrete/cement to be deposited directly onto the ground. Concrete may only be mixed on top of a protective plastic layer/sheeting/conveyor belt sheet. Excess concrete or cement from mixing to be deposited in a designated area awaiting removal to an approved landfill site. (Nelspruit Landfill Site).</p> <p>7. Old cement bags/mixing bags/platforms to be discarded in wind and spill proof containers. No cement bags closed and or open and empty to lie around the site.</p> <p>8. All loose building rubble and waste from the site to be disposed of at an appropriate fenced off rubble site for future removal to the Nelspruit Landfill site.</p> <p>9. All waste including cigarette boxes, cigarette butts, paper, plastic bags, tin, glass, wires, cable ties, and organic waste e.g. peels and bones to be disposed of in separate/designated refuse bins. This waste to be transported weekly in an appropriate manner (plastic bags) to the approved waste site for disposal and recycling at the Nelspruit Landfill Site.</p> <p>1. Construction water refers to all water affected by construction activities.</p> <p>2. Contractor may discharge "clean" water over land and allow this water to filter into the ground. Contractor to ensure that no erosion occurs as a result of overland discharge.</p> <p>3. Water released from the hydro plant must be dissipated over rock piles/gabion mattress to prevent any potential erosion of the river bank and to prevent fish from swimming upstream towards the hydro building.</p> <p>4. Contractor is encouraged to recycle dirty wash water in minimizing the amount of water to be removed from site.</p> <p>5. No River/Stream/Natural Drainage Line must be used for cleaning of tools and equipment. This includes the washing of clothes and bathing/recreational purposes.</p> <p>6. All washing of equipment to be undertaken at the designated facilities in the construction camp.</p> <p>7. All cleaning operations to take place off-site at a location where wastewater can be disposed of in an acceptable manner. Trucks delivering concrete are not to be washed on site or anywhere on site.</p>	<p>Contractor</p>

