

**Sustainable
Development
Consultants**

Environmental Management Plan



EMP for the Stage 1 Construction and Operation of the Trainers' Allotment Area at the Pakenham Racecourse located at Nar Nar Goon / Longwarry Road, Tynong

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Report History

Revision	Date	Action	Author	Reviewed
0-Draft	28/08/2012	DRAFT for Client Review	MA	BdW
1-Final	05/09/2012	Final – As per Client Review outcomes	MA	BdW

1.0 Introduction

Pakenham Racing Club (PRC) has engaged services of Sustainable Development Consultants to prepare this Environmental Management Plan (EMP) for Stage 1 (Construction & Operation) specifically in relation to the Trainers Allotments element in the proposed Pakenham Racecourse and Training Facility on Nar Nar Goon/Longwarry Road, Tynong. The EMP outlines the procedures to manage potential environmental impacts associated with construction activities associated with the Trainers Allotments, and their on-going operation, to be undertaken in the first stage of the project.

2.0 Project Background

The site for the Pakenham Racecourse and Training Facility is located approximately 10 km east of Pakenham and approximately 65 km southeast of the Melbourne CBD. It is generally bounded by the Gippsland railway line and Nar Nar Goon/Longwarry Road to the north, Chippendale Road to the east and private farmland to the south and west. The Ararat Creek runs along the south-west boundary of the property. The proposed racecourse is located within the Cardinia Shire Council boundaries. The 230 ha area reserved for Pakenham Racecourse and Training Facility is currently owned by Pakenham Racing Club and is presently used for grazing and dairy cattle.

Pakenham Racing Club proposes to develop a racecourse with associated infrastructure and buildings such as stables, administration buildings, trainers' allotments and car parks on the site.

