ENVIROSCIENTIFIC
Reg. Nr 2003/073511/23

Environmental Scientific, Management and Auditing Services

63 Berg Street
7140 Gordon's Bay
South Africa

Lourens: (+27) 82 805 2999
Peet: (+27) 82 921 5949
E-mail: enviroscientific@adept.co.za

Mount Royal

Golf & Country Estate

ISO 14001

ENVIRONMENTAL MANAGEMENT SYSTEM

Developed for the Mount Royal Golf and Country Estate, in terms of the Record of Decision (E12/2/1-68-ERF 327 & FARM 696, Malmesbury).

Developed by:

Enviroscientific & EnviroAfrica

Registered Professional Environmental, Soil & Ecological Scientists

July 2006

TABLE OF CONTENTS

LIST OF RECORDS

Record 4.2.1	Environmental policy
Record 4.3.1.1:	Mount Royal Golf and Country Estate – Environmental Management Plan, Construction phase. EnviroAfrica, 2004
Record 4.3.1.2:	Environmental aspect and impact register
Record 4.3.2.1:	Environmental law register
Record 4.3.3.1:	Operational Management Program – Management and maintenance of the Estate
Record 4.3.3.2:	Operational Management Program – Management of the build environment (Private residential development)
Record 4.3.3.3	Operational Management Program – Malmesbury golf course
Record 4.3.3.4:	Operational Management Program – Ecological corridors and conservation areas

LIST OF APPENDIXES

Appendix 1:	Record of Decision (E12/2/1-68-ERF 327 & FARM 696, Malmesbury)
Appendix 2:	Mount Royal Estate – Site Layout Plan
Appendix 3:	Conditions of approval
Appendix 4:	Letter of appointment – EMS Manager
Appendix 4:	Environmental training and awareness program
Appendix 5:	Environmental incident and non-conformance report

1: INTRODUCTION AND BACKGROUND

Enviroscientific has been appointed to develop an Environmental Management System (EMS) for Mount Royal Golf and Country Estate (Mount Royal Estate). The approved Record of Decision (Refer to Appendix 1) recommends that the EMS meet the requirements of the international ISO 14001 environmental management system (SABS ISO 14001:2004), as well as those requirements stipulated within the ROD (Ref. no.: E12/2/1-68-ERF 327 & FARM 696, Malmesbury) and requirements requested by the Environmental Liaison Committee. The overall purpose of the EMS is to ensure that both the development phase as well as the future management of the Estate meets high standards of environmental management.

In accordance with the ISO 14001 standard the EMS must include:

- An environmental policy
- Environmental aspects; identified and rated according to their significance
- Legal & other requirements, which will be identified and adhered to
- Objectives & targets to address all significant impacts
- Environmental management programs to ensure compliance with objectives & targets
- Structure and responsibility
- Training awareness and competence
- Communication (top-down and bottom-up and with interested and affected parties)
- Operational control to ensure that environmental measures form an integral part of all operational procedures
- Emergency preparedness and response procedures to identify, respond prevent and mitigate environmental impacts associated with environmental accidents or incidents
- Monitoring & measurements programs, plans, schedules and methods to ensure compliance with legal provisions, environmental standards and guidelines
- Non-conformance and corrective and preventative action to control deviations from the environmental norm/standard, and to ensure compliance
- Records, which are easily identifiable, properly stored and maintained
- EMS audits to verify continued conformance and satisfactory environmental performance
- Management review

1.1 PURPOSE & SCOPE

This document serves as the entry point to the Mount Royal Estate environmental management system (EMS). The layout and numbering of this document is based on that of the *"South African Standard Code of Practice: Environmental management systems – Specification with guidance for use"* (SABS ISO 14001:2004) for the specific purpose of making it easier to interpret, maintain and audit. The EMS is further based on the best practice approach and will in addition to the requirements of the ISO 14001 Standard also incorporate the conditions of authorization given in the Record of Decision (Ref. no.: E12/2/1-68-ERF 327 & FARM 696, Malmesbury) for this specific development.

The scope of this ISO 14001 based EMS is to identify and evaluate all significant environmental impacts associated with, and to manage all phases of development and future management on the Mount Royal Golf and Country Estate and in particular:

- Construction activities pertaining to major services (roads, water sewage and electricity) (Refer to paragraph 4.3.1.4)
- Construction activities regarding the golf course (including landscaping of the existing course) (Refer to Par. 4.3.1.4)
- Architectural guidelines for the construction of all buildings (including residential dwellings, built infrastructure related to the golf course and commercial elements) (Refer to Par. 4.3.3.2)
- Operational management of the built environment (Refer to Par. 4.3.3.2)
- Operational management of the public open space (Refer to Par. 4.3.3.3)
- Operational management of the landscaped areas (Refer to Par. 4.3.3.3)
- Operational management of the golf course (Refer to Par. 4.3.3.3)
- Operational management of ecological corridors and conservation areas (Refer to Par. 4.3.3.4)

1.2 SITE DESCRIPTION

The Mount Royal Golf and Country Estate is located in the Swartland region of the Western Cape Province and falls within the jurisdiction area of the Swartland Municipality. The Estate (Refer to Appendix 2 – the proposed site layout plan) is situated on the north western border of the town of Malmesbury. The town of Malmesbury is some 70 km from Cape Town. The Estate is bordered by vacant commonage to the south and west and farmland to the north, while the N7 and the town border the eastern side.

The development comprises the establishment of a secure housing Estate linked to the existing 9-hole Malmesbury golf course, which will be upgraded to become an 18-hole course. The Estate totals 162,1 ha in extent of which only 30% is planned for development. The remainder will either be golf course development or open space to preserve the natural environment. A total amount of 726 residential units are planned on the 162,1 hectares of the Estate and will be phased in over time.

Authorization for the execution of this activity is subject to the conditions of approval contained in the Record of Decision (*E12/2/1-68-ERF 327 & FARM 696, Malmesbury*).

The area referred to as the *Mount Royal Estate* comprises two pieces of land, containing mainly commonage including the existing Malmesbury golf course as well as private land and consists of the following:

The existing 9-hole golf course:

Erf 327 (Commonage); Malmesbury; (66,05ha)

Zoning – Private Open Space

Private land (to the north of the existing golf course):

Remainder of the Farm 696 (Tweefonteinen); Malmesbury District (96,05ha)

Zoning: - Agricultural Zone I

Co-ordinates: Latitude: 33° 27' 00" South

Longitude: 18° 43' 00" East

1.3 PROJECT DESCRIPTION

The development of the Estate entails the upgrade of the existing 9-hole Malmesbury golf course into an 18-hole course, with residential (726 units) and commercial/tourism components (Refer to Appendix 2). The proposed Mount Royal Estate (developed in four phases) totals 162.1 ha of which 30% is earmarked for development; the rest will be left for open space and the golf course.

The development will include:

- Single residential erven
- Group housing stands (density at 20 units/stand)
- General Residential
- A Guest Lodge
- A Wellness Centre/Country Club
- The Clubhouse Upgrade
- A Restaurant
- Office Space
- Parking facilities
- Private Open Space
- Internal Roads
- Infrastructure and services

The development will be executed in four phases:

Phase 1: Privately owned land (± 42,96 ha) comprising of the security entrance to the site, single residential plots, townhouses, open space and the establishment of the infrastructure of the development, and includes the bulk services, internal services and the ground works for the golf course extension.

Phase 2: Privately owned land (± 53,09 ha) comprising of single residential plots, group housing and six of the new holes for the golf course.

Phase 3: Commonage (± 66,05 ha) comprises of single residential plots, a general residential plot and the last three holes for the golf course upgrade.