	<p>8. Water from any other cleaning operations to be collected in a "conservancy" tank removed from site and disposed of in the agreed manner.</p> <p>9. Contractor to contain wash water from cement mixing operations by directing the water into a sump for collection. Waste in the sump to be removed to an appropriate landfill site.</p> <p>10. Water and slurry to be contained to prevent the pollution of the ground surrounding the mixing and/or disposal points.</p> <p>11. All visible remains of excess concrete to be physically removed and disposed of as waste.</p> <p>12. A drainage system to be installed to divert run-off from areas of potential contamination/pollution, e.g. vehicle maintenance area, workshops and batching areas.</p> <p>13. No spills to be channeled into natural environment. Contractor to take reasonable precautions to prevent pollution of the ground and water resources.</p> <p>14. Construction waste to be discarded at a registered landfill site (Nelspruit).</p> <p>15. Adequate temporary (e.g. Enviro-loos) ablution facilities to be put in place on site located near to working areas. 1 Enviro-loo per 15 workers. Toilet paper must be provided by the contractor.</p> <p>16. All contaminated soil e.g. refuelling spills/leaks, to be excavated to the depth of contamination, and to be removed to an appropriate landfill site. See par. 6.7.</p> <p>17. Contractor to ensure that no fuels (petrol/diesel), oils, lubricants and/or other chemicals are discarded onto the ground. Use drip trays in all potentially risky situations.</p>
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ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>9. Waste Management: Hazardous Waste (Where applicable).</p>	<ol style="list-style-type: none"> 1. Contractor to comply to all national, regional, and local legislation with regards to the storage, transport, use and disposal of petroleum, chemicals, harmful and hazardous materials and substances. 2. Contractor to provide the ECO with a list of all petroleum, chemical, harmful and hazardous materials and substances on site, together with all the storage, handling and disposal procedures for these materials. A register must be kept at the site office containing all the written/prescribed handling procedures. 3. Contractor to be responsible for training and education of workers that will be working with these materials. Training to include the proper use, handling and disposal of the substances. 4. Storage of chemicals to be safe, tamper proof and under strict control. 5. Storage and handling of fuels, lubricants, chemicals and other hazardous substances to be protected by placing an impermeable liner beneath the above ground storage tanks in order to prevent accidental contamination of the soil. 6. All storage areas to be banded and equipped with a peripheral collection drain. 7. Banded area must be large enough to contain a spillage equivalent to the volume of each container of the substances stored. 8. All petroleum, chemical, harmful and hazardous waste on site to be stored in enclosed banded areas. Such waste including containers to be disposed of off-site at a hazardous waste disposal site. 9.1. The contractor will ensure that there is a supply of absorbent material (or absorption blankets) readily available on site to absorb, break down and where possible control any spillages that may occur. The amount and type of absorbent material must be appropriate to the volumes of hazardous liquids on site. 9.2. A staff member must be designated to manage this process. 9.3. Any accidental chemical fuel spills to be addressed and reported immediately. <p>Savuti Spill Control in Nelspruit are well versed on the subject and can be contacted as follows: Chops Raats: Cell: 0826786399</p>	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
10. Access Roads	<ol style="list-style-type: none"> 1. Adhere to the local speed limit on the farm (40km/h) at all times. 2. All construction roads created for the purposes of the development must be designed and planned in advance with the ECO. 3. Construction roads must be designed to incorporate adequate drainage and water attenuation structures. 4. Construction personnel should only use authorised paths and roads. 5. Contractors to limit the number of deliveries where possible through appropriate advance planning. Contractors will be required to submit a delivery timetable. 6. Cement and gravel spillage on the public roads must be cleared up immediately. 7. Any damage caused by the construction activities to any access or public roads must be rehabilitated thoroughly upon completion of the construction. 	Contractor
ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
11. Construction Staff	<ol style="list-style-type: none"> 1. The Code of Conduct for Contractors as described in the Tender Document will apply to all Construction Staff. The EMP will be included as a condition of the Tender Document. 2.1. Adequate accommodation, ablutions and cooking facilities to be erected at the Contractors Camp (Donora). The farmer/applicant/developer will determine a suitable site in the event that construction staff will have to overnight on site. 2.2. If shower facilities (where applicable) are provided the following controls must be put in place: <ul style="list-style-type: none"> • Positioning of the shower and specifically its discharge point must be done to ensure that erosion and build up of detergents does not occur. • All discharge from the shower and other washing facilities must pass through a suitable filter to reduce the load of detergents to the environment. • Filtered water discharge may thereafter be released to the environment, but mechanisms will be investigated to ensure that the water is evenly dispersed so as to not lead to greening up and or swampy conditions in one limited area. • Where possible all waste water will be connected to existing service lines. 	Contractor

	<p>3. A water and sewerage service (Enviro-Loos) to be in place before construction commences. Water and Sewerage to be properly monitored to prevent over usage and overloading.</p> <p>4. Boundaries of the accommodation, ablutions and cooking facilities to be clearly demarcated and fenced off where necessary. Preferably the majority of labourers will stay off site.</p> <p>5.1. Dry chemical toilets/Enviro-loos to be available on site during the day.</p> <p>5.2. Toilets to be cleaned and serviced regularly by an accredited service provider. 1 toilet per 15 workers.</p> <p>5.3. Contractor to supply toilet paper.</p> <p>5.4. The entrances to the toilets must be adequately screened from public view.</p> <p>5.5. All temporary facilities must be connected to formal Donora service structures as soon as possible.</p> <p>6.1. A designated place for food preparation and dining to be established on site.</p> <p>6.2. Dishwashing facilities must be provided.</p> <p>7. No open fires are allowed.</p> <p>8. Adequate tamper proof refuse bins to be provided on site and at accommodation units. (Where applicable).</p> <p>9. Staff may be transported in open vehicles, equipped with built up sides and a cover of some sort or type. Existing regulations of the Traffic Ordinance will apply at all times.</p>	
ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
12. Fire.	<p>1. Contractor to take all the necessary precautions to ensure that no fires are caused as a result of activities on site.</p> <p>2. Contractor to supply all accommodation and cooking facilities, site offices, workshop areas, storage areas, with approved fire-fighting equipment.</p> <p>3. All fire fighting equipment to be maintained in good operating order.</p> <p>4. No open fires for heating or cooking are allowed on site.</p> <p>5. Closed fires/stoves shall only be permitted at agreed designated safe sites in the construction camp/staff village.</p>	Contractor