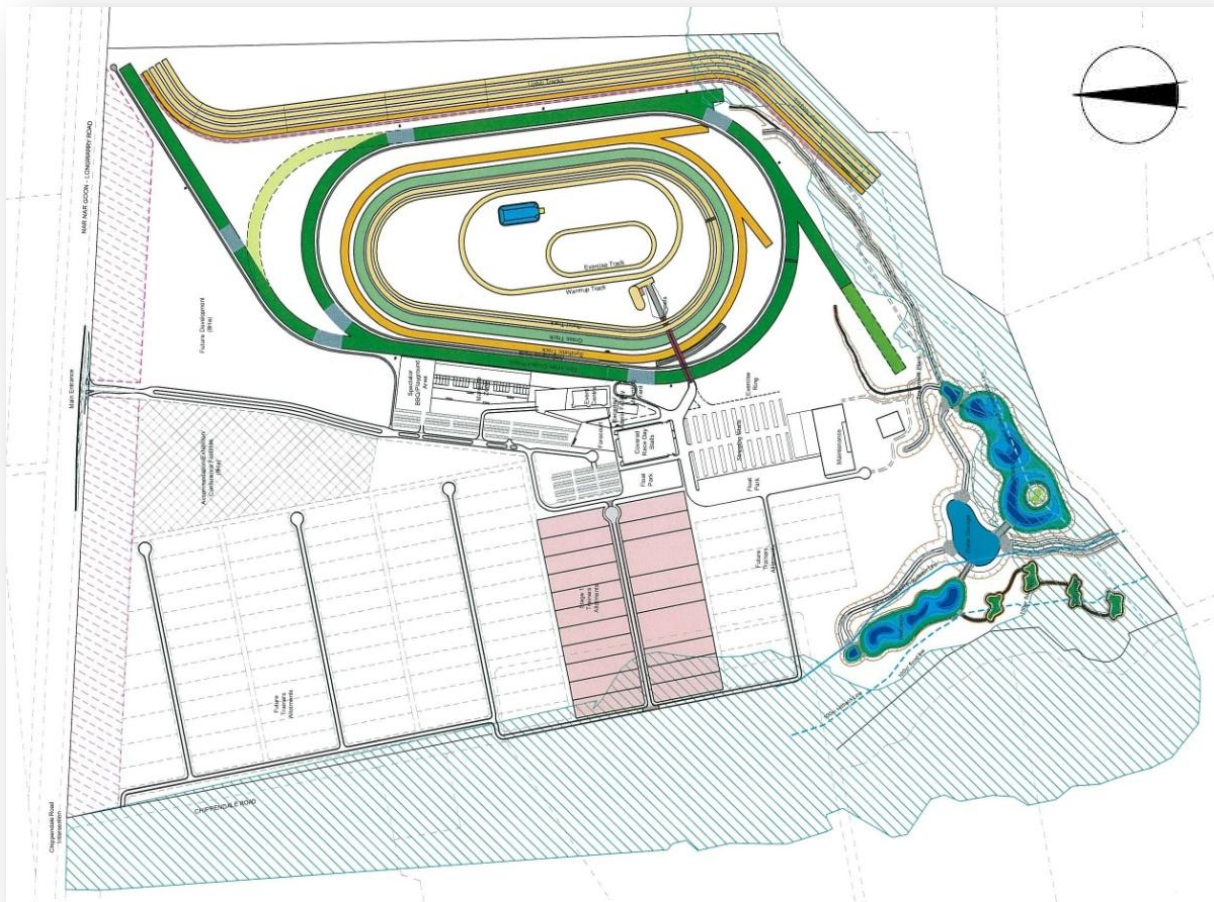


Figure 1 - Master Plan of the Pakenham Racecourse and Training Facility

3.0 Purpose of EMP

The EMP is a management tool that outlines environmental management strategies to ensure the project's environmental commitments and objectives are met. Additionally, this EMP will provide the framework for managing potential environmental impacts associated with construction and operational activities. The EMP will be used over the proposed construction period of the racecourse and training facility, and will continue to apply during the trainer's allotment's operational phase.

The EMP outlines:

- Key environmental issues associated with construction and operation;
- Management measures to minimise above key environmental impacts;
- Monitoring to be undertaken during construction and operation;
- Environmental accountabilities; and
- Legislative requirements which must be met by the contractor or occupant.

4.0 Scope & Objectives

This EMP addresses environmental management for the construction of all infrastructure components, building construction, and operational activities of the Trainers Allotments area (see Figure 2, below). The EMP will be extended to other stages of development such as remaining trainer's allotments, car parks, administrative buildings, racecourse arena, and event centres etc.

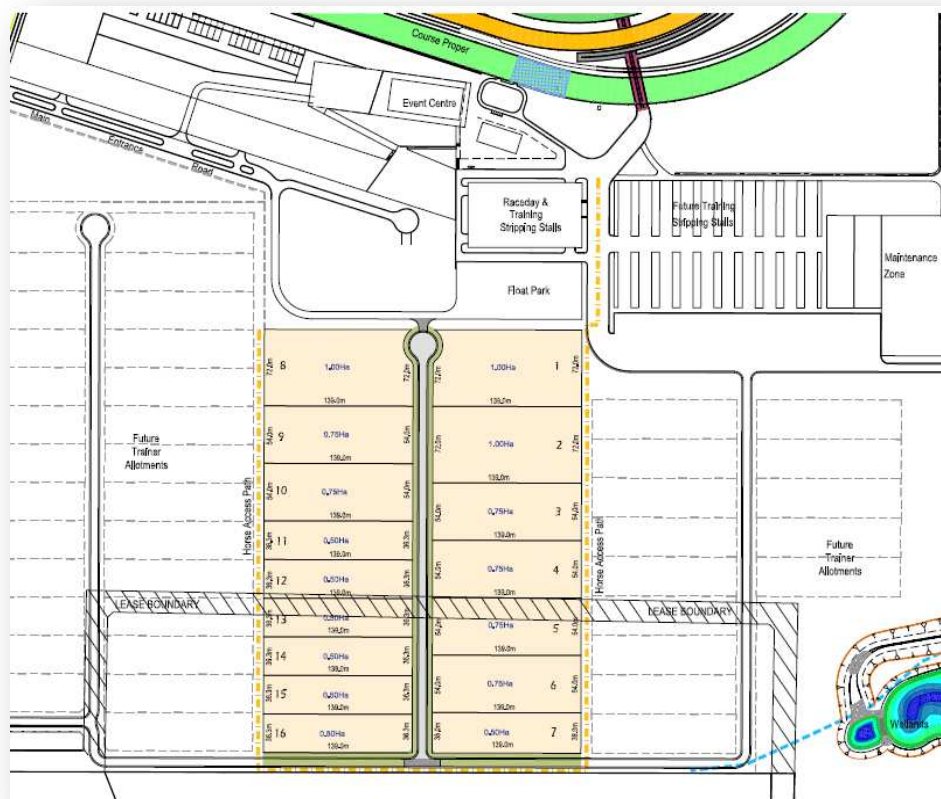


Figure 2 - Trainers Allotment Area for the Pakenham Racecourse and Training Facility

