DRAFT
FARMING DEVELOPMENT - ENVIRONMENTAL MANAGEMENT PROGRAMME (EMP)
FOR
THE PROPOSED CULTIVATION OF VIRGIN SOIL ON FARM 417/2, (GROOT EILAND), RAWSONVILLE, WORCESTER

Prepared for: Deetlefs Family Trust
FEBRUARY 2011

Prepared by: Boland Environmental Consultants CC
PO Box 250, Worcester, 6849
Tel / Fax 023 347 0336
work@BolandEnviro.co.za

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1. BACKGROUND

This Farming Development Environmental Management Program (EMP) provides an operational framework with regards to the proposed cultivation of an additional 12 ha of virgin soil on Farm 417/2, Worcester, hereafter referred to as the Property.

In order to grow economically and to increase the agricultural potential of the Property, there is a need to expand the vineyard footprint. The 12 ha intended for new vineyards (Subject Land) consists of two sites. The proposed sites are the only remaining areas on the property that can be utilised for cultivation with new vineyards. The clearing of the 12 ha vegetation for new vineyards will be facilitated by Deetlefs Family Trust, hereafter referred to as the Landowner.

This EMP is required to conform to conditions as set out in the Acknowledgement of Receipt of the latest Application Form for Basic Assessment, issued by the Department of Environmental Affairs and Development Planning’s (DEA&DP) on the 1st of October 2010.

The EMP has been drafted taking into account the *Western Cape Provincial Guideline for Environmental Management Plans* (2005). The scope and the level of detail have been adjusted to an appropriately restricted level, reflecting the following considerations:

- The assessment of impacts
- Mitigation & monitoring requirements
- Legal requirements
- The complexity of the project activities

In addition, this EMP has been drafted taking into consideration such comments as have been received from Interested and Affected Parties (I&APs) with regard to the proposed farming development.

Start-up, development (daily/weekly) and post development (operational) checklists are included in Annexure E to facilitate site inspections by the Environmental Control Officer.

2. APPLICABLE LEGISLATION

The legislation that is relevant to this development is briefly outlined below.

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
2.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT

The National Environmental Management Act (Act 107 of 1998) (NEMA) makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorization from the relevant authorities based on the findings of an environmental impact assessment (EIA). NEMA is a national act, which is enforced by the Department of Water and Environmental Affairs. These powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP).

According to the regulations of Section 24(5) of NEMA (EIA Regulations 2010), authorisation is required for the following activities related to the proposed farming development on Farm 417/2, Worcester:

Government Notice R546 of 2010, listed activities:

12  The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.
   a) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;

13  The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.
   a) Critical biodiversity areas and ecological support areas as identified in systematic biodiversity plans adopted by the competent authority.

14  The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation,
   a) In Eastern Cape, Free State, KwaZulu-Natal, Gauteng, Limpopo, Mpumalanga, Northern Cape, Northwest and Western Cape: All areas outside urban areas.

* In addition to the expansion of the vineyard footprint on the Property, the Landowner also intends to expand the existing wine cellar and warehouse facilities and to carry out ongoing maintenance of the banks of the Smalblaar River on the Property. Authorization is therefore also required for the following listed under Government Notice R544 of 2010:

18  The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from
   (i) a watercourse;

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
(ii) the sea;
(iii) the seashore;
(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater—
but excluding where such infilling, depositing, dredging, excavation, removal or moving is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or occurs behind the development setback line.

35 The expansion of facilities for agri-industrial purposes outside industrial complexes, where the development footprint of the facility will be increased by a 1 000 square metres or more...

2.2. CONSERVATION OF AGRICULTURAL RESOURCES ACT

The purpose of the Conservation of Agricultural Resources Act (Act 43 of 1983) provides for control over the utilization of the natural agricultural resources in order to promote the conservation of the soil, the water sources, vegetation and to combat weeds and invader plants.

A separate application for the cultivation of virgin soil must be submitted to the Department of Agriculture: Resource Conservation for both the 9 ha and 3 ha sites.

2.3. NATIONAL HERITAGE RESOURCES ACT

The protection and management of South Africa’s heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999). South African National Heritage Resources Agency (SAHRA) is the enforcing authority and in the Western Cape, SAHRA have, in most cases, delegated this authority to Heritage Western Cape (HWC).