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>13. Accidents.</p>	<p>1. Contractor to comply with the Occupational Health and Safety Act (OHASA), National Building Regulations and any other regulations with regard to safety on site.</p> <p>2. Contractor to ensure that all staff is familiar with all the emergency procedures.</p> <p>3. Contractor to ensure that lists of all emergency telephone numbers/contact people are available and are posted at relevant locations, e.g. site office, at all times; and that they are updated regularly.</p> <p>4. Contractor to be responsible for establishing an emergency procedure for dealing with spills/releases of fuels, chemicals, and hazardous substances. All spills/accidents to be recorded (in the Incident Register) and reported to the ECO. The clean up of spills and any damage caused shall be for the Contractor's account.</p>	<p>Contractor/ECO</p>
<p>ACTIVITY</p>	<p>MANAGEMENT/MITIGATION ACTION</p>	<p>RESPONSIBLE PERSON</p>
<p>14. Adverse Weather Conditions and Erosion Protection.</p>	<p>1. Contractor to ensure that no sumps (where applicable) are emptied unnecessarily. Special care to be taken during rainy periods/adverse weather conditions to prevent contents from overflowing.</p> <p>2. Contractor to set up a procedure for rapidly emptying any collection points to prevent them filling with rainwater.</p> <p>3. Contractor to ensure that rainwater does not run off areas containing pollutants, which can result in a pollution threat.</p> <p>4. Contractor to ensure that a procedure is established for dealing with potentially polluted rainwater. Procedures/method statements must be filed in the register in the site office.</p> <p>5. Stockpiles of fine material such as sand, topsoil, cement etc. to be protected from rain runoff and wind.</p> <p>6. During construction, Contractor to protect all areas susceptible to erosion by installing all the necessary temporary and permanent drainage works ASAP. Contractor must also prevent water scouring of the slopes, embankments (where applicable) and any other areas.</p> <p>7. Correct any cause of erosion at the onset thereof through the most appropriate mechanism. Discuss any remedial actions with the resident ECO.</p>	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>15. Noise, Visual and Dust Impacts.</p>	<p>1.1. Contractor to use the equipment that is appropriate to the task in order to minimise the extent of damage to the environment and minimise the noise levels.</p> <p>1.2. The provisions of SABS 1200A will apply to all areas within audible distance of the site.</p> <p>2.1. Noise levels to be kept within acceptable limits for a conservation/tourism area, and not to be of such a nature as to detract from the experience of persons in the area. No amplified music will be allowed.</p> <p>2.2. Construction activities generating output levels of 85dB or more will be confined to the hours 06h00 to 17h00 Mondays to Saturdays.</p> <p>2.3. The Contractor will take preventative measures (e.g. screening, muffling, timing, pre-notification of affected parties) to minimise complaints regarding noise and vibration nuisances from sources such as power tools and high impact construction (blasting) activities. No blasting is however envisaged for this development.</p> <p>3. The type and colour of both temporary and permanent structures to be of neutral non-reflective colours.</p> <p>4. Lighting temporary/permanent to be placed in such a way not to be of a nuisance to residents/guests and the general public visiting the area.</p> <p>5. Dust to be controlled on site at all times. Most of the work will be undertaken by hand and it is envisaged that the generation of dust will be low.</p>	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>16. Construction: Specific Activities</p>	<p>1. Trenching for the pipeline and the electrical cable will be undertaken as follows:</p> <ul style="list-style-type: none"> • Trenching will be minimised through the use of single trenches for multiple service provision. • Planning and selection of trench routes will be indicated on the Site Development Plan, and will consider environmental factors such as erosion and "no go" areas. All large trees (more than 250mm in diameter) especially the species listed in the Specialist Study will receive right of way and may not be damaged and or removed. • Trench routes with permitted working areas will be clearly defined and marked with painted stakes prior to excavation. • All trenches must be clearly marked in order to alert people to the potential hazard thereof. • All open trenches must be patrolled on a minimum of a daily basis to ensure that animals, e.g. lizards, small rodents, have not become trapped. Such animals will be removed and released. • Stripping and separation of topsoil will occur as stipulated by the CEMP. • Soil will be excavated and used for re-filling trenches using the rollover method, i.e. progressive re-instatement: This entails the following approach: <ul style="list-style-type: none"> • Soil from the first trench section will be stockpiled. • Soil excavated from subsequent trench lengths will be used to backfill once the services have been laid on an ongoing basis. • The final trench length will be re-filled using the originally stockpiled soil. • Trench lengths will be kept as short as practically possible. • Trenches will be re-filled to the same level as, or slightly higher to allow for settlement of the surrounding land surface to minimise erosion. Excess soil will be stockpiled in an appropriate manner. • Immediately after refilling, the disturbed areas will be stabilised. <p>2.1. The Contractor will minimise the extent of any damage to any drainage line that is necessary to complete the works, and will not pollute any eco-system as a result of construction activities.</p> <p>2.2. The Contractor will not cause any physical damage to any aspects of a watercourse (where applicable), other than that which is necessary to complete the works as specified and in accordance with the accepted method statement.</p>	<p style="text-align: center;">Contractor/ECO</p>

