

BASIC ASSESSMENT REPORT

DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

- 4784 *Pappea capensis* Eckl & Zehr.
4836 *Hippobromus pauciflorus* (L.f.) Radlk.

VITACEAE (4909)

- 4917 *Rhoicissus digitata* (L.F.) Gilg & Brandt

TILIACEAE (4937)

- 4966 *Grewia occidentalis* L.
Grewia robusta Burch.

MALVACEAE (4980)

- 4998 *Sida rhombifolia* L.
Malvaceae sp.indet.

OCHNACEAE (5112)

- 5112 *Ochna arborea* Burch. ex DC.

CACTACEAE (5401)

- 5417 *Opuntia ficus-indica* (L.) Mill.

THYMELAEACEAE (5435)

- 5435 *Gnidia capitata* L.f.
5461 *Passerina vulgaris* Thoday

ARALIACEAE (5839)

- 5872 *Cussonia spicata* Thunb.

APIACEAE (5893)

- 5894 *Centella asiatica* (L.) Urb.
Apiaceae sp.indet.

PLUMBAGINACEAE (6343)

- 6343 *Plumbago auriculata* Lam.

SAPOTACEAE (6353)

- 6360 *Sideroxylon inerme* L.

EBENACEAE (6403)

- 6404 *Euclea natalensis* A.DC.
Euclea undulata Thunb.
6406 *Diospyros dichrophylla* (Gand.) De Winter
Diospyros lycioides Desf.
Diospyros scabrida (Harv. Ex Hiern.) De Winter

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Diospyros *Isp.*

OLEACEAE (6419)

- 6434 *Olea europaea* L.
subsp. *africana* (Mill.) P.S.Green

SALVADORACEAE (6444)

- 6444 *Azima tetraacantha* Lam.

APOCYNACEAE (6549)

- 6558 *Acokanthera oppositifolia* (Lam.) Codd
6559 *Carissa bispinosa* (L.) Desf. ex Brenan

ASCLEPIADACEAE (6752)

- 6791 *Gomphocarpus physocarpus* E. Mey.
6849 *Sarcostemma viminale* (L.) R. Br.
6860 *Secamone alpinii* Schultes

CONVOLVULACEAE (6968)

- 7003 *Ipomoea* sp.

BORAGINACEAE (7038)

- 7043 *Ehretia rigida* (Thunb.) Druce

VERBENACEAE (7138)

- 7144 *Lantana camara* L.
7191 *Clerodendrum glabrum* E.Mey.

LAMIACEAE (7211)

- 7350 *Plectranthus* sp.

SOLANACEAE

- 7379 *Lycium afrum* L.
7407 *Solanum* sp.

SCROPHULARIACEAE (7460)

- 7519 *Sutera campanulata* (Benth.) Kuntze
Sutera sp.

SELAGINACEAE (7566)

- 7568 *Selago corymbosa* L.

BIGONIACEAE (7705)

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7713 *Tecomaria capensis* (Thunb.) Spach

ACANTHACEAE (7908)

7914 *Thunbergia capensis* Retz.

8032 *Hypoestes aristata* R.Br.

8094 *Justicia capensis* Thunb.

RUBIACEAE (8116)

8281 *Burchellia bubalina* (L.f.) Sims

8283 *Xeromphis rudis* (E.Mey. ex Harv.) Codd

8352 *Canthium inerme* (L.f.) Kuntze

8383 *Pavetta revoluta* Hochst.

8435 *Galopina circaeoides* Thunb.

DIPSACACEAE (8539)

8546 *Scabiosa columbaria* L.

LOBELIACEAE (8681)

8681 *Cyphia heterophylla* Presl. ex Eckl. & Zeyhr.

8694 *Lobelia erinus* L.

8695 *Monopsis scabra* (Thunb.) Urb.

ASTERACEAE (8729)

8930 *Chrysochoma ciliata* L.

9006 *Helichrysum anomalum* Lees.

Helichrysum cymosum (L.) D.Don

Helichrysum lineare DC.

Helichrysum nudifolium (L.) Less.

Helichrysum rugulosum Less.

Helichrysum sp.

9037 *Stoebe vulgaris* Levyns

9043 *Metalsia muricata* (L.) D.Don.

9351 *Cotula sericea* Thunb.

9411 *Senecio inaequidens* DC.

Senecio liniifolius L.

Senecio speciosus Willd.

Senecio pterophorus DC.

Senecio sp.

Senecio sp.

9432 *Actotis* sp.