In terms of Section 38 of the National Heritage Resources Act, SAHRA and/or HWC will require a Heritage Impact Assessment (HIA) where certain categories of development are proposed. Section 38(8) also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is found to be adequate, a separate HIA is not required.

The National Heritage Resources Act requires relevant authorities to be notified regarding this proposed development, as the following activities are applicable:

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
• “Any development or other activity which will change the character of a site exceeding 5 000 m² in extent”.

An Archaeological Impact Assessment (AIA) was submitted to HWC. No important archaeological remains were documented on either the 3 ha or 9 ha sites. HWC issued a RoD on the 8th of June 2010 and accepted the recommendations of the AIA.

3. DESCRIPTIVE OVERVIEW

3.1. LOCATION AND SITE DESCRIPTION

The Subject Land is part of Farm 417 Portion 2, Worcester and is located in the Breede Valley Municipal area, 18 km south-west of Worcester and approximately 1 km south-west of Rawsonville. The property is situated adjacent to the Smalblaar River. The Property is also known as Deetlefs Estate, one of the oldest wine estates in South Africa.

The size of the Property is 150.8 ha in extent and the total area currently cultivated under vineyards is 103 ha. In addition to the historic farm homesteads and workers cottages, the modern Deetlefs Wine Cellar and warehouse facilities are also located on the Property.

The 12 ha intended for new vineyards consists of two sites:
• 9 ha site: A strip of land (9 hectares in extent) between the existing vineyards on the Property and the northern bank of the Smalblaar River;
• 3 ha site: A patch of land (3 hectares in extent) on the opposite side of the Smalblaar River.

The development will be accessed through the existing farm roads up to the 9 ha site. There is currently no direct access to the 3 ha site and access across the Smalblaar River is therefore required.

3.2. RELEVANT ACTIVITIES

The Landowner proposes to clear 12 ha of vegetation on the Property for the establishment of new vineyards.

The development or “construction” phase described for the purposes on this EMP consist of:
- The clearing of natural vegetation on the 9 ha site.
- Temporarily access across the Smalblaar River towards the 3 ha site.

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
The clearing of alien trees from the 3 ha site.
The removal of debris of cleared alien trees from the 3 ha site.
Physical preparation (ripping/ploughing) of the soil for cultivation.
The planting of vineyards.

The operational phase described for the purposes on this EMP consist of:
- Standard commercial farming practices associated with the vineyards, including pruning, application of agro chemicals and fertilisers and harvesting.
- Follow-up control of alien vegetation.
- Temporarily access across the Smalblaar River towards the 3 ha site.

The decommissioning phase described for the purposes on this EMP consist of:
- Removal of the Vineyards
- Restoring site to original conditions

3.3. THE RECEIVING ENVIRONMENT

The 9 ha site intended for new vineyards is located adjacent to the northern bank of the Smalblaar River and is surrounded by vineyards. The site consists of endangered Breede Alluvium Fynbos. It was however heavily invaded by alien black wattle (*Acacia mearnsii*) until 2006, which was then cleared and burned. Additional disturbance has been caused by dumping of rocks from the adjacent vineyards and grape residue from the winery. This natural vegetation is now degraded and contains scatters of alien vegetation. A small section with elevated soil moisture (seasonal seepage area) is located on the 9ha site (approximately 2 ha in extent). This section will be excluded from the development.

The 3 ha site is located on the opposite side of the Smalblaar River, at the bottom of the foothill of the Dutoits Mountain. This site is completely infested with alien black wattle trees (*Acacia mearnsii*) and almost impenetrable. Prior to alien infestation the site consisted of Brandvlei Waboomveld (Cape Fine-Scale Project, Integrated Vegetation Layer) which is considered least threatened. The site is bordered by the river towards the north-west and natural mountainous vegetation (Brandvlei Waboomveld) towards the south-east.

Both areas intended for vegetation clearing (9 ha and 3 ha sites) fall within an aquatic Critical Biodiversity Area (CBA) identified as a valley bottom wetland (Smalblaar River) by the Cape Fine-Scale Project.

Predominant surrounding land uses of the local area are vineyards and wine cellars.

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
4. SUMMARY OF IMPACTS PRIOR TO MITIGATION

The Environmental Impact Assessment (Basic Assessment Report) identified various potential impacts associated with the proposed cultivation virgin soil on Farm 417/2, Worcester.