2.3. Construction activities will not permanently alter the surface or subsurface flow of water through the area.

3.4. In order to avoid erosion at storm water and hydro plant discharge points a 300mm thick gabion mattress will be constructed. This will allow for a gradual dissipation of water back into the receiving environment.

3.5. Specialist Study: Ecology: Construction Specifics:

Pipeline Route, Road Alignment and Electrical Cable Route:

- **Protection of Trees:** Two protected tree species, the Transvaal Teak (*Pterocarpus angolensis*) and the Matumi (*Breonadia salicina*) are commonly found on the site. All construction activities must avoid these two species at all times and none of these species may be removed and or damaged. The route alignments have been demarcated on the maps (Appendix A, preferred route and option), however an **on site final walk through** must be undertaken by the ECO and the contractor to ensure that all roleplayers take note of the trees which must be protected from damage. All trees will be marked by the ECO using danger tape.
- **Levelling soil and filling trenches:** All trenches must be filled as soon as possible to limit the impact of animals falling into the trenches. All animals must be rescued from the trenches. A daily patrol along all trench routes is required prior to the commencement of construction activities.

Rehabilitation of the construction area:

- **Excavated soil:** Excavated soil should be worked into the surrounding area along the natural contours and to blend in with the lie of the land.

Construction of the weir and the fishladder:

- **Transporting equipment and materials to site:** Construction material not used should be removed from the riverine area and care should be taken not to leave any cement/concrete or other foreign material on site.
- **Construction process:** It is necessary to deal with the construction of the weir (i.e. raising the weir in places) gradually or in phases to provide the local fish assemblages, an opportunity to retreat to new habitats.
- **Measuring Water Flow:** It is critical that the recommended Maintenance Low Flows as described in the Specialist Study (Appendix D, Table 31) are maintained at all times. To ensure that this recommendation is implemented, measuring devices and sluice gates must be installed to ensure that water quantity in the canal and down to the hydro station remain within the recommended parameters.