9432 *Haplocarpha* sp.

9247 *Chrysanthemoides monilifera* (L.) T.Norl.

9343 *Gazania krebsiana* Less.

9438 *Berkheya decurrens* (Thunb.) Willd.

9462 *Cirsium vulgare* (Savi) Ten.

9592 *Taraxacum* sp.

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Appendix E – Comments and Response Report

The Public Participation process was followed in accordance with the current legislation. A public meeting was not deemed necessary as there were only a few IAPs who expressed concern over the development. Contact was therefore telephonic, via email, or by letter.

No comments have been received to date.

Name	Affiliation
Land owners	
Mr Peter and Mrs Wilmots	
Neighbours	
Mark Rushmere (PE) Tony Fuller (local)	Kariega park (owner)
Alan Weyer General Manager	Kariega park
Clive Shone	Manager for Mr Coetzee
Mr Coetzee	
Government	
Viwe Ngunge	Dept. Economic Development, Environmental Affairs and Tourism
Rolly Dumezweni	Ndlambe Municipality: Municipal Manager
Key stake holders	
Anneliza Collett	DAFF Agri
S.Gwen	DAFF EC Forestry
Richard Pote	Ndlambe Local Municipality
M Mateti	Ward 1 Councillor
Tony Versfeld	Ratepayers and Residents Association (PARRA)
Jack Landile	DWA
Nanna Gouws	SANRAL
Mariagrazia Galamberti	SAHRA
Xolani Wana	ESKOM
Irene de Moor	WESSA
Jenny Gon	WESSA
Registered IAPs	
Mr Neave	
John Gillam	
Chris Jordaan	

BASIC ASSESSMENT REPORT

DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

Acknowledgement of application



18/10/2011 16:13 Economic affairs port elizabeth

(FAX)

P.001/002



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS AND TOURISM

CACACU REGION

P/Bag X5001, GREENACRES
South Africa, 6057
Phone: +27 (41) 5085800
Fax: +27 (41) 5085865

FAX COVER SHEET

To : **COASTAL AND ENVIRONMENTAL SERVICES**

Attention : **BILL ROWLSTON**
Fax No. : 046 6226564

CC : -
Fax No. : -

From : **CHARMAINE STRUWIG**
Tel No : 041-5085800

Date : 18 October 2011

Total no. of pages : 2 (including cover)

RE: **ACKNOWLEDGEMENT OF RECEIPT: APPLICATION FOR AUTHORISATION IN TERMS OF SECTION 24 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT 107 OF 1998 TO UNDERTAKE A LISTED ACTIVITY AS SCHEDULED IN THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2010: PROPOSED RESIDENTIAL DEVELOPMENT ON BELTON FARM, WITHIN THE NDLAMBE MUNICIPAL AREA**

FILE REF > ECM05/LN1/23(H)/11-101
CASE OFFICER: MS. V. NGUNGE

Please find the letter in the above regard attached for your attention.

Thank you.



BASIC ASSESSMENT REPORT

DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

18/10/2011 16:13 Economic affairs port elizabeth

(FAX)

P.002/002



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS AND TOURISM
CACADU REGION

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South Africa, 6057
Phone: +27 (041) 5085800
Fax: +27 (041) 5085865
Web: www.deaet.ecprov.gov.za
E-mail: Viwe.Ngunge@deaet.ecape.gov.za

Coastal Environmental Services
P.O. Box 934
Grahamstown
6140

Ref: ECO5/LN1/23(ii)/11-101
Enquiries: V. Ngunge

Fax: 046 622 6564

Attention: Bill Rowlston

ACKNOWLEDGEMENT OF RECEIPT: APPLICATION FOR AUTHORISATION IN TERMS OF SECTION 24 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT 107 OF 1998 TO UNDERTAKE A LISTED ACTIVITY AS SCHEDULED IN THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS: PROPOSED RESIDENTIAL DEVELOPMENT ON BELTON FARM, WITHIN THE NDLAMBE MUNICIPAL AREA

Receipt of the application by yourself on behalf of Belton Conservancy Trust dated 05 October 2011 and received on 11 October 2011 to undertake a listed activity as scheduled in Listing Notice 1 of 18 June 2010 is hereby acknowledged.

The reference number assigned to your application is ECO5/LN1/23(ii)/11-101. Please quote the reference number provided in the event of any correspondence/queries in this regard.

The applicant's attention must be drawn to the fact that the activity may not commence prior to an environmental authorization being granted by DEDEAT.