Phase 4: Privately owned land and commonage (± 4,06 ha) entails the clubhouse precinct, which includes the golf club house and future extensions, a guest lodge, wellness centre and country club, office space, business uses, general residential units and parking areas. Phase 4 comprises both private land (± 3,21 ha) and commonage (± 0,85 ha) on which the original club house was built.

The EMS is applicable to all 4 phases of the proposed development.

Special conditions apply for phase 3. The formal conservation area to be established in Phase 3 of the proposed development must be fenced off prior to and during construction. The area must be designated a “No-go” area and be included in contractor training. The environmental Control Officer (“ECO”) must engage with the specialist botanist Nick Helme to initiate the search and rescue of rare and special plants from the site.

1.4 ENVIRONMENTAL FEATURES

In order to ensure that the Mount Royal Estate development adheres to national environmental legislation various specialists (a Botanist, an Archaeologist as well as a Freshwater specialist) were instructed to compile specialist reports regarding the Estate in total (CK Rumboll & Partners, 2004). All detail planning regarding the *Estate* was guided by these reports. The environment is benefiting in that open spaces are kept open (only 30% of the *Estate* is being developed) and zoned as such to protect the natural environment and assure a quality environment. For this reason the streamlet to the north as well as part of the Platklip River was included as entities within the boundaries of the *Estate.* In addition the use of indigenous plants will be promoted for all gardens within the *Estate* to contribute towards the preservation of natural vegetation, but also the saving of water.

1.4.1 CLIMATE

The *Estate* falls within the winter rainfall area of the Western Cape. The average daily maximum temperature is 30,4°C for February and 17,8°C for July. During the hot summer months cool south-easterly and south-westerly winds blows and during the winter months the prevailing wind is coming from the northeast.

1.4.2 HYDROLOGY

The highest rainfall occurs during July and the yearly average for the area is 450 mm. Because of the sandy nature of the soils of the study area together with the existing slopes, rainwater quickly filters away. Dr Liz Day (2003) did an impact assessment of the development on the Platklip River and on the Diep River system as a whole.

1.4.3 ARCHAEOLOGY

A detailed archaeological survey of the site has been undertaken by Kaplan (2003). This assessment has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to development activities.

1.4.4 VEGETATION

The natural vegetation on site is what has been described as Swartland Granite Renosterveld (Helme, 2003a & b and 2004). This vegetation type is restricted to granitic soils in the area near Darling and Malmesbury, and extending to the lower slopes around Paarl and Wellington, and south to Somerset West. Latest figures suggest that as much as 80% of this vegetation type has been lost, largely to agriculture, but also to urbanization, and that less than 1% is currently conserved.

The bulk of the site was ploughed about fifteen years ago, and the contour ditches are still visible, the construction of which usually precedes the development of agricultural fields. However, the natural vegetation has re-colonised many areas very well, perhaps primarily because the ploughing and agriculture were abandoned after only a couple of years. The southern portion of the site, supporting some large patches of blue gum (*Eucalyptus grandis*), has been more heavily disturbed than the northern portion. The southern portion has a low regional conservation value.

The northern area supports Granite Renosterveld that is in significantly better condition. It has much greater plant diversity than the southern portion, including at least eleven species of conservation concern. Seven of these species could be successfully transplanted. The local and regional conservation value of this northern area is thus very high.

1.4.5 WETLANDS AND RIVER SYSTEMS

The main wetland on the site occurs very close to the northern border, and is on average about 30m wide (Day, 2003). There is a small dam, numerous frogs and tadpoles were noted and the area is still of ecological importance. The Platteklip River flows along the western border of the development area. The river within the development area is shallow, and meanders through a broad (*ca* 30-40m wide) band of *Phragmites australis* reed bed wetlands. These wetlands provide nesting and feeding habitat to numerous birds. Two other wetlands occur within the development area, namely a small seepage area in the wheat fields, and a seasonal wetland below the existing golf course.

1.5 LAND USE CATEGORIES

Using the information and recommendations from the specialist studies the site can be subdivided into three categories, with regard to their **suitability** for development and the **desirability** of development in each areas.

The three categories are the following:

- **Areas that should not be developed.**
- **Areas that should preferably not be developed**.
- **Areas that can be developed**.

1.5.1 AREAS THAT SHOULD NOT BE DEVELOPED

This category is about areas and features that should be excluded from development and includes the following:

- Areas of high ecological sensitivity and conservation-worthiness.
- Low lying areas next to river and stream
- Wetland area

Notwithstanding the general principal contained in this clause, it is recorded that Phase 3 of Mount Royal comprises an area of moderate botanical value adjacent to the Renosterveld reserve, but that this has been released for development as a trade-off for establishing the Renosterveld Management Trust Fund and the Renosterveld reserve in the more extensive high value area. Suitable mitigating measures, such as search and rescue of endangered specimens, have been mandated before any such development may take place.

Aspects that are of particular importance that represent environmental constraints to the development include the occurrence of rare plant species. As stated by Helme (2003a & 2004), at least ten Red Data Book species occur within the *Estate*. In order to promote the conservation of biodiversity in the *Estate*, it is important that natural areas be rehabilitated and protected. The establishment and protection of ecological corridors for the *Estate* is thus of particular importance (which include the identified wetland areas, and the river and drainage channels, within a broad buffer).

1.5.2 AREAS SUITABLE FOR CONDITIONAL DEVELOPMENT

This category comprises areas and features where development can be considered subject to certain conditions. These conditions include the following:

- Any potentially detrimental impacts of development must be effectively mitigated. For example, effective landscaping must be undertaken to mitigate detrimental aesthetic impacts.
- Significant stands of rare plants must be protected from development.
- Isolated individuals of rare endemic species must be relocated (search & rescue) into the ecological corridors.

1.5.3 AREAS SUITABLE FOR DEVELOPMENT

This includes all the areas not described above and where no major significant environmental impact is associated with the proposed development.

2: REFERENCES

CK Rumboll & Partners and Management Team. 2004. Mount Royal Country and Golf Estate: Development Framework. Unpublished report July 2004.

Day, Dr. L. 2003. Assessment of the likely impacts of the proposed Malmesbury Golf Estate on freshwater ecosystems. The Freshwater Consulting Group. Unpublished report prepared for EnviroAfrica. December 2003.

D'Arch Consulting (Pty) Ltd. 2004. Mount Royal Golf & Country Estate. Visual Impact Assessment. Unpublished report prepared for EnviroAfrica. April 2004.

Department of Environmental Affairs and Development Planning's – Record of Decision: Condition of approval. Ref. no.: E12/2/1-68-ERF 327 & FARM696, MALMESBURY. Issued in terms of section 22 of the Environmental Conservation Act (Act 73 of 1989). Proposed upgrade of the Malmesbury Municipal Golf Cousrse to construt the Mount Royal Golf and Country Estate on Erf 327 and the remainder of the farm Tweefontein no. 696, Malmesbury.

EnviroAfrica, January 2006. Mount Royal Golf and Country Estate. Environmental Management Plan, Construction Phase. Located on Erf 327, and the Remainder of Farm 696, Malmesbury. DEA&DP-EIMU Reference E12/2/1-68-Erf 327 & Farm 696, Malmesbury.

Kaplan, J. 2003. Phase 1 Archaeological impact assessment proposed development Mount Royal Golf and Country Estate Malmesbury. Unpublished report prepared for EnviroAfrica. November 2003.

Lochner, P. 2005. Guideline for Environmental Management Plans. CSIR Report No. ENV-S-C 2005-053 H. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

Helme, N. 2003a. Botanical assessment of proposed Malmesbury Country Golf Estate. Nick Helme Botanical Surveys. Unpublished report compiled for EnviroAfrica. September 2003:

Helme, N. 2003b. Addendum to the Botanical Assessment of proposed Malmesbury Country Golf Estate. Nick Helme Botanical Surveys. Unpublished report compiled for EnviroAfrica, October 2003.