- **Power Lines:** Once the electricity is generated at the hydro plant it will be fed into an electrical cable and sent up into a powerline which will link up with existing lines on the farm. A short section of powerline will be erected (approximately 400m). It is recommended that this new section of powerline is made visible to the birdlife in the area. Several ways are known to ensure that this new line does not impact upon the birdlife on the farm. Marking wires and conductors with white spirals and black crossed bands can reduce mortality by up to 75%. Other helpful devices include bird flappers and diverters, which swivel in the wind and glow in the dark.
- **Monitoring:** Monitoring during and after construction should be undertaken. It is envisaged from the proposed development methods and the present ecological state of the site, that, if the project is put into operation in accordance to the prescribed environmental guidelines, **no major adverse effects will influence the ecological integrity of the site.**
- To ensure a **sustainable system for future generations** it is important that an aquatic monitoring programme is implemented as a condition of the authorization. This monitoring programme must include the section of the river between the Donora Weir and the Hydro Electric Plant. This programme (under the auspices of an aquatic ecologist) will address and monitor the effect of the reduced flow in the river due to the diversion of water for the production of hydro electricity. Furthermore, water quality measurements (especially oxygen and temperature levels) up stream and down stream of the hydro plant should satisfy any uncertainties surrounding these parameters in the production of electricity. Finally, the monitoring programme will assess the capability of the local fish to utilize the newly constructed fishladder.
- Drawing the flows down to the 0.131 m³/s as a prescribed ecological reserve should be tested when the hydro plant is in place. The ecological reserve have been set by experts through a process prescribed by DWA, however, since the proposed reserve is low and never tested, it is proposed that a monitoring programme is established once the hydro station is in operation.
- Dr. Andrew Deacon (fresh water ecologist) has many years of experience in the design and workings of **fishways**, especially in the Lowveld of South Africa. It is recommended that he oversees the construction process of the fishway as described in this report (BAR).

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>17. Emergency Procedures: General.</p>	<p>1.1. The Contractor will take all reasonable and active steps to avoid increasing the risk of fire through their activities on site.</p> <p>1.2. No general fires for heating or burning of waste material will be tolerated on site. In terms of the Atmospheric Pollution Prevention Act (APPA), burning is not permitted for waste disposal.</p> <p>1.3. Precautions (e.g. suitable fire extinguisher, welding curtains) when working with welding or grinding equipment near potential sources of combustion will be taken.</p> <p>1.4. All fire control mechanisms (fire fighting equipment) will be routinely inspected by a qualified investigator for efficiency thereof and be approved by local fire services. Such mechanisms will be present and accessible at all times.</p> <p>1.5. All staff on site will be made aware of general fire prevention and control methods, and the name of the responsible person to alert to the presence of a fire.</p> <p>1.6. The Contractor will advise the relevant authority of a fire outside of a demarcated area as soon as it starts and will not wait until he can no longer control it.</p> <p>1.7. The Contractor will ensure that his employees are aware of procedures to be followed for dealing with spills and leaks, which will include notifying the relevant authorities and the ECO.</p> <p>1.8. The Contractor will ensure that the necessary materials and equipment for dealing with spills and leaks are available on site at all times.</p> <p>1.9. Treatment and remediation of the spill areas will be undertaken to the reasonable satisfaction of the ECO.</p> <p>1.10. In the event of a hydrocarbon spill, the source of the spillage will be isolated and contained. The area will be cordoned off and secured. The Contractor will ensure that there is always a supply of an appropriate absorbent material readily available to absorb, breakdown and where possible treat a minor hydrocarbon spillage.</p>	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>18. Health and Safety</p>	<p>1.1. Contractor to provide an Occupational Health and Safety Management Plan to the ECO for approval prior to the commencement of works in terms of the Construction Regulations.</p> <p>1.2. Ensure that there is an inspection schedule and log for use by security or contract staff.</p> <p>1.3. Fencing and barriers will be in place in accordance with the Occupational Health and Safety Act (Act No. 85 of 1993).</p> <p>1.4. Applicable notice boards and hazard warning notices will be put in place and secured. Night hazards will be indicated suitably (e.g. reflectors, lighting, traffic signage).</p> <p>1.5. Emergency- and Management Staff contact details will be prominently displayed.</p> <p>1.6. Security personnel will be briefed and have facilities to contact relevant management and emergency personnel.</p> <p>1.7. No unauthorised firearms or weapons of any kind will be permitted on the site.</p> <p>1.8. Fire hazards will be identified and the relevant local authority division notified of any such potential threats (e.g. large brush stockpiles, fuel sources)</p> <p>1.9. In the event of use, scaffolding must be adequately secured.</p> <p>1.10. Structures vulnerable to high winds must be secured.</p> <p>1.11. Due to the nature of the project, the construction activities will not be able to be totally cornered off from adjacent land uses, thus making construction a safety issue. To this end, suitable warning mechanisms must be utilised – including but not limited to danger tape and signage.</p>	<p>Contractor</p>