VIWE NGUNGE
ENVIRONMENTAL OFFICER: EIM
CACADU REGION

DATE: 18 OCTOBER 2011



BASIC ASSESSMENT REPORT

DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

Acknowledgement of Receipt Draft Basic Assessment Report



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS AND TOURISM
CACADU REGION

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Phone: +27 (041) 5085800
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E-mail: Viwe.Ngunge@deaet.ecape.gov.za

Ref: EC05/LN1/23(ii)/11-101
Enquiries: V. Ngunge

Coastal Environmental Services
P.O. Box 934
Grahamstown
6140

Fax: 046 622 6564

Attention: Bill Rowlston

ACKNOWLEDGEMENT OF RECEIPT: APPLICATION FOR AUTHORISATION IN TERMS OF SECTION 24 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT 107 OF 1998 TO UNDERTAKE A LISTED ACTIVITY AS SCHEDULED IN THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS: PROPOSED RESIDENTIAL DEVELOPMENT ON BELTON FARM, WITHIN THE NDLAMBE MUNICIPAL AREA

Refer to the application (Reference number: EC05/LN1/23(ii)/11-101) submitted on 11 October 2011 to undertake a listed activity as scheduled in Listing Notice 1 of 18 June 2010.

Please be informed that the receipt of the draft Basic Assessment Report submitted on 29 February 2011 is hereby acknowledged.

The applicant's attention must be drawn to the fact that the activity may not commence prior to an environmental authorization being granted by DEDEAT.

VIWE NGUNGE
ENVIRONMENTAL OFFICER: EIM
CACADU REGION

DATE: 04 APRIL 2012



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DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

Background information document

BACKGROUND INFORMATION DOCUMENT & INVITATION TO COMMENT: THE PROPOSED ESTABLISHMENT OF A HOUSING DEVELOPMENT AND CONSERVANCY ON BELTON FARM IN THE EASTERN CAPE

Background

The development of an 'eco-estate' or 'eco-residential' housing estate has been proposed by Mr and Mrs Wilmot of Belton Farm. The owners currently farm pineapples and cattle and wish to supplement this income by the creation of a small, eco-friendly housing estate. Such estates attempt to reduce the impact on the bio-physical environment by incorporating large areas of open space and maintaining or introducing indigenous fauna. The aim is to ensure that development is undertaken in a sustainable manner and that the unique environment is preserved. The vast majority of the land will be retained as a nature reserve. Previously endemic game such as small antelope will be reintroduced to the area.

The proposed plots will be just below the ridge of a hill, avoiding any streams and catchment areas, and the vegetation specialist will inform us if there are any sensitive areas which can then be avoided by the development.

Project Description

The proposed Belton Conservancy development constitutes a small area (less than 20 hectares) on Belton farm. This farm is known formally as Portion 6 of the Farm Aquavista, ERF No. 299, and is located along the Kenton-Grahamstown road, in the Bathurst- non-urban area of Ndlambe Municipality.

The development will consist of 15 residential units, which will fall under the name of the Belton Conservancy Trust. The plots on which the houses will be built are roughly 40 x 40m, although a minimal amount of vegetation will be removed and the indigenous bush will be retained around the houses.

The proposed residential development will include the following:

- Roads – a new gravel road will be built to provide access to the houses, existing roads will be upgraded, and small service roads leading to the houses will be created.
- Water pipelines will be extended from the farm's borehole
- Electricity will be upgraded to the area
- 15 residential house

No development of any kind, including gardening, will be permitted outside the designated footprints. It is also proposed that foot and bridal paths be established. The extent and position of these paths will be planned to avoid sensitive indigenous vegetation.



View from proposed housing site overlooking over the Bushman's River Valley

AIM OF THIS DOCUMENT

The aim of this Background Information Document is to provide people affected by and interested in the proposed project with information about this project, the process being followed and to provide them with an opportunity to be involved in the EIA process.

Interested and Affected Parties (IAPs) may raise issues of concern; these along with potential environmental, social and economic impacts will be examined in the EIA process.

The findings of the EIA will be provided to DEDEA for final decision making as to whether or not the project will go ahead and in what form.

Return address for comments:

Ms Amber Jackson
P.O Box 934
Grahamstown, 6140
Tel: (046) 622 2364
Fax: (046) 622 6564
Email:
a.jackson@cesnet.co.za

Your involvement in this process is important and will help ensure that all relevant issues are raised and assessed in the EIA process.

