

Amafa AkwaZulu-Natali

Heritage KwaZulu-Natal

Erfenis KwaZulu-Natal



PO Box 2685
Pietermaritzburg 3200

Tel: 033 394 6543

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Email: amafa.pmb2@mweb.co.za

Website: www.heritagekzn.co.za

NEEDS & DESIRABILITY APPLICATION FORM

In terms of the KwaZulu Natal Heritage Act No. 4 of 2008 and the National Heritage Resources Act No.25 of 1999 (Section 38 (1)), a permit is required to carry certain listed activities.

PLEASE NOTE

It is an offence in terms of section 34. of the KwaZulu Natal Heritage Act to make false statement or fail to provide required information in this application.

ALL APPLICATION FORMS AND PROOF OF PAYMENT ARE TO BE FORWARDED TO:
AMAFA KWAZULU NATAL, ARCHAEOLOGY DEPARTMENT, 195 LANGALIBALELE STREET,
PIETERMARITZBURG, 3201/ BOX 2685 PIETERMARITZBURG 3200.

Kindly note that:

1. Kindly note that with effect from 1st of April 2010 an application fee will be charged for Needs & Desirability applications and Permit applications.
2. Incomplete applications will not be processed until they are revised.
3. All information filled in on this form will become public information on receipt by this department. Any interested and affected party should be provided with information contained in this application on request, during any stage of the application process.
4. No faxed or e-mailed applications will be accepted, **only printed copies.**

SUBMISSION FEES

Regulations make provision for the agency to charge a submission fee. A administration fee of **R600.00** is payable to **Amafa aKwaZulu Natali** in postal order or bank deposit/internet banking prior to the processing of this application.

Banking Details in case of direct deposits:

ABSA BANK: Branch: ULUNDI Bank Code: 630330

Account in the name of AMAFA AKWAZULU- NATALI

Accounting No. 40-5935-6024

NB: Proof of payment to be forwarded (faxed, posted or delivered) to Amafa, to be referenced with applicants name and date

NEEDS & DESIRABILITY APPLICATION

FOR OFFICE USE ONLY

AMAFA ID _____

FILE REF _____

EIA NUMBER _____

DATE RECEIVED _____

APPLICANTS DETAILS

Applicant Name (company/institution/individual):

AFZELIA ENVIRONMENTAL CONSULTANTS CC ON BEHALF OF UMGENI WATER

Contact Person:

MS ELAINE GOVENDER

Telephone/Fax No.:

TEL – 031 303 2835 / FAX – 086 692 2547

Email:

elaine@afzelia.co.za

DEVELOPMENT DETAILS

Project Title:

PROPOSED DARVILL WASTEWATER TREATMENT WORKS UPGRADE, MSUNDUZI LOCAL MUNICIPALITY (KZ225), UMGUNGUNDOVU DISTRICT MUNICIPALITY (DC22), KWAZULU NATAL (DEA REFERENCE: 14/12/16/3/3/84)

Project Description:

The capacity of the Darvill Wastewater Works currently comprises 65ML/d. The increase in the hydraulic load, and associated organic load, has put a strain on the capacity of the plant to treat and effectively remove nutrients. Furthermore, the plant's discharge limit for NH₃ has been decreased to 6mg/l. As a result of the above, the plant is currently unable to meet required discharge standards, and needs to be upgraded. Changes to the Head of Works, the biological process, sludge digestion, and disposal and tertiary treatment would allow the plant to treat a further 35ML/d (resulting in a total capacity of 100ML/d). The capacity of the plant will therefore increase by 35%. The potential further upgrade 120 MLD in 2023 should be considered.

Umgeni Water (UW) concurrently will be installing an electricity cogeneration plant, which will generate power from the gas from the two anaerobic digesters currently on site. Currently, 25 000 kg/day of sludge is fed into the digesters, with methane-rich gas emitted during the digestion process. This methane-rich gas will be used to generate electricity (for the Darvill Wastewater Works) through a process referred to as co-generation, yielding 800-1000 kW of electricity per day.

Details of the upgrades, which are relevant to the authorisation requirements, are as follows:

Primary treatment

- I. An additional 40m diameter primary settling tank with a surface area of 1 250m² is likely.

- II. The construction of a new aerobic reactor (nominally 100 m x 60 m x 7 m deep) – 42 megalitres.
- III. Conversion of the existing aerobic reactor to an anaerobic / anoxic reactor.
- IV. Construction of a blower house to provide air supply for a fine bubble diffused air aeration system.

