

VAAL DE GRACE NATURE ESTATE

ENVIRONMENTAL PROTECTION
GUIDELINES AND PROCEDURES
APRIL 2010

INTRODUCTION BY THE CHAIRMAN OF THE ISLAND LANDOWNERS ASSOCIATION

The ultimate dream for Vaal de Grace Nature Estate is for you, the owner, to view the island retreat as a unique, precious sanctuary and home.

The Island Landowners Association (TILOA) undertook to maintain and improve the island environment via the rehabilitation and conservation of the ecosystems in and around the estate.

To this end we have now developed Environmental Guidelines and Procedures to support this commitment and guide owners in achieving the dream for our island estate.

Simply put. If we do not implement these guidelines and requirements we will not achieve our dream.

Imagine the nature estate once all stands have been developed. We will potentially have 70 residential houses with 140 pets with only the eco-belt to sustain our fauna and flora! A common endeavour will be needed if we are to achieve our vision if we all commit and participate in protecting our precious resources.

We are looking forward to the cooperation of all owners and tenants to achieve our goals.

Dr. WBJ Nortman

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1) **VISION, MISSION AND OBJECTIVES (2009)**

a) **Vision** (Dream)

To ensure that our island nature estate remains a precious eco sanctuary and tranquil and secure home environment for all owners and occupants to enjoy.

b) **Mission** (What)

To pro-actively protect and re-establish the natural environment of Vaal de Grace Nature Estate.

c) **Objectives** (How)

- i) To encourage owners/occupants to view the island as a precious but limited resource.
- ii) To gain commitment by all parties (owners/occupants/contractors etc) to protect and improve the environment by the rehabilitation and conservation of the eco systems.
- iii) To preserve the eco belt (road reserve + first 10 meters of each stand).
- iv) To ensure that the development footprint is kept to a minimum.
- v) To ensure that all construction sites, road reserves and eco belts are rehabilitated.
- vi) To ensure that our indigenous fauna and flora is protected.
- vii) To develop detailed environmental and rehabilitation guidelines to cover the above.
- viii) To educate and provide guidance to owners/occupants/tenants/contractors etc.
- ix) To develop a action plan to implement the above.

2) **BACKGROUND INFORMATION**

a) **Topography**

The topography of Parys and its environment is dominated by two major geomorphologic factors, namely the Vredefort Dome and the Vaal River. Groups of islands, of which Groot Eiland is the largest, are found in the river. Vaal de Grace is situated on Groot Eiland.

b) **Climate**

Information about the climate has been obtained from weather reports that the Parys Municipality compiled from observations taken at weather station no. 04378349. Parys is located in a summer rainfall region and the rain season stretches from October to March with the highest rainfall in October (17,2%). The rainfall is very low in the winter months with the lowest percentage rainfall in July (1,5%). The average annual maximum temperature for Parys is 29°C while the average annual minimum temperature is 7°C. The coldest months are June and July with an average minimum temperature of -3°C and -4°C respectively (The Island -4°C and -5°C). The dew intensity is slight or very little. The only months, with moderate dew intensity, are April, October and November. Frost occurs only during four months (May, June, July and August). The frost intensity is severe next to the river especially with temperatures of -5°C and people should take this into account when they plant trees and shrubs. The prevailing annual winds are from the north to the northwest while western and southwestern winds also occur frequently.

c) **Ecology**

A unique plant community appears in the form of riparian bush or 'Gallery Bush'. Riparian bush is a kind of bush that appears along the banks of the river and consists of trees and dense undergrowth. Alien vegetation such as poplar groves and blue gum trees also occur. Riparian bush is found mainly on the smaller islands in the river, as the soil moisture is more than on the larger and higher laying islands such as Groot, Golf and Woody Islands. The vegetation stabilises the islands and serves as protection against erosion and also yields shelter to birds and animals. The vegetation community is unique to the Free State and deserves special mention, especially concerning the conservation thereof. Riverbanks are certainly one of the most sensitive ecological systems and as far as possible no pressure should be placed on the ecology of these areas. The riverbanks are a safe habitat for unique plants like the paintbrush (*Scadoxus puniceus*) and bunches of Orange River Lilies (*Crinum bulbispermum*). The diversity of the plant communities in the region is of great value from an ecological point of view and it should be protected and conserved as far as possible.