The objectives of the EMP are to:

- Ensure that the construction works and operation of the trainers’ allotment area is carried out in accordance with appropriate statutory environmental requirements;
- Ensure that all tasks are carried out in such a way as to minimise potential environmental impacts/degradation by the implementation of best environmental practice initiatives;
- Ensure that all personnel engaged in the works, and trainers lot owners/occupiers, comply with the EMP;
- Ensure that no change is made to the EMP without the written permission of the Cardinia Shire Council, or their nominated representative(s);
- Respond to changes in environmental conditions during the proposed works through review and monitoring and control programmes in consultation with the PRC, Project Manager or their nominated representative(s); and
- Ensure that corrective actions (if required) are completed in a timely manner.

5.0 Regulatory Obligations

Table 1 (below) lists the broad legal requirements relating to the environmental impacts applicable to the development and operation of Trainers’ allotment area in the Pakenham Racecourse and Training Facility. The legal requirements listed below incorporate the PRC Planning Permit conditions, Special Use Zone planning scheme provisions and other applicable environmental legislative requirements.

Table 1- Environmental aspect, their relevant requirement along with governing body responsible for implementation

Aspect	Legal Requirement	Governing Body
Site Management	Construction and operation activities to align with procedures as set out in this EMP. <i>Planning and Environment Act 1987</i>	Cardinia Shire Council
Air Quality	Limit the generation of dust and equipment activity which can contribute to air pollution. <i>Environment Protection Act 1970</i>	Environment Protection Authority
Noise & Vibration	Comply with Information Bulleting N3/89 Interim guidelines for the control of noise in country Victoria <i>Environment Protection Act 1970</i> <i>State Environment Protection Policies – Control of Noise from Commerce, Industry and Trade 2001</i>	Environment Protection Authority
Waste	Efficient storage and collection of garbage and other solid waste including facilities for recycling. <i>Planning and Environment Act 1987</i> <i>Environment Protection (Prescribed Waste) Regulations 1998</i>	Cardinia Shire Council
Native Vegetation	Clearing of native vegetation only as approved. <i>Planning and Environment Act 1987</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of Sustainability and Environment/ Cardinia Shire Council

Aspect	Legal Requirement	Governing Body
Trees	Prevent damage to native vegetation and trees. <i>Planning and Environment Act 1987</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of Sustainability and Environment
Earthworks Protection	Minimise soil erosion and exposed areas to be stabilised to prevent soil erosion. <i>Planning and Environment Act 1987</i> <i>Catchment and Land Protection Act 1994</i> <i>State Environment Protection Policies – Waters of Victoria 2003</i>	Cardinia Shire Council
Stormwater	Stormwater management plan showing stormwater works including WSUD to the legal point of discharge. <i>Planning and Environment Act 1987</i> <i>Catchment and Land Protection Act 1994</i> <i>Water Act 1989</i> <i>State Environment Protection Policies – Waters of Victoria 2003</i>	Melbourne Water/Cardinia Shire Council
Chemical Management	All chemical materials to be stored, handled and used in accordance with the requirements stated in the safety data sheets. <i>Planning and Environment Act 1987</i> <i>Environment Protection Act 1970</i>	Environmental Protection Authority
Vermin & Weeds	Manage weeds and vermin during construction works and operation effectively to limit potential environmental hazards. <i>Planning and Environment Act 1987</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of Sustainability and Environment

In addition to the above legal requirements this EMP will also focus on the following aspects pertaining to the environmental management of the construction and operation of the trainers' allotment area in the racecourse.

Aspect	Requirement
Training & Awareness	All staff and construction workers are competent and experienced to deal with environmental issues associated with construction activities.
Emergency Response	Ensure that adequate measures are in place to deal with potential environmental emergencies such as spills, fire, litter etc.