Secondary Treatment

- I. Two additional 35 m diameter secondary settling tanks complete.

Tertiary Treatment

- I. Extension of the chlorine tank - the manner of extending the gas chlorination system has not been finalised.

Sludge Handling and Disposal

- I. The installation of an electricity co-generation process (Combined Heat and Power – CHP). The source of the biofuel for the process will be the methane-rich digester gas from the anaerobic digesters at Darvill Wastewater Works. With the installation of the CHP process, all of the methane-rich gas will be used to generate electricity (1 MW).
- II. Sludge generation will increase and the current forms of disposal may be insufficient and require revision. A study was conducted with the aim of finding an effective option for sludge disposal. After all possible options had been assessed, composting was chosen as a feasible option for sludge end use - the remaining sludge will be composted and disposed of for agricultural use.

The above provides sufficient information on which to conduct the EIA and determine legislative requirements in terms of the Waste Management Licence and the EIA requirements. Regarding the water use licences, the current water use license issued for the plant restricts the discharge to a maximum of 32 million cubic meters of water containing waste per annum and this is based on an average dry weather flow of 75ML/day. Once the plant is upgraded, it is anticipated that the sludge generated will exceed this limit and therefore a revision or new licence application will be required.

Extent of Development Footprint (in m²):

338 051.991m²

TYPES OF DOCUMENT

- BID d/SCOPING REPORT f/SCOPING REPORT
 BAR EMP ROD

Nature of Development: (please tick the appropriate box)

PROPOSED DARVILL WASTEWATER TREATMENT WORKS UPGRADE, MSUNDUZI LOCAL MUNICIPALITY (KZ225), UMGUNGUNDLOVU DISTRICT MUNICIPALITY (DC22), KWAZULU NATAL

1	construction of a road exceeding 300 m in length	N/A	10	any development exceeding 5 000 m ² in extent any other category of development provided for in regulations	<input checked="" type="checkbox"/>
2	wall exceeding 300 m in length	N/A	11	other activity which will change the character of an area of land, or water exceeding 10 000 m ² in extent	<input checked="" type="checkbox"/>
3	power line exceeding 300 m in length	N/A	12	involving three or more existing erven or subdivisions thereof	N/A
4	pipeline exceeding 300 m in length	<input checked="" type="checkbox"/>	13	any development, or other activity involving three or more existing erven or subdivisions	N/A
5	canal exceeding 300 m in length	N/A	14	any development, or other activity involving three or more existing erven or subdivisions which have been consolidated within the past five years	N/A
6	other similar form of linear development	N/A	15	any development, or other activity the costs of which will exceed a sum set in terms of regulations	M/A
7	barrier exceeding 300 m in length	N/A	16	Rezoning of a site exceeding 10 000 m ²	N/A
8	construction of a bridge exceeding 50 m in length	N/A			
9	similar structure exceeding 50 m in length	N/A			

District Municipality:
UMGUNGUNDLOVU DISTRICT MUNICIPALITY (DC22)

Local Municipality:
MSUNDUZI LOCAL MUNICIPALITY (KZ225),

Traditional Authority:
Ingonyama Trust Board

Area/Town:
PIETERMARITZBURG

Property Description (Farm name, portion, lot, erf):
Portion 5 of ERF 1853

X (South) Coordinate: 29° 36' 02.60"

Y (East) Coordinate: 30° 25' 49.61"

1:50000 mapsheet: Please refer to Appendix A


1:10000 mapsheet: Please refer to Appendix A

CHECKLIST	YES	NO
Completed & Signed Application Forms	√	
Site Photographs	√	
1:50 000 Topographical and Aerial Photo Map	√	
Payment/ Proof of Payment	√	

Nature of payment - postal order, bank deposit, internet banking: Internet Banking

Declaration

I, Elaine Govender undertake strictly to observe the terms, conditions, restrictions, by-laws and directions under which the Council of *Amafa aKwaZulu-Natali* may issue the permit.