4.1. DEVELOPMENT OR “CONSTRUCTION” PHASE IMPACTS:

4.1.1. Impacts of low significance
Potential negative impacts of low significance was identified. This should, however be within reasonable limits or negligible, provided that mitigation measures are adhered to and include:

- Waste – Building Rubble and Littering
- Heritage - archaeology
- Noise
- Visual

Some positive impacts of low significance are related to the proposed development which can be improved to Medium-High (+) by the implementation of proposed mitigation measures. Positive impacts include:

- Alien vegetation (+): The development will entail the removal of all alien invasive black wattle (Acacia mearnsii) trees within the 3 ha site.
- Employment opportunities (+): The planting of new vineyards will create 20 to 30 part time employment opportunities.

4.1.2. Impacts of medium significance prior to mitigation

- Soil erosion: Erosion may occur within the 9 ha and 3 ha sites for vineyard expansion along the Smalblaar River.
- Faunal biodiversity: Loss of faunal habitat: The 9 ha site contains a seasonal seep that may provide a sensitive habitat for frogs and insects.

4.1.3. Impacts of high significance prior to mitigation

- Hydrological – Rivers and Wetlands: The 9 ha site contains a seasonal seep and the site is located adjacent to the Smalblaar River. The 3 ha site is located opposite the Smalblaar River. Access to this site is required during the construction phase to clear alien trees and prepare the land for cultivation.
- Floral biodiversity and ecological connectivity: The 9 ha site forms part of a Critical Biodiversity Area (CBA) along riverine corridor and the original vegetation type is classified as Endangered. The 9 ha site is however small, isolated, and disturbed, with low indigenous species diversity and no rare species identified in the field. The 3 ha site is small and completely infested with alien vegetation (very few indigenous plant species). It also forms part of

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
a CBA and a riverine corridor. The original vegetation is considered least threatened and the site is adjacent to a large continuous natural area.

4.2. OPERATIONAL PHASE IMPACTS:

4.2.1. Impacts of low significance
- Waste – Solid Waste

4.2.2. Impacts of medium significance prior to mitigation
- Hydrological – Storm water and drainage: Runoff from vineyards may contain fertilizers, herbicides or pesticides. Subterranean drainage pipes may drain the seep depression area in the 9 ha site.
- Soil erosion: Erosion may occur along the banks of the Smalblaar River.
- Faunal biodiversity: Loss of faunal habitat: The operational phase is not expected to have any impact on local fauna, although the 9 ha site contains a seep depression that may provide a sensitive habitat for frogs and insects.
- Floral biodiversity and ecological connectivity: The 9 ha and 3 ha sites are located within a riverine corridor and a buffer CBA.
- Alien vegetation (+): The re-establishment of alien species within the new vineyard sites will be controlled.
- Operation efficiency and production (+): Expanding the cultivated area of the farm would improve the viability of the farm as an economic unit. This in turn improves job security and creates additional employment opportunities. Vineyards (0.3ha) removed during the expansion of the wine cellar facilities can be re-established on the 9 ha area.

4.2.3. Impacts of high significance prior to mitigation
- Hydrological – Rivers and Wetlands: The 9 ha site contains a seasonal seep and the site is located adjacent to the Smalblaar River. The 3 ha site is located opposite the Smalblaar River. Access to this site will be by tractor during harvest and wine pressing season, which is only during summer when the river flow is at its very lowest.

Most of the negative impacts associated with the Operational Phase will be of Low or Medium-Low significance after the implementation of the proposed mitigation.

4.3. DECOMMISSIONING PHASE IMPACTS:

4.3.1. Impacts of low significance
- Visual

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
4.3.2. Impacts of medium significance prior to mitigation

- Soil erosion: The areas occupied by vineyards will be sensitive to erosion following decommissioning. Vehicular access during decommissioning of the 3 ha site may disturb the river channel.
- Faunal and Floral biodiversity: Decommissioning may cause disturbance to the buffer areas and the seep depression on the 9 ha site.
- Alien vegetation: The establishment of alien plant species within decommissioned vineyards.

5. FARMING DEVELOPMENT MANAGEMENT PLAN

The overall goal for the farming development is to undertake land clearing, soil preparation and establishment of new vineyards in a way that:

- Ensures that activities are properly managed in respect of environmental aspects and impacts.
- Minimises the impacts on the Smalblaar River and the riverine corridor.
- Reduce risk of erosion.