6.0 Specific Site Description

The proposed construction site is currently farm land which will become part of the overall development of the new racecourse and trainer's facility. The area was previously zoned as Green Wedge Zone (Schedule 1) under the Cardinia Shire Council planning scheme. This has been changed to Special Use Zone (Schedule 3) by a planning scheme amendment.

The existing site predominantly consists of paddocks with mainly introduced vegetation (pasture grass), with some areas of Swamp Bush and isolated trees.



Figure 3 - Site of the proposed racecourse and training facility

7.0 Construction Works

The construction of the Trainers Allotments in the Pakenham Racecourse and Training Centre will involve various construction activities. The table below states the potential environmental impacts resulting from each construction activity and their risk assessment outcome.

Table 2 - Proposed construction activities and their potential environmental impacts

Construction Activity	Environmental Aspect	Risk of Negative Impact
Earthworks (Cut and Fill)	Native Vegetation	Medium
	Stormwater Contamination	High
	Noise & Vibration	Low
	Air Quality	Low
Compaction	Noise & Vibration	Medium
	Air Quality	Low
Levelling and Grading	Noise and Vibration	Low
	Stormwater Contamination	High
	Native Vegetation	Medium

Construction Activity	Environmental Aspect	Risk of Negative Impact
Sewerage, Water Supply & Services	Earthworks Protection	High
	Stormwater Contamination	High
Vegetation Removal and Planting	Native Vegetation	High
	Stormwater Management	Medium
	Vermin & Weeds	Low
Road Construction	Earthworks Protection	High
	Noise & Vibration	Medium
	Construction Waste	Medium
	Chemical Management	Medium
	Air Quality	Low
Vehicle Movement	Noise & Vibration	Medium
	Vermin & Weeds	Medium
	Air Quality	Medium
	Emergency Response	Low
Dwelling Construction	Noise & Vibration	High
	Waste	Medium
	Stormwater Management	Medium
	Chemical Management	Low
Stables/Out-buildings Construction	Native Vegetation	Medium
	Stormwater Management	Low
Fencing	Waste	Medium

8.0 Operational Activities

In addition to the above construction activities, the following operational activities will be carried out on the trainers' allotment area after the construction of dwellings and stables is complete in the individual lots.

Table 3 - Proposed operational activities and their potential environmental impacts

Operational Activity	Environmental Aspect	Risk of Negative Impact
Equine Activities	Noise & Vibration	Medium
	Waste	High
	Chemical Management	Low
	Vermin & Weeds	High
Dwelling Occupation	Noise & Vibration	Low
	Waste	Medium

Operational Activity	Environmental Aspect	Risk of Negative Impact
Horse Movement	Vermin & Weeds	High
	Earthworks Protection	Medium
	Native Vegetation	Low
Horse and Stable Washing and Cleaning	Stormwater Contamination	High
	Earthworks Protection	Low
	Vermin & Weeds	Low
	Waste	High
	Chemical Management	Medium
Irrigation	Stormwater Contamination	Medium
	Native Vegetation	Low
Dwelling and Stable Maintenance	Waste	Medium
	Stormwater Management	Low

9.0 Environmental Management Control

Table 2 and Table 3 highlight the key environmental issues which are likely to arise from the specific construction or operational activities. Before starting any activity the responsible personnel will refer to this EMP (Table 2 & Table 3) to identify the list of key environmental issues pertaining to that specific construction activity. These identified environmental issues will be managed using strategies listed in the table below. Additionally, their monitoring and reporting will be carried out by the responsible body or their nominated representative(s) listed in the right hand column of the table below.

The Environmental Management Control framework is presented in a table format below. This can be broken into five key components:

1. **Key Issues** – this identifies the key issues associated with the construction and operation (obtained from Table 2 and Table 3);
2. **Objectives/Targets** – the relevant legal requirement or best practice performance for each environmental issue (obtained from Table 1);
3. **Management strategy** – a clear direction to the project team on how the activities will be undertaken to limit / avoid the hazards;
4. **Monitoring/Reporting** – explains mechanisms which will be in place to monitor and report the above environmental hazards;
5. **Responsibility** – the person who would be responsible for monitoring and reporting; and
6. **Audit Ref.** – the reference to the monitoring checklist provided in Section 9.0 Monitoring and Environmental Audit.