d) **Fauna** (Animals)

i) Fish - there are 11 fish types in the Vaal River, of which the first 4 types are favourites of fishermen;

- (1) *Barbus holubi* (Small-mouth Yellow-fish)
- (2) *Barbus kimberleyensis* (Large-mouth Yellow-fish)
- (3) *Cyprinus carpio* (Carp / Common & Mirror)
- (4) *Labeo capensis* (Oranjerivier Mud-fish)
- (5) *Clarias capensis* (Barbel)
- (6) *Gephyroglanis sclateri* (Rock Barbel)
- (7) *Labeo umbratus* (Mud Mullet)
- (8) Silverfish
- (9) Moggel
- (10) Kurper
- (11) Eel

ii) Mammals

- (1) Impala (Rooibok)
- (2) Porcupine (Ystervark)
- (3) Cape clawless otter (Groototter)
- (4) Yellow mongoose (Witwasmuishond)
- (5) Water mongoose (Kommetjiegatmuishond)
- (6) Slender mongoose (Swartkwasmuishond)
- (7) Rock-rabbit (Rooiklipkonyn)
- (8) Small-spotted genet (Kleinkolmuskejaatkat)
- (9) Cape-hare (Vlakhaas)
- (10) Vervet monkey (Blou-aap)
- (11) Groundsquirrel (Waaierstertgrondeekhoring)
- (12) Rock dassie (Klipdassie)
- (13) Cane Rat (Riet rot)

iii) Reptiles

- (1) Leguan
- (2) Snakes (Rinkhals, Redlip, Brown Housesnake, Mole snake were identified but in small numbers)

iv) Birds (+/- 300 species)

- (1) "Birds of the Vredefort Dome" - An easy photographic field guide by Bohmfalk and Viljoen covers 216 species of the Dome.

e) Flora (Plants)

i) Most popular indigenous plants found on the Island:-

- (1) White stinkwood (*Celtis africana*)
- (2) Wild olive (*Olea africana*)
- (3) Buffalo thorn (*Zisiphus mucronata*)
- (4) Sweet thorn (*Acacia karroo*)
- (5) Bush willow (*Salix capensis*)
- (6) Karree (*Rhus lancea*)
- (7) River bushwillow (*Combretum erythrophyllum*)
- (8) Spikethorn (*Gymnosporia buxifolia*)
- (9) Camphorbush (*Tarchonanthus camphorates*)
- (10) Velvet-raisin (*Grewia flava*)
- (11) Common wild-currant (*Rhus pyroides*)
- (12) Crossberry (*Grewia occidentalis*)
- (13) Desert spray (*Cadaba aphylla*)
- (14) Puzzlebush (*Ehretia rigida*)
- (15) Paintbrush (*Scadoxus puniceus*)
- (16) Orange River Lilies (*Crinum bulbispermum*).

ii) Invasive Alien Plants (IAP) found on the Island:-

(1) Category 1 (*Prohibited on any land or water surface in SA. Must be controlled or eradicated where possible*)

- (a) Hyacinth
- (b) Syringa (*Melia azedarach*)
- (c) Sesbania punicea (Red sesbania)
- (d) Saligna gum (*Eucalyptus grandis*)
- (e) Inkberry (*Cestrum laevigatum* schtdl.)
- (f) Common dodder (*Cuscuta campestris* Yunck.)
- (g) Large thorn apple (*Datura ferox* L.)
- (h) Morning glory (*Ipomoea indica*)