ACTIVITY	MANAGEMENT/MITIGATION ACTION	RESPONSIBLE PERSON
<p>19. Site Clean Up</p>	<p>1.12. Should the site be closed for a period of more than one week, a report on compliance will be lodged with the Site Manager and the ECO, and the following will be confirmed:</p> <ul style="list-style-type: none"> • Stores will be left at as low a volume as practicable, with no leaks. • The store area will be secure and locked. • Fire extinguishers will be serviced and accessible. • The area will be secure from accidental damages. • Emergency- and contact numbers will be available and prominently displayed. • Toilets will be empty and secured. • Refuse bins will be empty and secured. • Access to the site must be limited to authorised personnel only. • Security staff will patrol and guard the site. <p>1. Contractor to ensure that all temporary structures, materials, and water and waste facilities used for construction activities are removed upon completion of the project.</p> <p>2. All signs of disturbance and contractor activity must be rehabilitated to a state as on day of site handover.</p> <p>3.1. All re-seeding activities will be undertaken at the end of the dry season (middle to end October) to ensure optimal conditions for germination and rapid vegetation establishment.</p> <p>3.2. When ripping for rehabilitation the contractor will rip to refusal or a minimum of 300 mm.</p> <p>3.3. The rehabilitated and seeded areas must be harrowed after spreading the topsoil and fertiliser uniformly.</p> <p>3.4. Inspect rehabilitated area at three monthly intervals during the first and second growing season to determine the efficacy of rehabilitation measures.</p> <p>3.5. Take appropriate remedial action where vegetation establishment has not been successful or erosion is evident.</p> <p>3.6. Only indigenous vegetation is to be used in any landscaping which may be undertaken.</p> <p>4. The ECO must sign off the works and the site during a Final Audit Assessment.</p>	<p>Contractor/ECO</p>

PROTECTION OF THE ENVIRONMENT: DECLARATION OF UNDERSTANDING: CONTRACTOR TO SIGN:

The Contractor will not be given right of access to the Site until this form has been signed.

I / we, _____ {Contractor} record as follows:

I / we, the undersigned, do hereby declare that I / we am / are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.

In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I / we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I / we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options.

In this regard, I / we recognize and accept the need to abide by the "precautionary principle" which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.

I / we have signed the Declaration of Understanding with respect to the Environmental Management Programme.

I / we acknowledge and accept the right of the Employer to deduct, should they so wish, from any amounts due to me / us, such amounts (hereinafter referred to as fines) as the Construction Manager shall certify as being warranted in view of my / our failure to comply with the terms of the Contract dealing with protection of the environment, subject to the following:

The Project Manager, in determining the amount of such fine, shall take into account inter alia, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance / non-compliance, the extent of the Contractor's overall compliance with environmental protection requirements and, in particular, the extent to which he/she considers it necessary to impose a sanction in order to eliminate / reduce future occurrences.

The Construction Manager shall, with respect to any fine imposed, provide me / us with a written statement giving details of the offence, the facts on which the Construction Manager has based their assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed _____
Date _____



RHENGU ENVIRONMENTAL SERVICES
P O Box 1046 Cell: 082 414 7088
MALELANE Fax: 086 685 8003
1320 E-mail: rhengu@mweb.co.za

ACCEPTANCE OF EMP: Donora Hydro Plant Project:

DECLARATION

I/We, the undersigned as the proponent/s/person/s responsible for the above-proposed activity undertake to abide by the above-designated EMP and associated conditions.