Table 4 - Environmental Management Control framework for construction and operational activities for the trainers' allotment facility in the racecourse development.

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
Site Management	Ensure that all personnel in the project team are aware of the potential environmental issues and they have necessary information to minimise any potential impacts.	Install appropriate signs for personal protective equipment and other environmental hazards.	A site plan showing all signage and their location. No sign to be removed unless authorised by the project manager.	Project Manager	C01
		Provide fencing to all no go areas and prohibited zones (where applicable).	A site plan showing fencing around all prohibited areas and a monthly inspection.	Project Manager	C02
		Storage sites to be located away from the erodible, surface water runoff areas.	Proposed site plan of temporary facilities including all storage facilities and temporary machinery yards.	Project Manager	C03
		Report all hazards to the Project Manager.	A format for reporting environmental hazards to be made available to all construction staff.	Site Foreman	C04
		Housekeeping and litter removal from construction site to be performed daily on close of work.	Weekly inspection of construction site.	Project Manager	C05
Air Quality	Minimise generation of onsite pollution and dust due to construction activities, vehicle	Vegetation to be only removed from areas where immediate construction will follow.	Confirm/obtain approval for vegetation removal prior to proceeding.	Site Foreman	C06

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
	movement and horse movements especially on event days.	Construct and maintain temporary roads for vehicle movement.	Temporary roads to be marked on site plan and all drivers to be instructed to drive on roads at all times.	Drivers / Site Foreman	C07
		Suppress dust on temporary roads by spraying water using a non-potable water source.	Water spraying to be carried out on regular basis and added to daily checklist.	Site Foreman	C08
		Commence revegetation as soon as possible after construction work is completed.	Weekly inspection of construction site to identify areas where vegetation is to be commenced after construction is complete.	Project Manager	C09
		All horse tracks / horse pathways will be located away from pedestrian paths to minimise the influence of dust on people. Horse paths near the pedestrian paths will be either a grassland or constructed using concrete, bitumen or similar.	A site plan of the trainer lot area showing horse paths and pedestrian movement roads/paths and construction types.	Project Manager	F01
Noise & Vibration	Construction and operation noise levels must comply with Information Bulletin N3/89 Interim guidelines for the control of noise in country Victoria.	Construction works to be only carried out in the times specified by Environmental Protection Authority.	Obtain approval from EPA for any construction activity that may generate audible noise outside regular working hours as specified by EPA.	Project Manager	C10
		All equipment will be turned off when not in use.	-	Machine Operators	C11
Waste Management	To effectively manage waste and horse manure.	Stockpiles / skips to be emptied on regular basis.	Builder to request removal by the contractor when skip is full.	Builder	C12
		Regular removal of manure from stables.	Random inspections by PRC at least six monthly.	PRC / Lot Owner	F04

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
		Horses to remain on tracks/horse access paths at all times. Fencing to be installed around horse routes.	Site Plan showing fencing around horse access paths and erect signs that horses to remain on designated routes only.	PRC	F01 F02 F03
		Horse access paths to be cleaned regularly.	Regular inspections.	PRC	F05
		Provide sufficient temporary storage for manure on site in the individual lots; provide skips to each lot for manure storage and collection.	Monitoring to confirm that lot owners are following PRC procedures for manure storage and removal.	Lot Owner / PRC	F06
		General waste and recycling facilities to be provided for each lot.	Recycling and general waste will be collected by council on the designated waste collection days.	Lot Owner / Council	F07
Native Vegetation	Clearing of native vegetation only to the minimum extent necessary to carry out the development.	Only remove vegetation designated (tagged) for removal.	Regular inspections to ensure that only marked trees / vegetation is removed.	Project Manager	C13
		No unnecessary vegetation removal from site.	Confirm/obtain approval before vegetation removal.	Site Foreman	C14
Trees	Prevent damage to the existing trees on the construction site.	All materials storage areas to be located away from trees which are to be protected to prevent damage to root zones.	Builder to ensure that any storage areas are located away from trees / vegetation to be retained.	Builder	C03
Earthworks Protection	Minimise and prevent soil erosion during construction works such as bulk earth works, excavation and grading.	Comply with the relevant requirements set out in the existing Construction EMP (Aecom, February 2011) prepared for the Pakenham Racecourse Tynong.	As stated in the CEMP (Aecon, February 2011).	Project Manager	C15