Helme, N. 2004. Botanical assessment of proposed Malmesbury Country Golf Estate (Revised). Nick Helme Botanical Surveys. Unpublished report for EnviroAfrica. Revised March 2004.

SABS ISO 14001: 2004. Environmental management systems – Specifications with guidance for use. South African Standard. Code of Practice.

SKC Engineers. 2004: Mount Royal Golf and Country Estate: Municipal services report. W0824/102-04 C. Unpublished report: 21/04/2004.

Van Schoor, L.H., 2001. A formula for the quantification and prioritization of negative environmental impacts. Wineland. May 2001.

3: DEFINITIONS & ABBREVIATIONS

3.1 DEFINITIONS

Contractor – The responsible person (or organization) appointed to perform the actual construction activities referred to in the ROD.

Environmental Aspect – Any element of any construction activity, product or services that can interact with the environment.

Environmental Control Officer - The suitably qualified environmental specialist, registered in terms of section 20(3) of the Natural Scientific Professions Act, 2003 *(Act 27 of 2003)*, responsible for overseeing the environmental aspects of the Construction phase of the EMS.

Environmental Completion Statement – A report by the ECO to the relevant authorities stating completion of the project and compliance with the EMP/EMS and its conditions.

Environmental Impact – Any change to the environment, whether adverse or beneficial, wholly or partially resulting from any construction activity, product or services.

Method statement – A statement by the Contractor, describing the scope of intended construction works step-by-step, in order for the ECO and Engineer to understand the Contractors intentions and be able to comment on, so that they could assist with devising mitigating measures should it be necessary to avoid environmental impact.

No-Go Area(s) – An area of such (environmental/aesthetical) importance that no person or activity are allowed within a designated boundary surrounding this area.

Stop Works Order – An order which can be issued either by the ECO or Engineer to the Contractor (or any sub-contractor) if serious environmental damage is about to happen or is happening as a result of construction activities. On receiving such an order the Contractor must immediately stop all activities (or planned activities) relevant to the specific issue until an environmentally friendly resolution has been approved by the ECO.

Site – The area and extent of the development works and infrastructure, including any areas off the main site on which works are to be carried out in order to allow the development to proceed successfully.

Site meetings – Periodic (weekly or monthly) meetings between the ECO, Engineer and Contractor to discuss construction activities that relate to the environment or any other environmental issues that might arise.

Works – The works to be executed in accordance with a contract.

3.2 ABBREVIATIONS

DEA&DP	Department of Environmental Affairs and Development Planning
DEAT	Department of Environmental Affairs and Tourism
ECO	Environmental Control Officer
EMS	Environmental Management System
Mount Royal Estate	Mount Royal Golf and Country Estate
MSDS	Material Safety Data Sheet(s)
ROD	Record of Decision
SAHRA	South African Heritage Resources Agency

4: EMS REQUIREMENTS

4.1 GENERAL REQUIREMENTS

Mount Royal Estate shall establish and maintain an Environmental Management System (based on the ISO 14001 standard), the requirements of which is described in the "*South African Standard code of Practice: Environmental management systems – specifications with guidance for use* (SABS ISO 14001:2004)" and the Record of Decisions (refer to Appendix 1).

4.2 MOUNT ROYAL ESTATE – ENVIRONMENTAL POLICY

The environmental policy is an essential part of, and provides the framework for the EMS and it must:

- be appropriate to the nature, scale and environmental impacts of its activities, products and services;
- include a commitment to continual improvement and prevention of pollution;
- include a commitment to comply with relevant environmental legislation and regulations and with other requirements to which the organization subscribes;
- provide the framework for setting and reviewing environmental objectives and targets;
- be documented, implemented and maintained and communicated to all employees;
- be available to the public.

Refer to Record 4.2.1 for a copy of the Mount Royal Estate – Environmental Policy.

4.2.1 IMPLEMENTING THE ENVIRONMENTAL POLICY

The environmental policy must be approved by the Mount Royal Estate Board of Directors and signed by the Chairman or Chief Executive Officer.

The environmental policy must be made available to all managers, staff, the ECO and contractors (and on request to any interested or affected parties) and can be further promoted through:

- Placing the environmental policy on the estate website.
- Printing the policy in brochure format and or poster format and distributing to, and displaying it in prominent positions (e.g. the estate entrance, construction offices etc.)
- Using the policy in promotional material and advertisement, as appropriate.

4.2.2 REVIEWING THE POLICY

The environmental policy will be reviewed on a yearly basis as part of the Management review. The purpose of the review will be to ensure that the policy is still appropriate to the nature, scale and environmental impacts of its activities, products or services.

4.2.3 RECORDS

Records of the environmental policy should be kept for at least 5 years (since it can be used to indicate continual improvement).

4.3 PLANNING

4.3.1 ENVIRONMENTAL ASPECTS

Environmental aspects are the elements of the company's activities and services that may lead to impacts on the environment. Identifying all environmental aspects and the associated environmental impacts (for each aspect) and then prioritizing these aspects are the basis of the ISO 14001 EMS. Once prioritized, objectives and targets are set to manage all significant negative environmental impacts.

4.3.1.1 PURPOSE & SCOPE

The purpose is to identify all environmental aspects associated with the various activities in order to control significant impacts by means of objectives and targets. This procedure describes the method in which environmental aspects will be identified and prioritized according to the significance of their impacts.

4.3.1.2 IDENTIFYING ENVIRONMENTAL ASPECTS & IMPACTS

By conducting a thorough investigation of all the proposed activities on the property as well as the specialist reports a baseline/draft environmental aspect list will be defined. This list will be then be distributed to the various experts for additional input and to ensure it addresses:

- all environmental aspects which can have a significant impact on the environment
- all environmental impacts associated with each aspect.

4.3.1.3 RATING THE SIGNIFICANCE OF IDENTIFIED ASPECTS & IMPACTS

All aspects and their associated environmental impacts are recorded in the register of environmental aspects and impacts. The significance of each possible environmental impact will then be rated using Van Schoor's (2001) significance value formula, which is calculated as:

$$S = [(fd) + int + ext + loc) \times (leg + gcp + ia + str) \times P]$$

Where:

S = significance value
fd = frequency and the duration of the impact
int = intensity of the impact
sev = severity of the impact
ext = extent of the impact
loc = sensitivity of locality
leg = compliance with legal requirements
gcp = conformance to good conservation practices
*po*l = covered by the company policy
ia = impact of interested and affected parties
str = strategy
P = probability of occurrence of impact

The following criteria are used for the determining the numerical value used in the formula.