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Details of Services

Infrastructure

- A new gravel road will be created to lead from the R343 to the new houses. This road will be carefully planned in order to cause minimal damage to sensitive soils and natural vegetation.
- Electricity supply will be primarily from Eskom. Homeowners can choose to supplement this with energy from alternative power sources such as solar panels.

Water supply

- Every house built will be required to include rain water storage facilities and grey water management systems.
- It is planned that the development will supplement this with water from the farm's borehole.

Sewage Reticulation

- Sewage disposal will be by way of septic tanks with a French drain system. The geological specialist has ascertained that the environment can support such a system, and that the low number of houses will mean that there will be little impact on the surrounding ecological area and groundwater.

Alternatives

Alternatives to the proposed development will be assessed as part of the Basic Assessment.

The land where the development is proposed is unsuitable for agricultural use. As such, a viable alternative to the proposed development would be the creation of a private game reserve with eco-tourism facilities. Such a development would require the construction of small, self-catering lodges to house tourists. The proposed area would be fenced off, and a selection of small game would be introduced.

The proposed development will also be compared against the no-go option. The no-go option requires evaluating the impacts that would occur should the situation remain as it is without any development taking place.

Potential issues for investigation

Ecological Issues

- Loss of indigenous vegetation and habitat for fauna
- Impact on indigenous fauna (e.g. red data species, fencing etc)
- Alteration of drainage patterns and the water table
- Impact on water resources
- Introduction of game
- Loss of topsoil and soil erosion
- Cumulative impacts of the development on the natural resources (as above)

Socio-economic Issues

- Market demand for housing in the area
- Visual and aesthetic impacts
- Loss of 'Sense of Place'
- Pollution (air, noise and water)
- Development within the context of existing plans

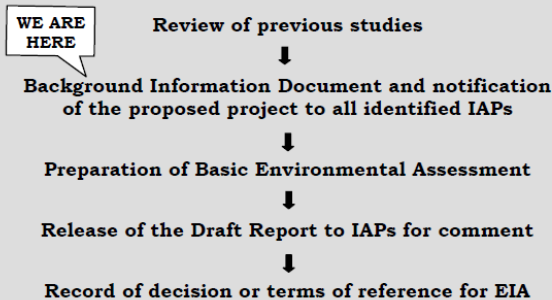
Relevant legislation

According to Environmental Impact Assessment (EIA) regulations, promulgated under the National Environmental Management Act (No. 107 of 1998) as amended in 2006, listed activities need to be assessed. In this case the application is to undertake the following listed activities: 23(i) of GN No. R. 544.

The application has been submitted to the Department of Economic Development and Environmental Affairs (DEDEA). The development will also be evaluated in the context of current planning frameworks.

Approach to this Basic Assessment

The process required for the proposed project is a Basic Environmental Assessment. This process serves primarily to inform the public and relevant authorities about the proposed project and to determine any impacts. Should all impacts and issues be adequately addressed in the report, it will serve as the final document. However, if not, the process will proceed into the next stage which is a full Environmental Impact Assessment.



How can you be involved?

A Public Participation Process (PPP) is being conducted as part of the Basic Assessment. The aim of the PPP is to allow everyone who is interested in, or likely to be affected by, the proposed eco-residential development to provide input into the process.

The Public Participation Process will include:

- Advertisement in the The Herald and The Grocotts
- Circulation of the BID (this document) to all IAPs identified.
- Comments period
- Review of the draft Basic Assessment by all IAPs.
- A public meeting (if required)

The Draft Basic Assessment Report is expected to be made available at public libraries and public access areas as well as on the CES website at www.cesnet.co.za (Click on public documents link) for 14 working days following the release of the draft report which will be advertised in newspapers.

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DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

I hereby wish to register as an Interested and Affected Party (IAP) for the Belton Farm BA process

Name: _____
Organization: _____
Postal address: _____
Email: _____
Phone #: _____ Fax #: _____

My initial comments, issues or concerns are:

Other individuals, stakeholders, organisations or entities that should be registered are:

Name: _____
Organization: _____
Postal address: _____
Email: _____
Phone #: _____ Fax #: _____

Please return details to: **Ms Amber Jackson**: P.O. Box 934, Grahamstown, 6140
Telephone: (046) 622 2364 Fax: (046) 622 6564 Email: a.jackson@cesnet.co.za

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DEPARTMENT OF ECONOMIC AFFAIRS, ENVIRONMENT AND TOURISM, PROVINCE OF THE EASTERN CAPE

SITE NOTICES

The following site notice was placed at the boundary fence entrance to the proposed development. This is opposite the entrance to Belton's Milking Parlour accommodation facilities, and is the most visible place for the notice, as IAPs would have little reason to go onto the site themselves.