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
Stormwater Management	Treatment of stormwater so that annual pollutant loads achieves targets set out in the Best Practice Environmental Management Guidelines (BPEMG), and avoid contamination of stormwater.	Efficient stormwater management including water sensitive urban design for stormwater treatment before discharge.	Regular inspection and completion of checklists provided in Section 11.0 of this EMP.	Project Developer/PRC	C16 F08
		Horse washing and stable cleaning water to be diverted to the main sewer or treated on site.	Regular inspection and completion of checklists provided in Section 11.0 of this EMP.	PRC	F08
		Dwelling and stable roofs to be connected to onsite rainwater tank. The tanks to be used for drinking water supply to horses, washing horses & stables and for toilet flushing to all dwellings if owners elect to pursue this building regulation compliance option.	Final pre-occupation inspection.	Builder / Lot Owners	C20 F09
Chemical Management	All chemical materials to be stored, handled and used in accordance with the requirements stated in the safety data sheets.	Ensure that Material Safety Data Sheets (MSDS) for all chemicals are available on site for quick reference when required.	Each site foreman to keep MSDS for all construction chemical which are used on site.	Site Foreman	C18 F10
		Chemical application to be strictly according to the instructions as stated in the MSDS. Training to be given to the workers prior to working with sensitive chemicals.	Submit report of training to the project manager and attach with the weekly audit checklist.	HSE Supervisor / Project Manger	C19 F11
Vermin & Weeds	Manage weeds and vermin during construction works and operation effectively to limit potential environmental	Comply with the weed/vermin control requirements set out in the Construction EMP prepared by Aecom, February, 2011.	As stated in the CEMP (Aecom, February 2011).	Project Manager	C20

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
	hazards.	Minimise vermin in stables by regular cleaning and maintenance, baiting etc.	Half yearly inspection by PRC for stables in each lot.	Lot Owners	F12
		Horses to remain on tracks/horse access paths at all times to avoid spread of weed seeds in horse manure. Fencing to be installed around horse routes.	Site Plan showing fencing around horse access paths and erect signs. Half yearly inspection for the by the PRC.	Project Manager / Horse Rider / PRC	F02 F03
Training & Awareness	All construction workers are competent and experienced to deal with environmental issues associated with construction activities.	Conduct induction training for all construction staff to familiarise them with conditions set out in the EMP and give copies of this EMP to the Site Foreman.	A training report to be submitted to the PRC after completion of training.	Project Manger	C21
		Training should be provided to the workers prior to working with chemicals and other sensitive items.	Report of the training to be submitted to project manager.	Project Manger	C21
		Organise training on how to deal with spills and educate workers on spill kit use.	Report of the training to be submitted to project manager.	Project Manger	C21
Emergency Response	Ensure that adequate measures as in place to deal with potential environmental emergencies such as spills, fire, litter etc.	Maintain an emergency contact list containing all key contacts and emergency services numbers and distribute it to each site foreman.	Prepare list and distribute and regularly update the list.	Project Manager	C22
		Ensure that spill kits are available on site to deal with any potential oil, chemical, paint spills.	A site plan showing location of spill kits on construction site and a monthly inspection.	Project Manger	C23

Key Issue	Objectives / Targets	Management Strategy	Monitoring / Reporting	Responsibility	Audit Ref.
		All contractors to prepare and submit environmental emergency plans in case of fire and storm to the project manager before starting construction.	Completed environmental emergency plans	Subcontractor/Project Manager	C24

10.0 Key Contact Details

Listed below are some key contact details for relevant organisations / governing bodies which can be reached in case of any further information and / or clarification.

- Cardinia Shire Council – 1300 787 624
- Environmental Protection Authority – 1300 372 842
- Department of Sustainability and Environment – 136 186
- Melbourne Water – 131 722

11.0 Monitoring and Environmental Audits

This section describes how the implementation of environmental management controls and plans will be monitored. During construction, the Project Manager or their nominated representative will check the environmental checklists (see below) and complete the evaluation list. Monitoring records will be stored by the inspector and submitted to the project manager for records and future reference if required.