***fd* = frequency and duration of the impact**					
low frequency (monthly or longer); low duration (minutes)	1	medium frequency (weekly); low duration (minutes)	1.5	high frequency (daily or less); low duration (minutes)	2
low frequency (monthly or longer); medium duration (hours)	1.5	medium frequency (weekly); medium duration (hours)	2	high frequency (daily or less); medium duration (hours)	2.5
low frequency (monthly or longer); high duration (days or longer)	2	medium frequency (weekly); high duration (days or longer)	2.5	high frequency (daily or less); high duration (days or longer)	3

***int* = intensity of the impact**					
low pollutant concentration; low pollutant quantity	1	medium pollutant concentration; low pollutant quantity	1.5	high pollutant concentration; low pollutant quantity	2
low pollutant concentration; medium pollutant quantity	1.5	medium pollutant concentration; medium pollutant quantity	2	high pollutant concentration; medium pollutant quantity	2.5
low pollutant concentration; high pollutant quantity	2	medium pollutant concentration; high pollutant quantity	2.5	high pollutant concentration; high pollutant quantity	3

***sev* = severity of the impact**	
changes immediately reversible	1
changes medium/long-term reversible	2
changes not reversible	3

***ext* = extent of the impact**	
locally (on-site contamination)	1
regionally (groundwater contamination)	2
globally (ozone depletion)	3

***loc* = sensitivity of location**	
not sensitive	1
moderate (e.g. low water table)	2
sensitive (e.g. wetlands)	3

***leg* = compliance with legal requirements**	
compliance	0
non-compliance	1

***gcp* = good conservation practices**	
conformance	0
non-conformance	1

***pol* = covered by company policy**	
covered in policy	0
not covered/no policy	1

***ia* = impact on interested and affected parties**	
not affected	1
partially affected	2
totally affected	3

***str* = strategy to solve issue**	
strategy in place	0
strategy to address issue partially	0.5
no strategy present	1

***P* = probability of occurrence of impact**	
not possible (0% chance))	0
not likely, but possible (1 - 25% chance)	0.25
likely (26 - 50% chance)	0.50
very likely (51 - 75% chance)	0.75
certain (75 - 100% chance)	0.95

Using this formula any aspect with a significance value of more than 15 is regarded as significant. All management of each aspect with possible significant impacts must be addressed within the EMS with those yielding the highest significance values being given priority. Although the significance values of impacts may be reduced, ISO 14001 requires continual improvement and those impacts addressed previously will continue to be managed.

4.3.1.4 ENVIRONMENTAL ASPECT & IMPACT REGISTER

Environmental management issues regarding the Mount Royal Golf and Country Estate can be subdivided into two major phases namely:

a) **The Construction phase**, which include all the work being done to establish the Estate (e.g. major works, roads, electricity, sewerage stormwater, the enlargement of the golf course, the construction of the Guest Lodge, the Wellness Center/Country Club, the Clubhouse upgrade, the Restaurant, Office space, Parking facilities etc).

b) **The Operational management** of the estate, which includes the ongoing management of the Golf course, Public Open space and Landscaped areas, Ecological corridors and Conservation areas as well as the management of the private housing development (guidelines and restrictions, architectural and environmental).

Since the construction EMP (EnviroAfrica, 2006) was specifically developed and approved for the environmental management of the construction activities it will not be duplicated in this system. All construction activities will be managed according to the Mount Royal Golf and Country Estate: Environmental Management Plan – Construction phase (refer to Record 4.3.1.1)

Potential environmental aspects and impacts regarding the operational management of the Estate are addressed in the Environmental Aspect and Impact Register (refer to Record 4.3.1.2)

4.3.1.5 REVIEWING THE ASPECT & IMPACT REGISTER

The environmental policy will be reviewed on a yearly basis as part of the Management review. The purpose of the review will be to ensure that the policy is still appropriate to the nature, scale and environmental impacts of its activities, products or services.

4.3.1.6 RECORDS

Records of the environmental aspect and impact register will serve as background information for both internal and external audits. It is recommended that they are kept for at least 5 years, since they can be valuable in the interpretation of short to medium term land change/management.

4.3.2 LEGAL AND OTHER REQUIREMENTS

The purpose of this procedure is to ensure that the company identifies and has access to all significant environmental legislation and other requirements, relevant to the nature and scale of the environmental aspects of its activities, products or services. It covers the identification, and method for having access to legal and other requirements. It also describes the actions needed by the company to comply with all environmental legal requirements (national, provincial and local) as well as voluntary or self-imposed requirements. International requirements will be addressed as needed.

4.3.2.1 IDENTIFYING LEGAL & OTHER REQUIREMENTS

The company will engage the services of environmental consultants to compile a register of all significant legal and other requirements relevant to its activities, products and services. The specialist will provide the company with:

a) A basic environmental legal database (Refer to the Environmental law register, Record 3)
b) Will interpret the legal implications of the relevant legislation and other requirements and will ensure that the company understands these implications in order to be able to adhere to them
c) Regular updates of environmental legislation in order to keep the legal requirements current

4.3.2.2 ENVIRONMENTAL LAW REGISTER

Refer to Record 4.3.2.1

4.3.2.3 CONDITIONS OF APPROVAL

Swartland Municipality: Conditions of approval. August 2005 (Appendix 3)

4.3.2.4 RECORDS

- All permits, registration certificates, licenses and other legal documents must be filed in a legal records file.
- Records will be kept in the office of the company representative.
- These records must be kept at least as long as required by law, otherwise for a minimum of five years.

4.3.3 OBJECTIVES, TARGETS AND PROGRAMME(S)

Mitigating actions for all significant environmental impacts will be addressed in this EMS through an environmental management plan or programme. These plans or programmes shall consider the significance of the impact, legal and other requirements regarding the impact, technological options available as well as financial, operational and business requirements and the views of interested and affected parties.

The overall objectives of this EMS include:

- Ensuring compliance with regulatory authority stipulations and guidelines (local, provincial, national and/or international).
- Ensuring that there is sufficient resources to address the significance of the EMS related activities.
- Verifying environmental performance
- Responding to unforeseen changes in project implementation.
- Provide feedback for continual improvement on environmental performance

Environmental management plans refer to site specific mitigating actions that must be implemented by the responsible entity to ensure that all identified significant environmental impacts are adequately addressed.

Construction activities pertaining to (a) the installation of infrastructure and (major) services (roads, water, sewerage and electricity) and (b) regarding the golf course (enlarging there-off) are covered by the construction EMP (EnviroAfrica, 2006).

Environmental management plans will be addressed under four environmental programs (refer to paragraph 4.3.3.1 – 4.3.3.4) which have been identified to cover all major aspects of the development and the future management thereof, namely:

- Operational management and maintenance of the Estate
- Operational management of the built environment (including environmental and architectural guidelines)
- Operational management of the golf course, public open space and landscaped areas
- Operational management of ecological corridors and conservation areas.

4.3.3.1 OPERATIONAL MANAGEMENT AND GENERAL MAINTENANCE OF THE ESTATE

Refer to Record 4.3.3.1: Operational management and maintenance of the Estate. This program is directed at the day to day management of the Estate, including public open space and landscaped areas not associated with the golf course, and is based on the identified aspects (refer to the Aspect and Impact register, Record 4.3.1.2) which may have a detrimental impact on the environment.

4.3.3.2 OPERATIONAL MANAGEMENT OF THE BUILT ENVIRONMENT

Refer to Record 4.3.3.2: Operational management of the built environment (including environmental and architectural guidelines). This program is again based on the approved Construction Environmental Management Plan (EnviroAfrica, 2006) as well as specific inputs by environmental specialist and the specific aspects and impacts associated with the various activities identified in the Aspect & Impact Register (Record 2).

4.3.3.3 OPERATIONAL MANAGEMENT OF THE GOLF COURSE

Refer to Record 4.3.3.3: Operational management of the golf course, public open space and landscaped areas. This program is based on specific inputs by environmental specialist and the aspects and impacts associated with the various activities identified in the Aspect & Impact Register (Record 2).

4.3.3.4 OPERATIONAL MANAGEMENT OF ECOLOGICAL CORRIDORS & CONSERVATION AREAS

Refer to Record 4.3.3.4: Operational management of ecological corridors and conservation areas. This program is based on specific inputs by environmental specialist and the aspects and impacts associated with the various activities identified in the Aspect & Impact Register (Record 2).

4.4 IMPLEMENTATION AND OPERATION

4.4.1 RESOURCES, ROLES, RESPONSIBILITY AND AUTHORITY

Roles and responsibility at the Mount Royal Estate will be influenced by the phase of development. At present (during the construction phase) roles and responsibility will be as described within the EMP (Enviroscientific, 2006), with only the existing nine hole Golf course with an operational management program. This phase will last until most of the major construction is done and normal operational management will take over (with only smaller construction, e.g. housing, still being done).