- (i) Sweet prickly pear (*Opuntia ficus-indica*)
- (j) Black locust (*Robinia pseudoacacia*)
- (2) Category 2 (*Allowed only in demarcated areas under controlled conditions. Outside demarcated areas must be controlled or eradicated where possible. Prohibited within 30 m of the 1:50 year floodline of watercourses or wetlands*)
 - (a) Weeping willow (*Salix babylonica*)
 - (b) Honey locust (*Gleditsia triacanthos*)
 - (c) Grey poplar (*Populus x canescens*)
 - (d) Red river gum (*Eucalyptus camaldulensis* Dehnh.)
 - (e) Honey locust (*Gleditsia triacanthos* L.)
 - (f) Watercress (*Rorippa nasturtium*)
- (3) Category 3 (*No further plantings allowed. Existing plants may remain but must be prevented from spreading. Prohibited within 30 m of the 1:50 year floodline of watercourses or wetlands*)

3) GUIDELINES AND PROCEDURES

a) PRESERVATION OF ECO BELT AND ROAD RESERVE



i) Definition of Eco-Belt and Road Reserve

The estate road reserve (portion 4) runs through the estate, forming an oval with three extensions. The road reserve is 20 meters wide and a total of 2,6 ha.

The road of 5 meters wide meanders through the 20-meter reserve, allowing for curved roads, which is more aesthetically pleasing and “natural”.

All stands have a 10 meter building line on the road reserve side, with the exception of four corner stands namely erf 80, 74, R/47, 64 and 63 which only have a 10 meter building line on the one side and a 2.5 meter building line on the other sides.

The eco-belt, is defined as the road reserve plus the 10-meter building line (+/- 5 ha), as well as the 2.5-meter building lines between stands.

With this limited area as eco-belt the Environmental Guidelines serve an important function.

ii) Guidelines for the Eco-Belt

- (1) Erf entrance maximum of 3.5-meters. No double driveways are allowed.
- (2) No widening / flaring of the entrance road in the eco-belt area.
- (3) No structures in the eco-belt, which include fountains, statues, signage, pots, ornaments etc.
- (4) No formal garden, flowerbeds or lawn.
- (5) No removal of any indigenous flora.
- (6) Only Indigenous Trees and Shrubs to be planted.
- (7) No Parking in this area
- (8) Rehabilitation after Construction is required.
- (9) Maintenance of rehabilitated eco-belt.

b) **MINIMISE BUILDING FOOTPRINT**

(1) Definition of Building Footprint/Building Area

In line with the architectural guidelines the Building Footprint is defined as the square meters of the stand that is covered by the floor area of the residential building (inclusive of garages and paving.)