Signature		Place	Morningside
		Date	12 th July 2013
Amafa		Place	
		Date	

NB: APPLICATIONS SUBMITTED WITH INCOMPLETE FORMS WILL NOT BE CONSIDERED

APPENDIX A: AERIAL MAPS

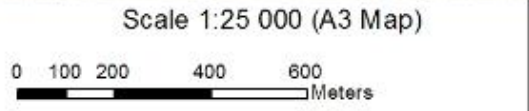


Legend

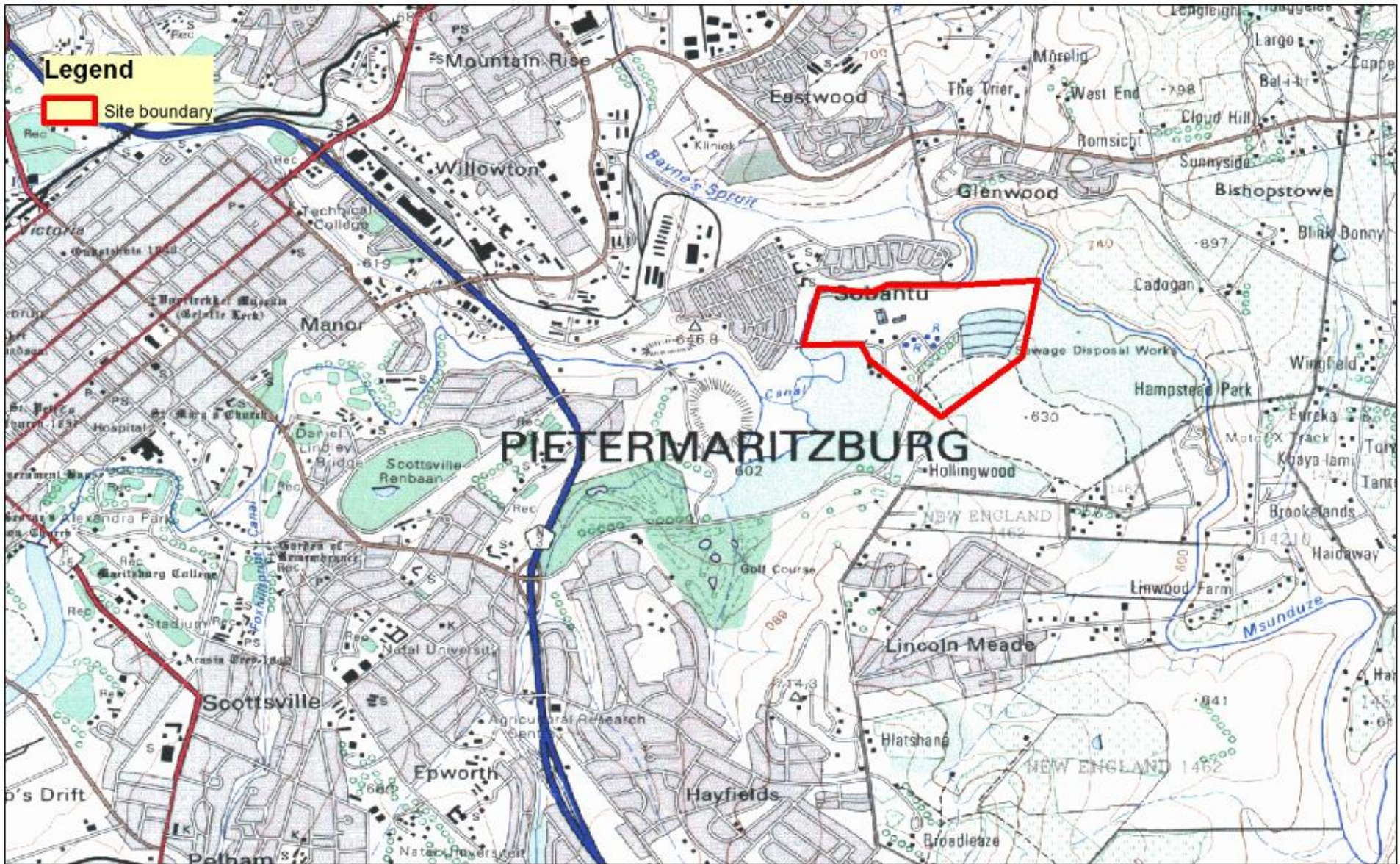
- Road
- ▭ Site boundary



**Darvill Waste Water
Treatment Works
Aerial Map**



PO Box 37089 OVERPORT 4067
 Tel: 031 303 2835
 Fax: 031 312 0896
 Email: brian@afzelia.co.za
 CK 2005/071211/23 Date:19/02/2013



Darvill Waste Water
Treatment Works
Locality Map



PO Box 37069 OVERPORT 4067
Tel: 031 303 2835
Fax: 031 312 0896
Drawn by: Brian Mafela
Email: brian@afzelia.co.za