NOTICE ENVIRONMENTAL IMPACT ASSESSMENT

Notice is hereby given in terms of Regulation 54 of the regulations published in Government Notice No. R 543 under Chapter 5 of the National Environmental Management Act (Act 107 of 1998), as amended in 2010, of the intent to submit an application for an Basic Assessment to the Department of Economic Development and Environmental Affairs (Provincial).

Project Activity: Mr and Mrs Wilmot of Belton Farm propose the construction of 15 residential units and rezoning of remaining land as Private Nature Reserve

Listed Activities: The proposed project is a listed activity in terms of GN R 544, activity 23 (ii): "The transformation of undeveloped, vacant or derelict land to residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare" and therefore requires a Basic Assessment.

Coastal & Environmental Services has been commissioned by Mr and Mrs Wilmot of Belton Farm to undertake the Basic Assessment. You are hereby invited to register as an Interested & Affected Party (I&AP)

For more information, registration as an I&AP or submission of written comments contact by post, phone, fax or e-mail:

**Ms Amber Jackson, PO Box 934, Grahamstown, 6140
Tel: 046 622 2364, Fax: 046 622 6564, Email: a.jackson@cesnet.co.za**

Appendix F – Environmental Management Programme

**BELTON FARM
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN**



1 INTRODUCTION

The purpose of the Construction Environmental Management Plan (CEMP) is to provide specifications for "good environmental practice" in a contractual environmental specification for application during construction of the proposed development. The CEMP provides specifications that the Contractor shall adhere to to minimise adverse environmental impacts associated with construction activities. The Environmental Management Plan (EMP) associated with the construction activities is known as the Construction Environmental Management Plan (CEMP).

The CEMP forms part of the contract document and must be read in conjunction with the contract documents including the Specifications and, where applicable, the Bill of Quantities.

The contract manager should submit written procedures for all activities that could be potentially harmful to the environment. The project manager or Environmental Control Officer (ECO) will be responsible for ensuring that these are submitted, and for monitoring compliance with the CEMP.

Guidelines for execution of the CEMP include the following:

- Responsibilities for the environmental performance of the proposed development are known by the construction staff,
- Communication channels to report on environmental performance, problems and priorities are in place,
- A monitoring schedule is established to identify potential negative environmental impacts associated with the construction of the proposed development;
- Method Statements (mitigation measures) are implemented to avoid or minimise the identified negative environmental impacts (rehabilitation of eroded areas; bush clearings; complaints from property owners) as well as to enhance the positive impact on the environment (employment; support of conservation efforts) and,
- Monitoring programme or schedule is developed to track the plans that have been implemented so as to ensure the effectiveness of the plan.

The majority of the specifications occurring in section 3: 'Environmental Specifications', are included for clarity

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2 ENVIRONMENTAL POLICY

2.1 Construction Environmental Policy

The contractor (contractor is defined as principal contractor, sub-contractors and any employees retained on this project) is required to be familiar with the construction environmental policy and all that it implies, and to adopt and implement the policy throughout the course of construction.

The environmental policy is as follows:

- The environmental specifications and intentions of the specifications must be upheld.
- Natural resources will not be degraded, and no unnecessary environmental degradation must take place.
- Site activities will be conducted in a manner that does not create a nuisance, risk or hazard to the natural environment.
- Employee and public health and safety must be considered a priority.
- The whole site and its surrounds are considered environmentally sensitive.

2.2 Environmental Legislation and Guidelines

The Contractor must ensure that all South African legislation concerning the natural environment, pollution and the built environment is strictly enforced. Such legislation must include, but is not limited to the:

- Constitution of the Republic of South Africa Act, No. 108 of 1996.
- National Water Act, No. 36 of 1998.
- National Environmental Management Act, No. 107 of 1998.
- National Heritage Act, No 29 of 1999.
- Hazardous Substances Act, No. 15 of 1973.

2.3 Environmental Specifications

2.3.1 General Site Procedures

Environmental awareness training or instruction

The project manager, before commencement of any construction activities, must implement an environmental awareness programme or course of instruction. All construction personnel, including senior staff, sub-contractors and suppliers, must attend the training programme or course of instruction. Basic Environmental Education material can be provided on request.