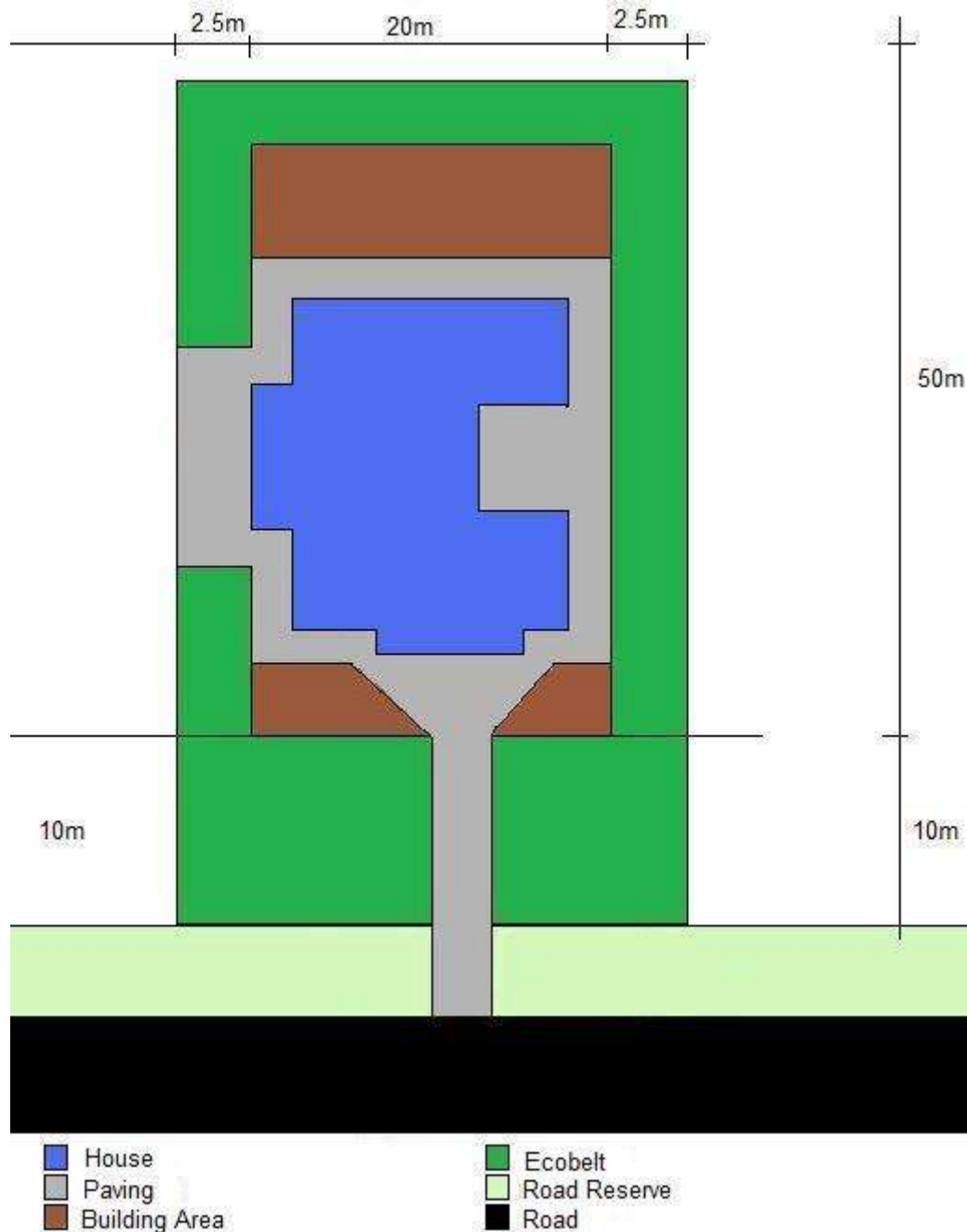
Building Area is defined as the square meters of a stand that remains after deduction of the eco belt. (i.e. road reserve plus 10 meter of the stand plus the 2.5 meter building line along all sides and back boundaries of a stand.) It naturally follows that the Building Footprint will fall within the Building Area.

(2) Guidelines for Building Footprints

- (a) The minimum floor area allowed is 250m² while the maximum is 350m². See diagram attached for explanation.
- (b) All building works is restricted to the building area of a specific stand.
- (c) No structures are allowed in the eco belt.
- (d) All swimming pools, fountains, garden walls, lawns, parking etc are limited to the building area.
- (e) All paving be limited to the building area except for the entrance to a stand.
- (f) Paving to be limited as far as possible.
- (g) No building of any structures/walls outside the building area to be allowed.

BUILDING FOOTPRING/BUILDING AREA

Example



c) **PRESERVE OUR FAUNA AND FLORA**

The Preservation and protection of our fauna and flora are of utmost importance if we are to achieve our vision and objectives.

i) Fauna

The protection of our indigenous flora and eco belt is mainly aimed at providing the space, food resources for our fauna to survive. All owners are requested to actively participate in the protection of our animals. The following rules must be adhered to:

- (1) Do not feed the fauna. In particular do not make the monkeys feel welcome on your property.