For the purpose of this document structure and responsibility have been divided into two phases:

- **Construction phase – Roles & responsibility**: Which will include the installation of all the major works, construction of the Hotel and Wellness centre, the Restaurant, Clubhouse upgrade, Guest lodges, Group housing stands, the upgrade of the Golf course & major landscaping.
- **Operational management phase – Roles & responsibility**: Which will include the future management of the new infrastructure and environment which has been established. This phase will most probably be defined by the appointment of an Estate Manager.

Implementation of the EMS, environmental control and management of the construction phase will be achieved through the responsibility structure set out below. The role players include the Owner, the Engineer, the Environmental Control Officer and the Contractor. All role players must familiarize themselves with the prescriptions of the CEMP.

4.4.1.1 CONSTRUCTION PHASE – ROLES & RESPONSIBILITY

The CEO (Owner)

The CEO (or the designated responsible person appointed by him) will be overall accountable for the environmental performance of the Estate. He will also be responsible for:

- appointing the EMS Manager (Refer to Appendix 4) who will be responsible for the implementation and maintenance of the EMS until the appointment of the Estate Manager (who will then be responsible for the EMS).
- ensuring that adequate provisions are made with regard to resources (financial and human) to enable the implementation and maintenance of the EMS.

- appointing the ECO, the Resident Engineer and the Contractor for the duration of the construction contract.
- ensuring that the Engineer and Contractor fulfil their obligations in terms of this EMS.

The EMS Manager

The EMS Manager will share the overall accountability for environmental performance of the Estate with the CEO and will be specifically responsible to:

- keep abreast of environmental legislation to ensure legal compliance
- ensure that the EMS is being implemented and maintained
- develop strategies/action plans to deal with incidents of non-compliance or non-conformance
- liaison with regulatory authorities and interested and affected parties
- keep the CEO (board of directors) informed about environmental performance or lack thereof
- organize/schedule internal environmental audits
- monitor environmental training requirements
- organize/schedule Management review

The Engineer

The Engineer is responsible to ensure that the Contractor fulfils his obligations in terms of the environment. In addition, the Engineer and the ECO are expected to develop a close working relationship and to stay in contact with each other.

The responsibilities of the Engineer include:

- To issue site instructions to the Contractor.
- To serve as conduit for all communication between the ECO and the Contractor *[The only exception is where the ECO or the Engineer needs to issue a "**STOP WORKS**" order on the contractor if serious environmental harm is about to happen or is happening as a result of construction activity. The "STOP WORKS" order must be confirmed by the other party as soon as reasonably possible].*
- Discussing any problems that might lead to environmental damage with the ECO.
- When the ECO is not on site the Engineer will be responsible for the implementation of environmental control measures stipulated in the EMS.

The Environmental Control Officer (ECO)

The ECO must be a suitably experienced environmental practitioner, and will be responsible for overseeing the environmental aspects of the Construction phase of the EMS and will work in close co-ordination with the Engineer.

The responsibilities include a number of tasks. The ECO:

- will visit the site on a regular basis and will be primarily responsible for ensuring the implementation of the EMS and environmental control.
- will assist the owner in providing basic environmental training
- must be informed of and attend site and technical meetings to be able to comment and report on environmental issues
- will call for, and approve, method statements for construction activities that might pose an environmental impact
- must ensure that method statements are approved before commencement of the work
- must demarcate the necessary areas for storage of materials, ablutions, eating areas of contract workers etc.
- will keep environmental records (including photographs) of the construction activities
- must ensure that "No-Go" areas are adequately protected and adhered to.
- must implement immediate mitigating action in the case of critical environmental impacts
- must deal with public complaints/queries regarding environmental issues.

The ECO has the authority to stop works if there is a serious threat to or impact on, the environment as a direct cause of construction. However, this authority is limited only to emergency situations where immediate consultation with the Engineer is not possible.

The Contractor

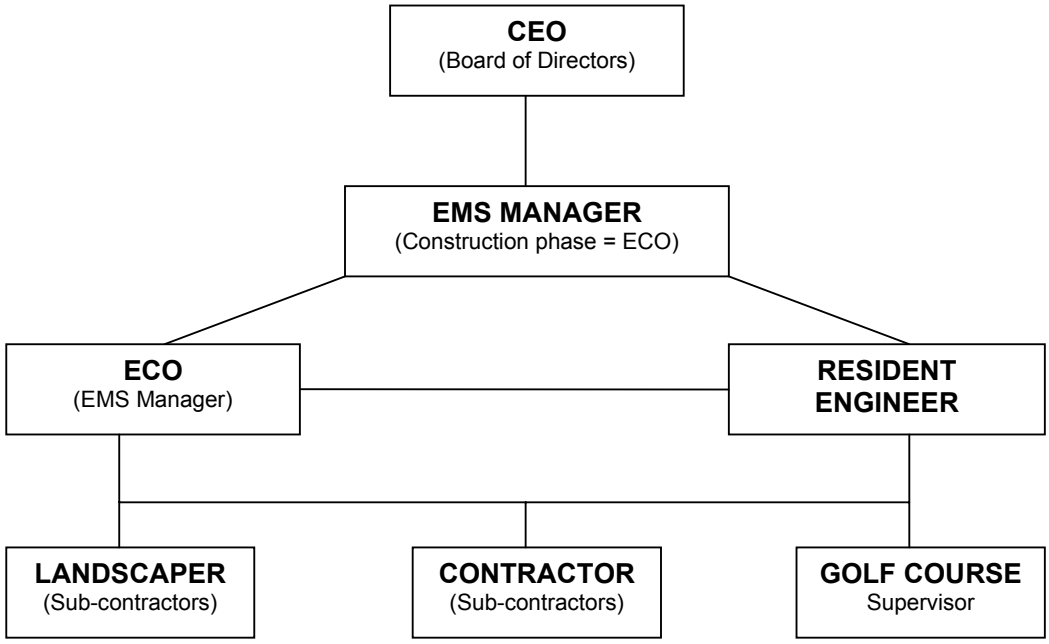
The Contractor shall be responsible to:

- ensure that all sub-contractors, employees, suppliers, agents etc. are fully aware of the environmental issues detailed in the EMP as well as any other issues pointed out by either the Engineer or ECO and to ensure they sign the "Declaration of understanding".
- liaise closely with the Engineer and the ECO
- ensure that works on the site are conducted in an environmentally sensitive manner and in full accordance with the EMP

- carry out instructions issued in the site instruction book
- assist with solutions to environmental problems that may arise during the construction phase
- ensure that all "**No-Go**" areas are adequately fenced off.

NB: All contractors must sign the "Declaration of understanding" of the Environmental Management Plan before construction commences.

Figure 1: Organizational structure of the Estate Management during construction



4.4.1.2 OPERATIONAL MANAGEMENT PHASE – ROLES & RESPONSIBILITY

The Estate Manager will be responsible for the general management of the Mount Royal Estate, including all services, safety and security, landscaping and golf course management and the further implementation and maintenance of the EMS.

As such, once appointed, it will be the responsibility of the Estate Manager to establish a core management team and to structure their responsibilities in accordance with the requirements of the ISO 14001 standard.

4.4.1.3 RECORDS

a) **Letter of appointment** for the specific person responsible for the management of the EMS (Attachment 3).

b) **Declaration of understanding**: All contractors must sign the "Declaration of understanding" of the Environmental Management Plan before construction commences. Records of these sighed documents must be kept in the Site office of the Engineer or ECO.