The programme must include all relevant aspects covered in the CEMP and must be repeated for all new or temporary staff.

Demarcation of the site

The "site" refers to all areas required for construction purposes. The boundary of the site must be agreed with the project manager or ECO, as well as a botanist. The demarcation of sites and roads should be clearly marked so as to not remove and damage vegetation. Sensitive vegetation next to construction areas should be cordoned off. All activities must be conducted within this area so as to facilitate control and to minimise the impact on the existing natural environment. The Project Manager or Co-ordinator must ensure that the construction is done according to the final site layout only, which is to be approved by a botanist. The siting of the site should be kept away as far as possible from areas with natural vegetation and water bodies. In instances where this can not be achieved sensitive vegetation next to the site should be cordoned off with the help of a botanist.

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The contractor must demarcate the boundaries of the site in order to restrict construction and other (eating, washing and ablution) activities. The contractor must ensure that all his plant, labour and materials remain within the demarcated boundaries.

All plant material to be removed must be done at this stage and plants to remain must be marked with danger tape by a botanist. The contractor must be present when this is done so that he is aware of which plants are to be protected, and these plants must NOT be affected by the construction process. If plants are to be moved and re-located, this will be advised by the botanist and undertaken by a horticulturist.

Location of camp and depot

The camp and depot must be located within that part of the site which is most disturbed.

General guidelines:

- Camp and office sites shall be sited and fenced (where necessary) and will be restricted to these fenced areas. The area required for the camp and office site must be kept to a minimum.
- Vegetation shall not be unnecessarily disturbed and trees or shrubs shall as far as is practical not be felled/damaged. Protected trees and plants may not be cut or removed without prior Permit from the relevant Provincial Authority (i.e. Local Authority or Department of Nature Conservation) for the cutting of protected trees, and without agreement by the botanist. A brief survey of the site was undertaken, during which no protected trees were found, however, a thorough survey of the demarcated site is required prior to the clearing of any vegetation.
- Removal (pilfering) of agricultural products (sugarcane, fruit, vegetables, stock, firewood etc.) and poaching is prohibited where applicable. No stealing of land owners products and equipment, including harassment of animals, will be permitted.
- Any impact such as noise, dust, bright lights, etc, which may cause a disturbance or nuisance to the community or any person lawfully living in the vicinity, shall be kept to a minimum level.
- No fires may be lit on private property except in the facilities specially constructed for this purpose. Fire extinguishers must be provided in the case of accidental fires that could spread to neighbouring properties.

Toilets

The contractor must provide the necessary ablution facilities for all his employees. These must be easily accessible, transportable, and there should be a minimum of 1 toilet per 15 persons. The toilets should be secured, and be provided with an external closing mechanism to prevent toilet paper from being blown out. A rented chemical toilet must be used, and the rental company will be responsible for emptying the toilet, which must be done on a daily basis. No sewage may be dumped or disposed of in watercourses, streams or rivers.

Refuse

The contractor must institute an on-site waste management system in order to prevent the spread of refuse within and beyond the site. Refuse refers to all solid waste, including construction debris (wrapping materials, timber, cans etc.), food packaging, cement, rubble and other construction materials, etc.

All waste must be collected and contained immediately. The Contractor must not dispose of any waste and/or construction debris by burning or burying. Waste bins must be used, and these must be provided with lids and external closing mechanisms to be scavenger proof and to prevent their contents blowing out. The Contractor must ensure that his employees deposit all waste in the waste bins. Bins must not be used for any other purposes than waste

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collection and must be emptied on a regular basis. All waste must be disposed of off-site at the nearest permitted Waste Disposal Site.

Cleared vegetation should be taken to a permitted Garden Refuse site or the proposed composting site on the farm; builders' rubble should be used as fill material (where necessary during construction) or alternatively taken to a permitted landfill site.

Protection of natural resources

Where applicable ALL indigenous fauna and flora must be protected. Wild animals must not be disturbed, caught or injured by any means. In terms of the Game Theft Act No. 105 of 1991, which regulates ownership of game, theft and unlawful hunting, catching and taking possession of game is illegal and punishable by law.

Defacement of natural features or environmental damage outside of the demarcated site must not occur. The sources and use of water during construction should be planned for, no water is to be used from nearby streams but water from boreholes as indicated in the report.

No fires must be lit by the Contractor and employees anywhere on the property nor on private land without the consent of the landowner. If the fires are lit on the property or in the construction camp, provision must be made that no accidental fires are started. No firewood may be collected in the adjacent veld.