Name: _____

Signature: _____

Date: _____

Name: _____

Signature: _____

Date: _____

CHECKED BY ENVIRONMENTAL CONTROL OFFICER

Name: _____

Signature: _____

Date: _____

APPENDIX G:
TITLE DEED

Page 1

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OPGESTEL DEUR MY
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BOTHAM

VERBIND	MORTGAGED
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08 12 04	REGISTRAR

AKTE VAN TRANSPORT

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Sy dit hiermee kennelik

DAT **HESTER MARGARETHA BOTHA**

voor my Registrateur van Aktes te Pretoria, het verksyn, sy, die genoemde komparant daartoe behoortlik gemagtig uit krag van 'n volmag geteken te Nelspruit op die 23ste Julie 1999, en aan haar verleen deur

JOHANNES ERASMUS VAN DER MERWE

(Identiteitsnommer 580630 5059 08 6)

behoortlik daartoe gemagtig kragtens 'n Spesiale Volmag aan hom verleen deur

ZILLO DANIEL VAN DER MERWE

(Identiteitsnommer 190919 5031 08 4)

Getroud buite gemeenskap van goeder

geteken te PRETORIA, op die 22ste Julie 1999

Vir verdere endosementos sien For further endorsements see <p style="text-align: center; font-size: 2em;">6</p>

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EN die genoemde komparant het verklaar dat sy prinsipaal waarlik en wettiglik verkoop het op 22 JULIE 1999, en dat die genoemde Komparant in haar hoedanigheid voormeld, by hierdie akte sedeer en transporteer in volle en vrye eiendom aan ten gunste van

**DIE TRUSTEES VAN TYD TOT TYD VAN
DIE DONORA TRUST**

I T 2122/99

diese opvolgers in titel of regsverkrygendes

**RESTERENDE GEDEELTE VAN GEDEELTE 5 van die plaas DOORNKRAAL 244,
Registrasie Afdeling J T, Provinsie MPUMALANGA;**

**GROOT 201,3619 (TWEEHONDERD EN EEN komma DRIE SES EEN NEGE)
Hektaar;**

**AANVANKLIK GEREГИSTREER kragtens Sertifikaat van Geregistreeerde
Titel T 11551/1931 met kaart daaraangeheg en gehou kragtens Akte
van Transport T 2400/1966;**

ONDERHEWIG aan die volgende voorwaardes :

- A 1.** The Lydenburg Estates Limited reserves to itself, its successors and assigns (hereinafter collectively referred to as "the Company") the sole right to all minerals, metals, oil, oil shale, coal, lime and other mineral deposits and precious stones, in or upon the said property with full right to the company to prospect, mine, work for and dispose of same and for the exercise of such right the company shall be entitled to a right of way for itself and its employees to the works so carried on to grazing for its transport animals to sink shafts and boreholes to construct dams, lay trams rail, pipe and electrical lines, erect buildings for



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by virtue of the existing or future laws relating to precious and base metals and minerals and precious stones but shall not include the revenue derived from stand licences which shall be and remain the property of the owner of the said land, which said rights are held by the said company under Certificate of Mineral Rights No. 526/1931 S dated the 14th November 1931, welke voorbehou gemaak is ten opsigte van Gedeelte E genoem Noora Falls van die plaas Doornkraal No 244, Registrasie Afdeling J T, distrik Nelspruit.

B The property hereby transferred is entitled to a right of way over portion 6 of the farm DOORNKRAAL No. 244, Registration Division., district Nelspruit, measuring 284,0885 (Two hundred and eighty four comma nought eight eight five) Hectare, held under Deed of Transfer No 13711/1943 dated the 7th June 1943.

C. Die eienaar of sy regsopvolgers en regsverkrygendes van die eiendom hiermee getranspoteer is nie geregtig op water van watter aard ookal nie, uit die publieke strome wat ontstaan op of vloei oor -

(a) Gedeelte 7 (n gedeelte van gedeelte genoem BRONDAL PARK) van die Plaas BOSCHJESKOP No. 250, Registrasie Afdeling J.T. (voorheen No. 131) distrik Nelspruit, Groot 100,1997 Hektaar, en

(b) Gedeelte 6 (n gedeelte van gedeelte E genoem NOORA FALLS) van DOORNKRAAL No. 244, Registrasie Afdeling J T, (voorheen No. 105), distrik van Nelspruit, groot 284,0885 Hektaar, gehou onder Akte van Transport No. 13711/1943 gedateer 7 Julie 1943.

soos meer ten volle sal blyk uit Notariele Akte van Serwituut No. 492/1954 S.