CK 2005/071211/23 Date:19/02/2013

APPENDIX B: SITE PHOTOGRAPHS

Darvill WWTW site Photographs



Photo 1: The existing anaerobic reactor to be converted to a RAS conditioner



Photo 2: The existing Head of Works to be upgraded



Photo 3: The existing balancing tank



Photo 4: One of the two existing primary settlement tanks



Photo 5: The existing two egg shaped digesters

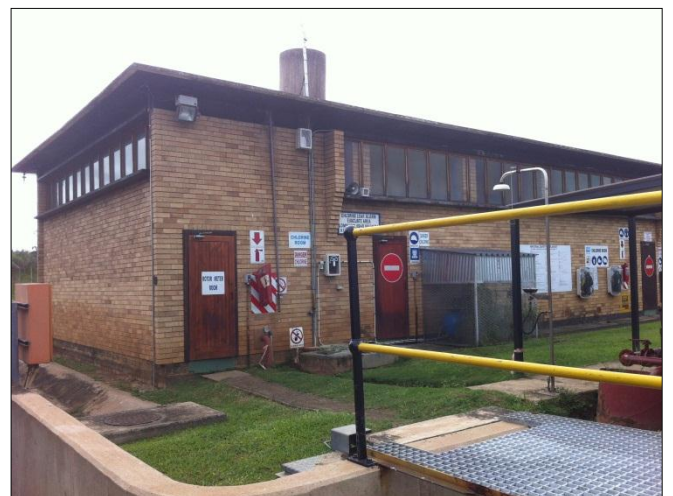


Photo 6: The existing Chlorine Room



Photo 7: The existing activated sludge pump station



Photo 8: The existing aerobic reactor to be converted to an anaerobic reactor during the upgrade

APPENDIX C: LAYOUT PLAN



REFERENCE DRAWINGS		
NO.	DESCRIPTION	DATE

CONSULTING ENGINEER APPROVAL		
NAME	DESIGNATION	DATE

CONSULTING ENGINEER APPROVAL		
NAME	DESIGNATION	DATE

KwaZulu-Natal
GOBA
G O B A

BOSCH
STEMEL
Specialty Solutions • Global Presence

100% SOUTH AFRICAN OWNED
100% SOUTH AFRICAN MANUFACTURED
100% SOUTH AFRICAN SUPPORTED

UNDERWATER APPROVAL		
NAME	DESIGNATION	DATE

WATER SA
Managing Water for Life
WATER - ABOVE

DARVILL SPW EXTENSIONS

SURVEY EXTENT

SCALE: AS SHOWN
DATE: 10/08/2024
DRAWN: [Name]
CHECKED: [Name]

TOTAL AREA PROJECT TO DATE		
NO.	DESCRIPTION	AREA (M ²)
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SCALE: AS SHOWN

APPENDIX D: PROOF OF PAYMENT



NOTIFICATION OF PAYMENT

To Whom It May Concern:

First National Bank hereby confirms that the following payment has been made :

Date actioned	: 12/07/2013
Time actioned	: 15:05:05
Trace ID	: VODSGZKP2PDB
Payer Details	
Payment From	: *MAB ARCHITECTS
Amount	: 600.00
Payee Details	
Recipient/Account No	: . . 356024
Name	: Amafa KZN
Bank	: ABSA Bank
Branch Code	: 632005
Reference	: Darvill WWTW
Channel	: INTERNET

END OF NOTIFICATION

To authenticate this Payment Notification, please visit the First National Bank website at <https://www.fnb.co.za>, select the "Verify Payment Notification" link and follow the on-screen instructions.

Our customer (the payer) has requested FirstRand Bank Limited to send this notification of payment to you. Should you have any queries regarding the contents of this notice, please contact the payer. FirstRand Bank Limited does not guarantee or warrant the accuracy and integrity of the information and data transmitted electronically and we accept no liability what soever for any loss, expense, claim or damage, whether direct, indirect or consequential, arising from the transmission of the information and data.

FirstRand Bank Directors: LL Dippenaar (Chairman), SE Nxasena (CEO), VW Bartlett, JJ Bester, MS Bemela, JP Burger, L Crouse, JJ Durand, GG Gelinck, PM Goss, NN Gwagwa, PK Harris, WR Jardine, EG Matengo-Sebesho, AT Nzimande, D Premnarayan (India), KB Schoeman, BJ van der Ross, JH van Greuning, P Cooper (Alternate) Company Secretary: BW Unser

First National Bank, a division of FirstRand Bank Limited. Reg.No.1929/00 1225/00.