Pollution and stormwater management

The Contractor must ensure that erosion or pollution of ground or surface water does not occur as a result of site activities. Pollution could result from the release, accidental or otherwise, of contaminated runoff from construction camps, discharge of contaminated construction water, chemicals, oils, fuels, sewage, run off from stockpiles, solid waste, litter, etc. All equipment and machinery, e.g. cement mixers, generators etc., must be placed on drip trays.

The Contractor shall ensure that polluted runoff, such as runoff from the construction camp where equipment is cleaned and/or serviced, fuel stores, workshops, etc. is not discharged overland. Natural run-off shall be diverted away from the work site and storage areas. The Contractor shall take appropriate measures e.g. the erection of silt traps, or drainage retention areas, to prevent silt and sand entering drainage courses, rivers and floodplains.

Discharge of construction water

Construction water refers to all water dirtied as a result of construction activities. Silt-laden water may be discharged overland and be allowed to filter into the ground, but the Contractor shall ensure that no erosion results from this procedure. The contractor shall ensure that silt-laden water is not discharged directly into the rivers or floodplains or any other surface water courses, and shall take suitable measures to prevent this. Cement-laden water, i.e. water from washings from trowels, wheelbarrows, etc., may not be discharged overland but must be disposed of off site at a facility capable of handling such waste water. Where possible, water should be collected and reused for mixing new concrete.

Servicing/fuelling of construction equipment

Servicing and fuelling should preferably occur off-site. If these activities occur on-site, the Contractor shall ensure that it takes place in designated areas. All waste generated during these activities shall be collected and disposed off at an appropriate off site facility capable of handling such waste. All equipment that leaks shall be repaired immediately. In the case of changing oil or lubricants on-site, the Contractor shall have Drizit pads (or equivalent) and/or drip trays available to collect any oil, fluid, etc.

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The Contractor shall take all reasonable precautions to prevent the pollution of the ground and/or water resources by fuels and chemicals as a result of his/her activities. No oil, diesel, petrol, etc., must be discharged onto the ground. Pumps and other machinery requiring oil, diesel, petrol, etc. that are to remain in one position for longer than two days shall be placed on drip trays. The drip trays shall be emptied regularly and the contaminated water disposed of off site at a facility capable of handling such waste water. Drip trays shall be cleaned before weekends and holidays and before any possible rain events that may result in the drip trays overflowing. The Contractor shall remove all oil-, petrol- and diesel-soaked sand immediately and shall dispose of it as hazardous waste. Tanks containing fuel shall have lids and shall remain firmly shut. Fuel stores shall be placed on a bunded sealed base, and waste water or spilled fuel collected within the bund shall be disposed of as hazardous waste. Only clean, empty tanks may be stored on the ground.

The Contractor shall take the necessary precautions to prevent fires or spills at the fuel stores. No smoking or other activities that can initiate fires shall be allowed in the vicinity of the stores. Any hazardous waste substances must be disposed of off-site at a licensed landfill site.

Use of cement/concrete

The contractor is advised that cement and concrete are regarded as highly hazardous to the natural environment, especially to gilled animals, due to the very high pH of the material, and the chemicals contained therein. The Contractor shall therefore ensure that:

- Pre-cast concrete should be used wherever possible.
- Dry cement is stored above ground level and any spillage is immediately cleared.
- Concrete is mixed on mortar boards, and not directly on the ground.
- The visible remains of concrete are physically removed immediately and disposed of as waste. Washing it into the ground is not acceptable.
- All aggregate is also removed.

Safety

The contractor shall ensure that all construction vehicles using public roads are in a roadworthy condition, they adhere to speed limits, their loads are secured and that all other regulations are adhered to.

Noise

The Contractor shall take all reasonable precautions to minimise noise generated on site as a result of his operations. The Contractor shall comply with the National Building Regulations with regard to noise. Construction vehicles should be well maintained to limit noise and lubricants/fuel leakages. This will also help reduce pollution of water resources in the area.

Source of materials

All construction material, including sand, must be from an alien plant free source, to ensure no alien seeds are brought into the area. Any alien plants accidentally introduced must be eliminated. Materials for building must be from a local and sustainable source.

Dust

Dust caused by strong winds shall be controlled by means of water spray vehicles, or any other appropriate means as approved by the Engineer. This is aided by the removal of only limited vegetation, and the re-vegetating of areas once construction is completed, and when the lay down area / construction camp is vacated.