D. Kragtens Notariele Akte No K1319/89 S gedateer 2 Maart 1989, is die hierinvermelde eiendom geregtig tot 'n reg van weg oor Gedeelte 25 van die Plaas Boschjeskop 250, J.T Transvaal; soos meer volledig sal blyk uit gemelde Notariele Akte waarvan 'n afskrif daaraan geheg is.

EN verder onderhewig aan sodanige voorwaardes as wat in gemelde aktes vermeld staan of na verwys word.

S 1

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WESHALWE die komparant afstand doen van al die reg en titel wat sy genoemde prinsipaal voorheen op genoemde eiendom gehad het en gevolglik ook erken dat hy geheel en al uit die besit daarvan onthef is en nie meer daartoe geregtig is nie, en dat kragtens hierdie akte, die genoemde

**DIE TRUSTEES VAN TYD TOT TYD
DIE DONORA TRUST**

diese opvolgers in titel of regsverkrygendes tans en voortaan daar toe garegtig is, ooreenkomstig plaaslike gebruik, behoudens die regte van die Staat, en ten slotte erken hy dat die koopprys die som van R495 000,00 (VIERHONDERD VYF EN NEGENTIG DUISEND RAND) bedra.

TEN BEWYSE WAARVAN ek, die genoemde Registrateur tesame met die komparant hierdie akte onderteken ne met die ampsseel bekragtig het.

ALDUS GEDOEN EN GETEKEN te PRETORIA op die 11 10 99

In my teenwoordigheid:


REGISTRATEUR VAN AKTES.

q q.



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APPENDIX H:
CORRESPONDENCE WITH DEDET

MPUMALANGA PROVINCIAL GOVERNMENT

Building No. 4
No. 7 Government Boulevard
Riverside Park Extension 2
Nelspruit
1200
South Africa



Private Bag X 11215
Nelspruit, 1200
Tel: 013 766 4004
Fax: 013 766 4614
Int: +27 13 766 4004
Int: +27 13 766 4614

Department of Economic Development, Environment and Tourism

Litiko Letekutfutukiswa
Kwetemnotfo, Simondzwo netekuVakasha

Umngango WezokuThuthukiswa
KoMnoho, iBhoduluko nezamaVakajho

Departement van Ekonomiese
Ontwikkeling, Omgewing en Toerisme

Enquiries: Michael Nyirenda, 18 Jones Street, Nelspruit, 1200, Tel: (013) 759 4151/4000, Fax: (013) 759 4165
Reference: 17/2/3/E-7

Att: Ralf Kalwa
Rhengu Environmental Services CC.
P.O. Box 1046
Malelane
1320

Fax no: 086 685 8003

Dear Sir,

APPLICATION FOR ENVIRONMENTAL AUTHORISATION: THE PROPOSED DONORA FALLS HYDRO-PROJECT ON PORTION 5 OF THE FARM DOORNKRAAL 244, MBOMBELA LOCAL MUNICIPALITY, MPUMALANGA PROVINCE.

The Department confirms having received the application form for environmental authorisation of the abovementioned project on 27 September 2010. You may proceed with the basic assessment process required in terms of the Environmental Impact Assessment Regulations, 2010.

The application has been assigned the reference number **17/2/3/E-7**. Kindly quote this reference number in any future correspondence in respect of the application and in all methods of notification used during the public participation process. The responsible officer is **Mr. Michael Nyirenda** and all correspondence must be directed to: The Deputy Director, Environmental Impact Management, Ehlanzeni District Office, marked for the attention of the responsible officer.

Please be advised that in terms of the provisions of Regulation 67, this application will lapse if the applicant fails for a period of 6 months to comply with a requirement of the EIA Regulations, 2010, or if reasons for failure to comply are not communicated in writing to and accepted by this Department.

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorisation being granted by the Department.

Yours faithfully



MR. P. SHONGWE
ACTING HEAD OF DEPARTMENT

DATE: 12/09/2010


MPUMALANGA
A Pioneering Spirit