Corrective Action – If non-compliance is identified during an audit, the Project Manager/PRC (as appropriate) will be responsible for investigating the non-compliance and instigating corrective action. A corrective action report should be prepared after the corrective action has been taken and recorded with the environmental audit.

11.1 Fortnightly Checklist (Construction Phase)

Inspection date: __ / __ / ____ Time: __ : __ AM / PM Inspected by: _____				
Audit Ref.	EMP Requirement	Compliance Status (Y/N) or Not Applicable (N/A)	Corrective Action in case of non-compliance (Y/N)	Comments
C01	Signs for personal protective equipment and other environmental hazards.	-		
C02	Fencing installed to all prohibited zones	-		
C03	Storage sites located away from the erodible, surface water runoff areas.	-		
C04	All environmental hazards reported to the project manager	-		
C05	Housekeeping and litter removal from construction site performed daily on close of work.			
C06	Vegetation removal immediately followed by construction.	-		
C07	Temporary roads constructed and maintained for vehicle movement	-		
C08	Water spraying for dust suppressing on temporary roads	-		
C09	Revegetation commenced as soon as possible after construction work is completed.			
C10	Construction times within the allocated working hours	-		

Inspection date: __ / __ / ____

Time: __ : __ AM / PM

Inspected by: _____

Audit Ref.	EMP Requirement	Compliance Status (Y/N) or Not Applicable (N/A)	Corrective Action in case of non-compliance (Y/N)	Comments
C11	All machinery turned off if not in use	-		
C12	All waste and recycling skips to be regularly emptied	-		
C13	Only remove vegetation designated (tagged) for removal.	-		
C14	All vegetation removal according to granted approval	-		
C15	Comply with the relevant requirements set out in the existing Construction EMP (Aecom, February 2011) with respect to minimising soil erosion.	-		
C16	Efficient stormwater management including water sensitive urban design for stormwater treatment before discharge.	-		
C17	Dwelling and stable roofs to be connected to onsite rainwater tank.	-		
C18	MSDS of construction chemicals present on site	-		
C19	Chemical application according to requirements stated in MSDS	-		
C20	Comply with the weed/vermin control requirements set out in the Construction EMP prepared by Aecom, February, 2011	-		
C21	Induction and training carried out for all staff	-		
C22	Emergency contact list, emergency plans present on site	-		
C23	Spill kits available on site for using in case of spills	-		
C24	Housekeeping and litter removal from construction site adequate	-		

11.2 Half Yearly Checklist (Operational Phase)**Inspection date:** __ / __ / ____**Time:** __ : __ **AM / PM****Inspected by:** _____

Audit Ref.	EMP Requirement	Compliance Status (Y/N) or Not Applicable (N/A)	Corrective Action in case of non-compliance (Y/N)	Comments
F01	Horse paths located away from pedestrian zones	-		
F02	Fencing installed around horse access paths	-		
F03	Horses to remain on pathways, tracks at all times	-		
F04	Regular removal of manure from the lots	-		
F05	Horse access pathways to be regularly cleaned	-		
F06	Temporary storage area / skips for manure in individual lots	-		
F07	General waste and recycling facilities provided to each lot	-		
F08	Horse washing & stable cleaning waste diverted, treated	-		
F09	Rainwater tank connected to all toilets, horse drinking & cleaning	-		
F10	MSDS of all chemicals used for cleaning etc. present on site	-		
F11	All cleaning using chemicals according to MSDS	-		
F12	Regular cleaning of stables to minimise vermin	-		

12.0 EMP Review

The need to make amendments to the management strategies, environmental controls and procedures in this EMP should be considered:

- Following any significant environmental incident;
- Where there is a significant change to the scope of the project; and
- Where inadequate environmental performance is identified as a result of environmental monitoring.

If the EMP requires amendment due to the above stated factors, the updated version will be

submitted to Cardinia Shire Council for approval. The reasons for the amendment will be included in the revision. Revising and distributing the EMP (if required) will be the responsibility of the Pakenham Racecourse Club.