Vehicles emitting black smoke and fumes must be repaired and maintained.

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No burning of waste material shall be allowed.

Emergency procedures

The Contractor shall know emergency procedures for events such as fire, accidents and leakage of petroleum, chemicals and other harmful substances. The Contractor shall be responsible for informing the staff of these procedures.

3 SPECIFIC ENVIRONMENTAL SPECIFICATIONS: REVEGETATION

3.1 Site Clearance

Plant Search and Rescue

The implementation of an appropriate Plant Rescue and Translocation Programme is necessary if there are any endangered plants at the site. A plant search and rescue operation (i.e. the location and removal of specified plant species, without unnecessary damage, and their transfer to a specified location) and the collection of seed, shall be conducted by the botanist and horticulturist, as well as the ECO, prior to the onset of any site clearing operation. Plants should be removed to nurseries so that areas can be rehabilitated after construction.

Plant material shall be moved to a holding area on site, where it shall be placed in bags on open ground, or alternatively relocated to the on-site nursery for transplantation once the permanent re-vegetation areas become available.

Geophytes (or bulbs) shall be collected and either planted out in pots, trays or in bags, depending on size or where appropriate, as determined by the ECO or rehabilitation specialist, and they shall be stored under cool dry conditions, at the nursery.

During plant search and rescue, as much seed as possible shall be removed from all indigenous plants in the affected area. Seed shall be:

- Stored in waterproof containers free of insects and away from rodents in a cool area;
- Sown directly into the desired area to allow for self-germination as the seasons dictate; or
- Sown at the storage site/nursery.

Where possible, the seed collection programme shall be ongoing to allow for the sowing of seed directly into the newly prepared soil in the re-vegetation areas, as and when these areas are ready to receive seed.

3.1.1 Vegetation Clearance

Site Clearance:

The ECO and botanist must be present during vegetation clearing. All cleared areas shall be stabilised as soon as possible. Areas that are, in the reasonable opinion of the ECO and rehabilitation specialist, less stable, shall be stabilised immediately following vegetation clearance. Cleared vegetation should be chipped and mulched for future use.

All clearing disturbances to be kept to a minimum; Any service tracks used purely for construction activities should also be decommissioned and rehabilitated after construction of the development is complete; topsoil stockpiles should not exceed 1.5m in height; degraded areas should be re-vegetated as soon as possible; and on site attenuation of storm water should be encouraged rather than allowing for channelling.

Vegetation Removal and Trimming in Watercourses:

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- No heavy machinery shall be permitted within watercourses for any purpose, except emergency procedures, without the prior approval of the ECO. Clearing of vegetation shall be conducted by hand.
- All cleared and trimmed vegetation shall be removed from the watercourse to prevent flooding/snagging hazards being created.

3.1.2 Topsoil Removal and Stockpiling

Prior to site establishment and any earthmoving operations, the contractor shall strip and stockpile all topsoil within the works area and construction camp for subsequent use in the rehabilitation and re-vegetation of the site.

All topsoil shall be stripped and stockpiled separately from subsoil for subsequent use during rehabilitation and re-vegetation.

Soil shall be stripped in a phased manner, so as to retain vegetation cover for as long as possible.

Topsoil must not be stored in or near sensitive areas. Topsoil stockpiles shall be convex and should not exceed 2m in height. The contractor shall ensure that the material does not blow or wash away.

Spoil Material

The location of spoil stockpile sites shall be agreed upon by the ECO prior to the onset of any operations that will generate spoil materials. No spoil material shall be dumped outside the defined site unless it is being removed from the site. The Contractor shall ensure that the material does not blow or wash away. If the spoil material is in danger of being washed or blown away, the contractor shall cover it with a suitable material, such as hessian or plastic.

3.1.3 Preparation of Ground Surfaces for Rehabilitation

Prior to rehabilitation of the site, the contractor shall remove all remnants of building materials, concrete foundations, timber and other foreign debris from the site.

Before replacing topsoil, the contractor shall remove all visible weeds from the placement area and from the topsoil.

Compacted soil shall be ripped and hand-trimmed. Topsoil shall then be spread evenly over the surface. The final prepared surface shall not be smooth but furrowed to follow the natural contours of the land or desired end result. Where sodding is required, slight scarification shall be carried out to contain the sods.

Prior to any site clearance, any wetland areas, along with 10m buffer zones, are to be effectively fenced off to prevent any damage to wetland material on sites prior to transplanting. On the initial inspection of the site, however, no wetlands were found nearby.