4.4.2 COMPETENCE, TRAINING AND AWARENESS

Training and awareness is one the most important aspects of a successful EMS and is the key factor towards achieving continual improvement. The purpose of competence, training and awareness is to make the contractors, workers and employees aware of their roles and possible impacts on the receiving environment as well as their responsibilities and the possible rewards of good environmental practices. It is important to know that all contractors, workers and employees may have an impact on the environment. Each should know how to minimize the risk of environmental impact while supervisors must know what to do during an emergency situation.

In addition the environmental courses should strive to:

- Enhance general knowledge of the natural environment of the specific site (e.g. the importance of Wetlands and Renosterveld)
- Enhance general knowledge of the issues relating to the Estate (e.g. the approved plant species list allowed for landscaping and gardening, knowledge about alien vegetation and the specific species on site).
- To communicate the existence of the ISO 14001 based EMS and the purpose thereof.

4.4.2.1 ENVIRONMENTAL AWARENESS COURSE

All contractors, sub-contractors and their workers must undergo the environmental awareness training courses. The ECO will be responsible for the initial awareness course (refer to Appendix 5) which shall include all relevant management, the Engineer, the Contractor and all foremen. All attendees shall remain for the duration of the course.

The Contractor shall be responsible to ensure that all his personnel and subcontractors (if applicable) are informed and made aware of the environmental constraints and shall also

supply the ECO with a monthly report indicating the number of employees used by him. If refresher courses are deemed necessary, for instance, where personnel disregard the requirements of the EMP, the time lost and the cost of the course would be for the account of the Contractor.

4.4.2.2 SPECIFIC TRAINING

Apart from the environmental awareness training which is applicable especially to the construction phase of the development the following must also be observed:

a) All personnel, including those working in offices, the clubhouse etc. must be aware of the Mount Royal environmental policy. Training workshops must be conducted in order to provide these personnel with the information to enable them to meet the objectives of the environmental policy.
b) All personnel involved with day-to-day activities that could have a significant impact on the environment (e.g. personnel involved with emergency procedures, water supply works and the use of possible hazardous chemicals such as pesticides and herbicides) must be given on-the-job training in the correct procedures to be followed.
c) All contractors and workers which may work in areas of special environmental importance (e.g. special features, vegetation and rare and endangered plant species) must be made aware of the specific areas and the reason for its importance as well as the consequences of non-conformance (including penalties).

4.4.2.3 TRAINING RECORDS

Records of all environmental training received by each employee or contractor must be kept by the EMS Manager (or person appointed by him which is responsible for environmental training).

4.4.3 COMMUNICATION

4.4.3.1 INTERNAL COMMUNICATION

Internal communication between the CEO, the EMS manager, the ECO, the Engineer and contractor will be handled according to Figure 1 (Resources, roles, responsibilities and authority).

Communication during the construction phase will be as described in the EMP (EnviroAfrica, 2006)

Start-up site meeting

A start-up site meeting will be held between the Owner, the ECO, the Engineer and the Contractor to:

- Demarcate building sites, access roads and overnight camping areas for contractor labour (if needed), working boundaries and "No-Go" areas.
- Discuss methods of stockpiling.
- Check that adequate ablution, toilets and fire-fighting facilities and equipment are in place.
- Ensure that all parties have a full set of this CEMP and any other documentation that might be required.
- Ensure that the "Declaration of Understanding" has been signed by all relevant persons.
- Discuss communication channels including contact details.

Site meetings

The Engineer will arrange site meetings, which must be attended by the ECO. Environmental issues must be a standing item on the site meeting agenda. This agenda item is to allow for discussion of the main construction activities relating to the environment. Minutes of these meetings will form part of the EMP records and will reflect environmental queries, agreed actions and dates of eventual compliance by the Contractor.

ECO diary entries

The ECO will maintain a site diary/checklist that relates to environmental issues as they occur on site. Comments from this diary/checklist will form part of reports presented at site meetings by the ECO.

4.4.3.2 OTHER COMMUNICATION

The ECO (EMS Manager) will handle all complaints/queries related to the environment coming from interested and affected parties. Records of all complaints/queries must be kept by the ECO or EMS Manager and will reflect the environmental queries, agreed actions and dates of eventual compliance.

4.4.3.3 COMMUNICATION: FUTURE CONSIDERATION

In time the EMS will lose its construction phase and focus more on ongoing operational management. At this stage it is suggested that the EMS Manager (Estate Manager) appoints an Environmental Liaison Committee to represent and advise the Home Owners Association on the environmental management and best practice approach towards operational management of the environmental features of the Estate as a whole (Landscaped areas, Ecological corridors, Wetlands, Renosterveld etc.).

This Committee should ideally include representatives of the following fields:

- Cape Nature representing the regulatory authorities (regarding the management of the ecological corridors and the conservation areas).
- Local environmental non-government organization (e.g. Botanical Society).
- Wetland specialist (regarding the management of the wetland)
- Home Owners Association
- EMS Manager

The purpose of this committee should be to:

- Provide a forum for information sharing, regarding operational control practices.
- To advise on matters relating to operational control and the EMS.
- To monitor the implementation of the EMS during the construction and operational phases.
- To act as a communication forum (facilitating information distribution to the broader community).

4.4.3.4 RECORDS

- Minutes of the Site Meetings must be kept for at least 5 years and must be available to the EMS Manager.
- Records of all complaints/queries from interested and affected parties must be kept in the office of the ECO or EMS Manager.

4.4.4 DOCUMENTATION

In order to conform to the ISO 14001 standard the organization must create and maintain documents to facilitate the effective implementation of the EMS. This documentation must include:

- An Environmental policy (Refer to Par. 4.2 and Record 1)
- Objectives and Targets (Refer to Par. 4.3.3. and Record 4 – 8)
- Description of the scope of the EMS (Refer to Par. 1.1)
- Description of the main elements of the EMS (refer to Par. 1 – 1.5) and their interaction and reference to related documents (Record 4 – 8)
- Documents including records, required by International Standard (Refer to the Mount Royal Estate ISO 14001 Manual – This document and references).
- Documents including records, necessary to ensure the effective planning, operation and control of processes relating to significant aspects (Refer to Record 4 – 8).

This EMS manual describes the core elements of the EMS and their interaction and provides direction to related documentation.

4.4.5 CONTROL OF DOCUMENTS

The documents needed for ISO 14001 conformances (Par. 4.4.4) must be approved, controlled, reviewed and updated on a regular basis in order to facilitate effective management of the EMS. Document control (traceability) should not be unnecessarily complex.

The EMS manager will be responsible for the regular review and to update the EMS Manual at least every 24 months or before each development stage. He will also be responsible to ensure that all dated copies are collected and replaced with the updated version as they are corrected.

4.4.6 OPERATIONAL CONTROL

During all parts of the construction phases, operational control will be done by using method statements (EnviroAfrica, 2006). The ECO (if not the EMS Manager) will report and work very closely with the EMS Manager. Ongoing management of the Estate (after construction) will be controlled using Operational management procedures/programmes.

4.4.6.1 METHOD STATEMENTS

The method statement is a step-by-step written description of intended construction works by the Contractor for the benefit of the ECO and Engineer. The purpose of which is to allow the ECO and Engineer to understand the Contractors intentions and be able to comment thereon, so that possible environmental impact(s) can be avoided by implementing mitigating measures.

Method statements will be required from the Contractor on all environmentally sensitive aspects of the construction phase, the purpose of which is to bind the Contractor to certain construction procedures in sensitive areas. The Contractor must complete and submit the method statement (which must then be approved by the ECO and Engineer) before starting with the specific activity or works. NB: No activities may commence without the ECO's approval. If the ECO have made comments on the environmental aspects of the activity they must also firstly be addressed by the Contractor before the works can begin.