- (2) Any animals found on site during and after development are to be left alone or carefully removed.
- (3) Excavations left open during construction should be checked periodically so that animals falling in can be safely removed.
- (4) A “catch and release” policy is to be followed for all fishing taking place on the nature estate.

ii) Flora

(1) Indigenous Plants

The protection of indigenous plants on our estate is a high priority. Owners are encouraged to plant predominantly endemic indigenous trees, shrubs and perennials for reasons of climate tolerance, water saving, maintenance and encouragement of birds and other wildlife. Lists of suitable species are available from the Island Landowners Association. **No indigenous plants are to be removed without the prior approval of the Estate Manager.**

(2) Invasive Alien Plants

Invasive Alien Plants (IAP) - Getting rid of invasive alien plants is not always that easy. Their roots are invasive and their seedlings pop up all over the estate. A number of physical and chemical techniques have proved highly effective.

(a) Physical removal

Seedlings - Seedlings of many IAP's appear on the estate all the time, courtesy of birds passing through. When seedlings appear, pull them out as soon as possible to eliminate costly tree felling at a later stage. It is easier to remove seedlings when the soil is moist.

Small trees – Call Estate Management

Large trees – Call Estate Management

(b) Chemical removal

Seedlings & small shrubs – Call Estate Management

Large shrubs & trees – Call Estate Management

Advice on removal of IAP is available from the Estate Manager.

(3) Removal of Trees

Trees are only to be removed under the following conditions

- (a) Invasive Alien Plants as identified by the Environmental Protection Committee (EPC).
- (b) If approved by the Architectural Committee during approval of building plans and site clearance procedures.
- (c) Approval by the EPC any other time after completion of a building project.

(4) Process for the removal of problem trees

- (a) The tree must be identified on a site plan.
- (b) Inspection by the Environmental Protection Committee (EPC)
- (c) EPC will confirm location of the tree on the site plan.
- (d) For every tree removed the owner must plant an approved indigenous tree.
- (e) The new tree planted must have a height of at least 1,8 meter.
- (f) Only after the new tree is on site will approval be granted to remove the problem tree.
- (g) The owner will carry all costs for the removal of the tree and planting of a new tree..

(5) Estate Management

- (a) Owners must permit Estate Management and their duly authorised agents or employees to enter the erf and take such action as may be reasonably necessary to eradicate such IAP's.

d) CONSERVATION AND REHABILITATION OF SITES

The bio diversity of our Nature Estate is undoubtedly under most risk during site preparation for a new development as well as during the construction phase. It is therefore necessary that owners and their contractors and architects are educated on the following environmental requirements prior to commencement of site clearance or construction or positioning of the development on the stand by the Architects.

i) Site Clearance and Planning.

- (1) Architects must be sensitised on positioning of the development from an environmental perspective.
- (2) Access to the site must be approved by the Environmental Protection Committee prior to site establishment as per the flora guidelines above.
- (3) The site layout plan must also be approved by the EPC prior to occupation of the site by the contractors (The site layout plan will include demarcation of storage areas, stacking areas and dumping of rubble during construction etc.
- (4) All flora that can be removed and replanted must be dealt with before the site is occupied. The contractor and Estate Management will co ordinate these actions.
- (5) Owners will be accountable to ensure that contractors adhere to these requirements as the cost of replacement or delays in building progress will be for their accounts.

ii) Rehabilitation of Construction Sites.

On completion of a development the owner and contractor will be responsible to rehabilitate the site (including the eco belt) to the satisfaction of the EPC within a reasonable time.

Rehabilitation will include, but is not limited to the following:

- (1) Site is cleared of construction rubble and any unwanted alien or invasive vegetation.
- (2) Soil is stabilised by implementing erosion control practices.
- (3) Reintroduction of plants originally located on the site.
- (4) Site maintained to encourage a return to the original biodiversity conditions of the site returns and that the plants introduced have acclimatised.
- (5) New trees/shrubs are planted where required by the EPC.