5.1. MITIGATION MEASURES DURING THE CONSTRUCTION PHASE

All appropriate mitigation measures should be implemented by the Developer for the duration of the construction phase.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation: Action/control</th>
</tr>
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</table>
| Protection of the Smalblaar River | ➢ A minimum riverine / ecological buffer of 40m must be maintained from the current designated edge of the Smalblaar River to the edge of any new vineyards. No cultivation may take place within this 40m buffer  
➢ An unsurfaced access track on the outer edge of the new vineyards, up to 6m wide, could be included within the buffer. This means that in effect a minimum 34m buffer is being applied in terms of disturbance from the edge of the river.  
➢ A temporary two strand wire fence must be erected prior to any vineyard or site preparation, and this fence must run along the 34m buffer edge. No heavy machinery may enter the buffer area within this fence line.  
➢ Vehicular access to the 3 ha site should be limited as far as possible (lowest flow of Smalblaar River) and restricted to the site where it will cause least disturbance.  
➢ The banks of the Smalblaar River should be stabilized (stone heaps) at the access points to prevent soil erosion and disturbance within the buffer area.  
➢ No permanent roads or structures may be permitted across the river. |
| Protection of seasonal wetlands   | ➢ The seasonal seepage area (wetland) should be excluded from the 9 ha site and managed together with the buffer area.  
➢ Personnel should be instructed not to dump any waste in the seasonal wetland, river channel, or the riparian area. |

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
Protection of fauna and flora
- The seasonal seepage area (wetland) should be excluded from the 9 ha site.
- The buffer zone between the vineyards and the river bank should be respected and maintained (see mitigation above).
- Stands of *Prionium serratum* (palmiet) on the river bank should not be disturbed in any way (by crossing the river) as these plants play an essential role in stabilising the river bank.
- Any animals encountered during the construction phase should be relocated to another (natural) site and not harmed in any way.

Control alien vegetation
- All alien invasive trees should be removed from the 9 ha site.
- All alien trees must be removed from the natural vegetation surrounding the 3 ha site.
- All alien trees must be removed from the riverine buffer and seasonal seepage area.
- Debris of cleared alien trees should be removed from the site. No dumping of wood debris should be allowed within adjacent natural areas or within the buffer areas.

Reduce risk of erosion
- Cleared land should be exposed for a minimum time possible and planted with vineyards.
- A cover crop should be planted in combination with the vineyards.
- Care must be taken to direct water run-off to a safe collection point should any erosion be evident after ploughing.
- The buffer zone between the vineyards and the river bank should be respected and maintained (see mitigation above).
- Vehicular access to the 3 ha site should be limited as far as possible (lowest flow of Smalblaar River) and restricted to the site where it will cause least disturbance.
- The banks of the Smalblaar River should be stabilized at the access points to prevent soil erosion (stone heaps).

Protection of agricultural potential
- Once soil preparation is done, a detailed soil analysis must be conducted to determine if any drainage systems will be required.

Protection of heritage resources
- If any human remains are found during construction, then The South African Heritage Resources Agency (SAHRA) must be immediately notified.

Solid waste management
- Any litter found within the seep depression of the 9 ha site and the buffer areas should be removed.
- Personnel should be instructed not to dump any waste including building rubble, winery pressings or garden waste in the river channel, or the riparian area.

Minimising potential visual impact
- Only the specific areas intended for new vineyards should be cleared and replanted with vineyards as soon as possible.

Minimisation of potential noise impacts
- The land clearing should be conducted in normal working hours.

6. FARMING DEVELOPMENT MANAGEMENT PLAN – OPERATIONAL

The overall goal is to ensure that the farming development do not have unforeseen impacts on the environment and to rehabilitate and conserve the Smalblaar River buffer area.