The method statement shall include the following in suitable detail:

- A brief description of the works to be undertaken.
- A detailed description of the construction procedure(s), materials and equipment to be used.
- The method for getting the equipment to and from the site and moving it on site.
- How and where materials will be stored.
- Containment actions (or corrective actions to be taken should containment not be possible) for leaks or spills and any liquid or material that may occur.
- Timing and location of activities.
- Compliance/Non-compliance with specifications.
- Any other information deemed necessary by the Engineer and/or ECO.

4.4.6.2 OPERATIONAL MANAGEMENT

The EMP (EnviroAfrica, 2006) is a fundamental component of the Mount Royal Estate EMS, in that it provides the documented operating procedures for most of the activities on the property (and all activities regarding construction). The following documentation control procedure must be fulfilled:

a) A copy of the EMP must be available to the EMS Manager, ECO, Engineer and main Contractor (persons responsible for major contractual or operational decision making).
b) Each department/line function must maintain copies of the operational procedures applicable to its activities.
c) Department/line managers are responsible to ensure that only the latest version of the operating procedure is kept on file and implemented.
d) Department/line managers are also responsible to report any possible correction or improvement to the EMS manager for evaluation and possible inclusion (improvement) into the procedure.
e) The EMS Manager must maintain a full data base of all the latest operating procedures.
f) The EMS and EMP are open ended or dynamic documents which must be regularly reviewed (at least once every 5 years), amended and updated as necessary (continual improvement).

4.4.7 EMERGENCY PREPAREDNESS AND RESPONSE

Emergency response plan(s) must be documented for each potential emergency incident. The following document control applies:

a) A copy of all emergency response plans pertaining to a specific area/function must be kept by the specific line manager.
b) Key elements of the emergency plans must be displayed in prominent places for each area of high risk.
c) Each departmental/line manager is responsible to ensure that the latest approved plans are implemented.
d) Emergency plans must be amended as necessary, and reviewed and updated at least once every 5 years.

The following potential emergency situations have been identified and include the procedure for responding to, and for preventing and mitigating the environmental impacts that may be associated with them.

4.4.7.1 ACCIDENTAL FIRES

To minimize the risk of accidental fires the following measures will be implemented:

- At least one mobile fire unit (ready for use) will be available on site.

- Fire extinguishers must be in place and available in areas where open flames are used.
- Mount Royal Estate will negotiate an emergency response agreement/call-out procedure with the local fire department.
- The EMS Manager, the ECO and the Engineer must have emergency contact numbers of the local fire department and any other emergency agency which might be needed (e.g. Emergency medical services).
- Please refer to the EMP regarding the responsibilities of the Contractor regarding the prevention of accidental fires.

4.4.7.2 HYDROCARBON SPILLS

To reduce the risk of hydrocarbon spills, no fuel storage or distribution facilities will be established on site. In addition the following preventative measures will also be observed:

- Vehicles will arrive on site already fuelled for the project.
- If additional fuel is needed, it will be brought in as needed (minimal volumes) and refuelling will be done using a pump and not a funnel (to minimize the risk of spills).
- Spill trays shall be used during re-fuelling.
- In the case of accidental spillages or leakage, the contractor will be responsible for immediate containment and corrective action (e.g. stopping the leakage), and to inform the Engineer and ECO.
- The ECO will recommend the best possible environmental solution.
- The Contractor will be liable for any costs incurred.

4.4.7.3 CONCRETE/CEMENT SPILLAGES

- The Contractor/supplier will be liable for the safe and correct deliverance of substantial loads of concrete or cement.
- In the case of accidental spill, the contractor will be responsible for immediate containment and corrective action (e.g. stopping the leak), and to inform the Engineer and ECO.
- The ECO will recommend the best possible environmental solution.
- The Contractor/supplier will be liable for all costs of the rehabilitation needed.
- For the specific responsibilities of the Contractor on site regarding cement or concrete mixing refer to EMP (EnviroAfrica, 2006).

4.5 CHECKING

As with training "checking" (monitoring and evaluating) is one of the cornerstones of the ISO 14001 EMS. Regular monitoring, measurement and evaluation of results is necessary to ensure that tendencies or possible environmental concerns are recognized beforehand so that mitigating actions can be implemented (which in turn leads to continual improvement of the EMS).

4.5.1 MONITORING AND MEASUREMENT

The EMS Manager (and ECO) has the responsibility to ensure that the key characteristics of the activities that can have a significant impact on the environment are monitored on a regular basis. This shall include:

- Monitoring and recording of information to track performance.
- Relevant operational controls and conformance criteria
- Regular site inspections/audits by the EMS Manager
- A monthly environmental audit report

4.5.2 EVALUATION OF COMPLIANCE

Consistent with its commitment to compliance the organization periodically evaluate compliance with applicable legal and other requirements.

4.5.2.1 REVIEWING COMPLIANCE TO LEGAL & OTHER REQUIREMENTS

The EMS Manager will be responsible for liaising with an environmental law specialist to ensure that:

- The environmental law register is reviewed and updated on a regular basis.
- Objectives and targets and environmental management programs are revised and updated if it is necessitated by the new or changing legislation.
- Training needs that may arise from new or changing environmental laws are identified and addressed.
- The new/or changing law is communicated to management and employees influenced by the specific law.
- Any relevant changes or additions in the procedures for monitoring and measurement and periodic legal compliance evaluations are incorporated.

4.5.2.2 RECORDS OF COMPLIANCE EVALUATION

The EMS Manager must keep records of these periodic evaluations of compliance to legal and other requirements.

4.5.3 NONCONFORMITY, CORRECTIVE ACTION AND PREVENTIVE ACTION

4.5.3.1 NON-CONFORMITY AND CORRECTIVE ACTION

The aim of management should always be to ensure that non-conformance and non-compliance are dealt with expeditiously once identified. In order to minimize the impact of actual non-conformities, prevent recurrence thereof and to help with the early identification of potential future non-conformities the following procedure will be implemented.

- The EMS Manager (together with the ECO and the resident engineer, during the construction phase) will be responsible to record all environmental incidents or non-conformities (refer to Appendix 6 for an example of such a report). In addition all personnel should be aware of and be able to identify major environmental incidents and non-conformities to help with early identification.
- Immediate negating action will be implemented to minimize the extent of the incident or non-conformance.
- Where applicable the EMS Manager will appoint a responsible person to investigate the reason for the incident or non-conformance and to suggest technical or field specific advice on the improvement of the process to prevent the same type of incident or non-conformance. The EMS Manager will identify the need for additional expert advice (if relevant) and consult with such an expert on the rehabilitation/mitigating actions needed.
- The EMS Manager (together with expert or field specific technical advisors) formulate a rehabilitation and or mitigation plan to be implemented.
- The CEO of the company will be ultimately responsible for the costs of rehabilitation, except where liability could be traced to a responsible entity (during the construction phase, responsibility will be in accordance with the approved EMP written by EnviroAfrica, 2006).
- The EMS Manager will record his findings and all environmental non-conformities in a monthly environmental audit report (which will be forwarded to the company).
- All major environmental incidents and non-conformities **must also be reported to DEAT** and any specific recommendation made by this department on the rehabilitation or mitigation of the incident must be implemented.

4.5.3.2 PREVENTATIVE ACTION

- The EMS Manager will inspect aspect which may lead to significant impacts on a monthly basis, with the specific aim to identify potential environmental incidents or non-conformities.
- Environmental training will also address environmental issues and focus on making the employee aware of recognizing possible environmental hazards.