- iii) The Estate Manager will provide a written confirmation of satisfaction with rehabilitation to the owner once all site rehabilitation requirements are met.

e) ERADICATION OF PESTS

Eradication of pests remains an ongoing challenge and is an area where close cooperation is required between owners and Estate Management.

- i) Owners are required to keep their stands free of white ants and borer insects. Advice is available from Estate Management.
- ii) To this end owners must permit Estate Management and their duly authorised agents or employees to enter the erf and take such action as may be reasonably necessary to eradicate such pests.

f) SWIMMING POOL WATER

Under no circumstances must swimming pool water be channelled into neighbouring properties, eco-belt or river.

g) USE OF COMMON AREAS

A particular appeal is made to owners/residents to leave common areas they visit in a cleaner condition than that in which it was found. It would be wonderful if all owners/residents develop the habit of picking up and disposing of any litter encountered in the common areas. Litterbins will not be provided in any open areas specifically to encourage owners/residents to take all their litter away when they leave.

h) NOISE AND LIGHT POLLUTION

As we live in a nature estate it is essential that all owners/tenants take note of the negative impact of noise and light pollution on the island.

Owners are required to meet the TILOA's requirements on nocturnal lighting and to demonstrate respect for their neighbours by managing noise levels down.

Owners are required to meet the TILOA's requirements on silent alarms.

i) VEHICLES CONTROL

i) Speeding

The speed limit on the Nature Estate is 30 Kph. Owners should adhere to this requirement and encourage their visitors to drive accordingly. Speeding on the Nature Estate is not only a risk for our fauna but also put our young residents at risk.

ii) Parking

Visitors must be discouraged to park on the road reserve or eco belts. Encourage visitors to park on the left hand side of the paved road.

iii) Joyriding

Owners must discourage joyriding on the island. Lets keep the paved roads for driving to and from our properties.

j) PETS

Vaal de Grace Nature Estate is a sensitive eco sanctuary with rare bird and animal species whose continued existence is threatened with the introduction of pets. From an environmental protection perspective no pets should be allowed on the estate.

k) OPEN FIRES

Owners are required to ensure proper supervision on open fires. A bush fire on the island could be devastating.

l) EMERGENCY RESPONSE (Fire, Flooding, First Aid)

i) Contact Numbers

(1) Security – 056-818-1474

(2) Estate Foreman – 076-139-5408

(3) Estate Manager – 082-479-2598

4) COMMITMENT BY ALL PARTIES

Our Nature Estate provides its owners with the exceptional opportunity of having a tranquil and secure home environment within the boundaries of a precious eco sanctuary.

The Vaal de Grace Nature Estate is not an ordinary suburb or town and therefore brings with it some special demands on the owners of properties. Unless all owners supported and meet the

environmental requirements we will have endless conflict with Estate Management who has been mandated to ensure adherence to guidelines and other requirements. The longer-term survival of our nature estate as an eco sanctuary is really in the hands of our owners.

The Environmental Protection Committee as an extension of the Island Landowners Association is committed to encourage and educate our owners on the reasons and background to all requirements. Owners are encouraged to table concerns or dissatisfaction as a matter of course and you are assured that the issues will be attended to. Ideally we should all adapt to the requirements and apply it with enthusiasm.

Do not hesitate to talk to any member of the EPC or Estate Manager.

5) COMMUNICATION

We have started with the distribution of our newsletters referred to as the "Environmental Newsflash" towards the end of 2009.

The purpose of this communication is to keep you informed of any developments on environmental matters or related concerns.

Please support the Committee by responding to these newsletters. We will also from time to time have personal interactions with owners on the progress made and/or problems experienced on our environmental protection activities.

These interactions may be with individual owners or in group sessions.