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
6.1. MITIGATION MEASURES DURING THE OPERATIONAL PHASE

The proposed mitigation measures should be implemented as a minimum by the Developer for the duration of the operational phase. Rehabilitation of the riverine buffer should be implemented over a period of 3 years.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation: Action/control</th>
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| Protection of the Smalblaar River | ✓ The 34 m riverine buffer area and wet seepage area should be maintained and excluded from any further development.  
✓ Any maintenance or repair to the river banks should be done in accordance to an approved river management plan.  
✓ Vehicular access to the 3 ha site should be limited as far as possible (lowest flow of Smalblaar River) and restricted to the site where it will cause least disturbance.  
✓ The banks of the Smalblaar River should be stabilized at the access points to prevent soil erosion and disturbance within the buffer area.  
✓ No permanent roads or structures may be permitted across/within the river. |
| Protection of fauna, flora | ✓ Ensure that the development is restricted to the proposed footprint area, thereby limiting the removal of additional natural vegetation.  
✓ Stands of *Prionium serratum* (palmiet) on the river bank should not be disturbed in any way (by crossing the river) as these plants play an essential role in stabilising the river bank.  
✓ The buffer area must be rehabilitated and conserved.  
✓ All foreign material currently within the conservation area that can be removed (such as garden refuse and winery dumpings) should be removed within 3 months of any approval.  
✓ No herbicide spraying should take place within the conservation area, except in the case of control of *Pennisetum clandestinum* (kikuyu grass), where only Focus herbicide (kikuyu specific) should be used.  
✓ A key part of the mitigation is rehabilitation and revegetation of the conservation area, with suitable locally indigenous riverine species, to supplement what is already there.  
✓ Essential species that must be planted include *Calopsis paniculata*, *Psoralea aphylla* (bloukeur), *Diospyros glabra* (vliebos, kraabessie), *Virgilia oroboides* (keurboom), *Rhus angustifolia* (smalblaar; the river is probably named after this species), *Metrosideros angustifolia* (also known as smalblaar), *Brachylaena nerifolia* (waterwiteks), *Ilex mitis* (Cape holly), *Merxmuellera cincta* (veigras), *Willdenowia incurvata* (zonkwasriet), *Dodonaea angustifolia* (ysterhout, koorsboom), and *Brabejum stellatifolium* (wild almond; Van Riebeeck’s hedge).  
✓ *Prionum serratum* (palmiet) should be planted along the edge of the river to stabilise the banks.  
✓ It is important that each is planted in suitable microhabitat – some species are dependant on groundwater access, others prefer drier sites.  
✓ At least 100 plants of each species should be planted over a three year period, and more if possible, although some species may be difficult to source.  
✓ All visible alien plants should be removed annually. |
| Rehabilitation and conservation of the buffer area | ✓ Ongoing, annual alien clearing (follow-up control) should be implemented |

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
Vegetation

| Storm water management and drainage | Spraying of vineyards should be conducted according to standard procedures and using permitted chemicals only. No spraying of herbicides or pesticides should be done within the buffer areas. |
|                                  | Effective irrigation scheduling should be practised to enhance the drainage of the soil and to conserve water. |
|                                  | Runoff and return flow from subterranean drainage must avoid the seep depression. |

| Reduce risk of erosion | An adequate cover crop must be available on the soil at all times to prevent any erosion and tilling practices must be to the minimum. |
|                       | Any erosion sites should be repaired as soon as possible. |
|                       | Vehicular access to the 3 ha site should be limited as far as possible (lowest flow of Smalblaar River) and restricted to the site where it will cause least disturbance. |
|                       | The banks of the Smalblaar River should be stabilized at the access points to prevent soil erosion. |

| Waste management | Solid waste such as empty chemical containers should be disposed of in a responsible manner. |
|                 | Personnel should be instructed not to dump any waste, including winery pressings or garden waste in the river channel, or the riparian area. |
|                 | Any litter found within the seep depression of the 9 ha site and the buffer areas should be removed. |

7. DECOMMISSIONING OF THE FARMING DEVELOPMENT

It is highly unlikely that the farming activity on the Subject Land will ever be decommissioned. However, should the Subject Land no longer be cultivated, the land will slowly revert back to its natural state but the establishment of alien vegetation could have a significant impact (upstream sources). Soil erosion will be an additional potential impact.

Proposed mitigation measures that should be implemented by the Developer:

- Debris of removed vineyards should be removed from the site and composted or used as firewood, if possible.
- The buffer areas should be fenced off. No machinery or any disturbance should be allowed within the buffer areas.
- Effective erosion measures, including contour ripping, lining of storm water channels and the sowing of appropriate groundcover / crops should be implemented.
- Access to the 3 ha site should be limited and the banks of the Smalblaar River well managed/stabilised to prevent erosion.
- The establishment of alien vegetation should be prevented through ongoing monitoring and control.
8. ANNEXURES

Annexure A – Locality map
Annexure B – Site layout
Annexure C – Environmental Authorization (when issued)
Annexure D – Letter of Appointment: Environmental Control Officer
Annexure E – Project start-up, Development and Post Development (Operational) Checklists

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.