4.5.4 CONTROL OF RECORDS

It is important to maintain all records relating to the implementation of this EMS, especially those regarding objectives and targets. The following EMS specific records must be maintained:

- Records required by the construction phase EMP (EnviroAfrica, 2006)
- Legal requirements (e.g. permits, exemptions licenses etc.)
- Yearly objectives and targets register (and performance), including budgeting and expenditure records
- Training records
- Inspection and maintenance records
- Monitoring records (e.g. water and energy usage)
- Environmental incidents and or nonconformities records
- Environmental audits (internal and external as well as legal compliance audits)
- ECO Photographs
- Minutes of Environmental meetings (e.g. Construction site meetings)
- Environmental complaints register
- Management review minutes

The EMS Manager and each line manager must keep relevant records together and ensure that they are readily retrievable and available for auditing purposes.

4.5.5 INTERNAL AUDITS

Audits can range from legal compliance audits to general performance audits or EMS audits. In terms of Mount Royal Estate internal audits will focus on general environmental performance and activities or areas with which possible significant environmental impacts are associated (identified in the Aspect & Impact register, Record 2) (Legal compliance audits will be in accordance with Par. 4.5.2).

4.5.5.1 INTERNAL AUDIT PROCEDURE

Mount Royal Estate will perform at least two formal internal audits per year during the construction phase and at least one audit per year there-after (the interval and specific date to be decided by the EMS Manager). The internal audit procedure must include the following activities:

1. **Planning**: To determine the following:
    - Determine the scope of the audit (e.g. the specific activity(s) or area/location to be audited).
    - Selecting the auditor or audit team (who must possess the expertise and or experience in terms of the objective of the audit). Identify relevant background information documents or plans.

2. **Auditing**: During the audit the following should be observed:
    - Opening meeting to review the scope, objectives and audit plan as well as the timetable.
    - Physical audit, through interviews, observation and the review of documents.
    - Reviewing the findings to determine cases of non-conformance had been identified.
    - Closing meeting, presenting preliminary findings to management.

3. **Audit Report**: The audit report should include the following:
    - The scope and objective of the audit.
    - The name(s) of the lead auditor and his team (if applicable).
    - A summary of the audit process including any problems encountered.
    - Audit findings, recommendations and conclusions

Apart from the formal audits the EMS manager will perform monthly site inspections (informal audits) to ensure environmental conformance throughout the Estate. The EMS Manager will record his findings and all environmental nonconformities in a monthly environmental audit report (which will be forwarded to the CEO and Board of directors).

4.6 MANAGEMENT REVIEW

In order to ensure its continuing suitability, adequacy and effectiveness, top management must review the EMS at planned intervals. These reviews shall include assessing the need for changes to the EMS, the policy and the objectives and targets (continual improvement of the EMS).

4.6.1 MANAGEMENT MEETING

The EMS Manager is responsible to schedule a meeting with top management to facilitate the Management Review. This review shall include:

a) Results of internal environmental audits and evaluations of compliance with legal and other requirements to which the organization subscribes.
b) Communication from external interested and affected parties (including complaints).
c) A summary of the environmental performance of the company (Responsibility of the EMS Manager).
d) The extent to which objectives and targets have been met.
e) Status of corrective and preventive actions.
f) Follow-up actions from previous management reviews.
g) The possible impact of changes or changing circumstances, including legal requirements related to environmental aspects and,
h) Recommendations for improvement.

4.6.2 REVIEW OUTPUTS

Minutes of the management review shall be kept and must include any decisions regarding:

- possible changes to the EMS policy, objectives and targets and
- other elements of the EMS consistent with continual improvement.

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

ENVIRONMENTAL POLICY

RECORD NO.	**4.2.1**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • Mount Royal Estate, Board of Directors • EnviroAfrica • Environmental Specialist
APPROVED BY	Chief Executive Officer
DISTRIBUTION	EMS manual EMS Manager The site office The ECO Information boards on site On request to interested and affected parties

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

ENVIRONMENTAL MANAGEMENT PLAN – CONSTRUCTION PHASE

RECORD NO.	**4.3.1.1**
DATE:	January 2006
RETAIN	Until completion of all construction activities
REVISION NO.	0
COMPILED BY	EnviroAfrica • Environmental Specialist
APPROVED BY	Department of Environmental Affairs & Development Planning
DISTRIBUTION	EMS Manual EMS Manager The ECO On request to interested and affected parties

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

ASPECT & IMPACT REGISTER

RECORD NO.	**4.3.1.2**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • ECO • EnviroAfrica • Environmental Specialist
APPROVED BY	CEO
DISTRIBUTION	EMS Manual EMS Manager The ECO On request to interested and affected parties

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

ENVIRONMENTAL LAW REGISTER

RECORD NO.	**4.3.2.1**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • EnviroAfrica
APPROVED BY	CEO
DISTRIBUTION	EMS Manual The ECO

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

OPERATIONAL MANAGEMENT:

GENERAL MAINTENANCE OF THE ESTATE

RECORD NO.	**4.3.3.1**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • EnviroAfrica • Estate management
APPROVED BY	CEO
DISTRIBUTION	EMS Manual EMS Manager The Estate Manager

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

OPERATIONAL MANAGEMENT:

THE BUILT ENVIRONMENT

RECORD NO.	**4.3.3.2**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • EnviroAfrica
APPROVED BY	CEO
DISTRIBUTION	EMS Manual The EMS Manager The Maintenance Manager

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

OPERATIONAL MANAGEMENT:

MALMESBURY GOLF COURSE

RECORD NO.	**4.3.3.3**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • EnviroAfrica • Golf Club Management
APPROVED BY	Golf Club Management (President)
DISTRIBUTION	EMS Manual The EMS Manager The Golf course manager The Golf club management

MOUNT ROYAL

GOLF AND COUNTRY ESTATE

OPERATIONAL MANAGEMENT:

ECOLOGICAL CORRIDORS AND CONSERVATION AREAS

RECORD NO.	**4.3.3.4**
DATE:	July 2006
RETAIN	Review yearly (July 2007)
REVISION NO.	0
COMPILED BY	Enviroscientific in consultation with: • EnviroAfrica • Environmental Specialist
APPROVED BY	CEO
DISTRIBUTION	EMS Manual The EMS manager The Maintenance manager

APPENDIX 1

Record of Decision

E12/2/1-68-ERF 327 & FARM 696, Malmesbury

APPENDIX 2

Site Layout Plan


To Moorreesburg
Hiking
Jogging Trail
Entrance & Security
Access
Medical
Suites
R45
To Malmesbury
Wellness Centre
Country Club
Boutique Hotel
Golf Club
Farmstall
Restaurant
(see 'Overview')
Key
Green Belt
Roads
Lifestyle Village
Nature Reserve
Residential
Golf Course
River
Hiking / Jogging Trail
Hiking
Jogging Trail
Nature Reserve
N7
Proposed Estate
Lifestyle Facilities
18 Hole Golf Course
Residential Plots
Garden Homes
Professional Suites
Boutique Hotel
Country Club
Wellness Centre
Gymnasium
Pool
Restaurants
Farmstall
Medical Suites
Jogging Trail
Tennis Courts
Squash Courts
To Cape Town
NORTH

APPENDIX 3

Mount Royal Estate

Swartland Municipality: Conditions of approval

APPENDIX 4

Letter of Appointment:

EMS Manager

APPENDIX 5

Environmental Training and Awareness Program

APPENDIX 6

Environmental Incident and Non-conformance Report

ENVIRONMENTAL INCIDENT OR NON-CONFORMITY REPORT

Location / Area:		Date:
Area Representative	Originator:	Report No.:

Incident:

Cause Identification:

Proposed corrective action:

Agreed date of Implementation:	Responsibility for action:	Area Rep. Signature:
Originator Signature:		Date:

Corrective Action Completed Satisfactory: Yes/No _____

COMMENTS:

EMS Manager Signature: _____ Date: _____