Figure A1. Locality map of the area surrounding Farm 2/417, Worcester (sourced from Government topo-cadastral map 3319)

Figure A2. Locality map of Farm 2/417 and the surrounding area (sourced from 1:50 000 Government topo-cadastral maps 3319CB)

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
Annexure B

Site layout

Figure B1: Aerial view of the study area showing both the 9ha and the 3ha sites considered for cultivation (new vineyards). Google Image dated 22 November 2006.

Figure B2 – Following page:

Site plan for the proposed 9 ha site to be cleared for the establishment of new vineyards.

This plan shows the proposed new vineyards in orange (transformed areas).

The plan also shows an initially decided 32 m buffer area (between vineyards and blue line) as well as a 2.54 ha depression (seasonal wetland) in the centre of this site (green) that will be excluded from the development. These sections will be managed in order to preserve ecological processes along the river bed and to preserve this portion of Breede Aluvium Fynbos (see Appendix G Specialist reports for details on the vegetation).

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Figure B2.
Figure B3. Proposed 3 ha site intended for the cultivation of new vineyards on Deetlefs Estate. Note that this site is completely transformed by alien infestation (black wattle).

* Expansion of the wine cellar and warehouse facilities and maintenance of the river bank are dealt with in a separate Environmental Management Program that relates to the relevant activities.
Annexure C

Environmental Authorization

(when issued)
Annexure D

LETTER OF APPOINTMENT

ENVIRONMENTAL CONTROL OFFICER

(an Environmental Control Officer has not been appointed at this stage – this letter of appointment will be completed subject to environmental authorisation being granted by DEA&DP).
Annexure E

Project start-up, Development and Post Development Checklists
# PROJECT START-UP CHECKLIST

Contract: ........................................................................................................................................................................................................

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ASPECT</th>
<th>YES/ NO (✓ or X)</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>• Landowner/Developer has a copy of the Environmental Management Programme (EMP).</td>
<td></td>
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<tr>
<td>• The 34 m perimeter from the banks of the Smalblaar River has been identified and fenced off according to the EMP.</td>
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<tr>
<td>• The designated wetland area has been established and fenced off.</td>
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<tr>
<td>• A designated work area has been established and marked (area intended for land clearing and cultivation).</td>
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<td>• Adequate access to the 3 ha site has been identified across the Smalblaar River (designated site that will cause least disturbance).</td>
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<td>• Support measures are implemented at the proposed river crossing to protect the river bank.</td>
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<tr>
<td>• All personnel on site are aware of the contents of the EMP and have been orientated.</td>
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Completed by:............................... Sign:............................ Date:............................
## DEVELOPMENT CHECKLIST (daily/weekly)

**Contract:** .................................................................

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<thead>
<tr>
<th>ENVIRONMENTAL ASPECT</th>
<th>YES/ NO (✓ or X)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Landowner/Developer has a copy of the Environmental Management Programme (EMP).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The 34 m buffer area is maintained and no disturbance is taking place within the buffer areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The wetland area is being maintained (no disturbance is taking place within this buffer area).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The development (land clearing) is limited to the area intended for cultivation and adjacent natural areas are avoided.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Vehicular access to the 3 ha site is restricted to an appropriate crossing and the access points are stabilized to prevent erosion and to reduce disturbance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No permanent roads or structures are evident within the Smalblaar River.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- All alien trees are being removed from the 3 ha site as well as from adjacent natural areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Debris of cleared alien trees are being removed from the site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Measures are implemented to remove alien trees from the buffer areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Erosion control measures are in place within the areas intended for new vineyards and are effective in controlling erosion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- All waste is removed from the buffer areas.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completed by:.............................. Sign:.............................. Date:..............................
POST DEVELOPMENT (Operational) CHECKLIST

Contract: ..........................................................................................................................

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ASPECT</th>
<th>YES/ NO (✓ or X)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The buffer area and wet seepage area is intact.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Rehabilitation measures are implemented and effective in the rehabilitation and conservation of the buffer areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Vehicular access to the 3 ha site is restricted to an appropriate crossing and the access points are stabilized to prevent erosion and to reduce disturbance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No permanent roads or structures are evident within the Smalblaar River.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Follow-up alien control measures are implemented and effective.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Erosion control measures are in place within the cultivated areas and are effective in controlling erosion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Effective measures are implemented for the management of storm water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Spraying of vineyards are being conducted according to standard procedures and buffer areas are avoided.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completed by:................................. Sign:................................. Date:.................................