



Mt Shamrock Quarry, Pakenham:  
Year 5 monitoring of offset management  
plan implementation

Prepared for Holcim (Australia) Pty Ltd

20 December 2013

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# 1. Introduction

## 1.1 Project Background

Biosis Pty. Ltd. was commissioned by Holcim (Australia) Pty Ltd (Holcim) to monitor progress related to Offset Management Plan (OMP) actions for an offset site within Mt Shamrock Quarry, Pakenham (the site) (Figure 1).

A flora and fauna assessment associated with the quarry expansion was completed by Biosis in 2005. This was followed by the development of an Offset Management Plan (OMP) which identified onsite offsets and management actions for these offsets (Biosis Research 2007).

In 2009 a monitoring report (Year 1) was produced by Biosis which focused on progress and recommendations related to the implementation of management actions described in the OMP. This monitoring report made the assumption that the 10 year management period began on 1 July 2008. In 2011 and 2012 a monitoring reports were prepared by Biosis detailing the progress with management aims in year 2 & years 3-4 of the offset management period respectively.

This report details the results of the year 5 monitoring period from the 01/07/2012 to the 30/06/2013.

**Table 1 - Offset Management Plan (OMP) Timeframes**

Offset Management Plan Year	Start Date	End Date	Minimum OMP Requirements
1	01/07/2008	30/06/2009	Monitoring and Report
2	01/07/2009	30/06/2010	Monitoring and Report
3	01/07/2010	30/06/2011	Monitoring and Report
4	01/07/2011	30/06/2012	Monitoring
5	01/07/2012	30/06/2013	Monitoring and Report
6	01/07/2013	30/06/2014	Monitoring
7	01/07/2014	30/06/2015	Monitoring and Report
8	01/07/2015	30/06/2016	Monitoring
9	01/07/2016	30/06/2017	Monitoring
10	01/07/2017	30/06/2018	Monitoring and Report

## 1.2 Offset Management Plan

The Offset Management Plan (OMP) (Biosis Research 2007) was developed to ensure that the offsets required to compensate for the losses at Mt Shamrock as a result of the quarry expansion were achieved through the protection and management of the offset site.

The offset site has been divided into six different areas, based on their Ecological Vegetation Class and the overall aim for the area.

**Table 2: Offset Management Plan (OMP) Zones and Approaches**

Area Name	Approach	Size (ha)
Northern Swampy Riparian Woodland Revegetation Zone (Syn. <i>Northern Drainage Line Revegetation Zone</i> )	Revegetation	0.76
Northern Swampy Riparian Woodland Tree Protection Zone (Syn. <i>Northern Lowland Forest Supplementary Planting Area</i> )	Tree Protection	0.76
Northern Lowland Forest Revegetation Zone (Syn. <i>Northern Drier Areas Revegetation Zone</i> ).	Revegetation	1.11
Northern Lowland Forest Tree Protection and Recruitment Zone (Syn. <i>Northern Drier Areas Supplementary Area</i> ).	Tree Protection and Recruitment	3.92
Southern Swampy Riparian Woodland Tree Protection Zone (Syn. <i>Southern Drainage Line Supplementary Planting Area</i> ).	Tree Protection	0.32
Southern Lowland Forest Tree Protection Zone (Syn. <i>Southern Drier Areas Revegetation Zone</i> ).	Tree Protection	1.62
	<b>TOTAL AREA</b>	<b>8.49</b>

As described by the OMP, the following offsets were required:

- 0.24 habitat hectares provided by 1.71 hectares of revegetation;
- Protection of 38 Large Old Trees (LOTs) and 20 Medium Old Trees (MOTs); and
- Recruitment of 290 Trees.

These offset requirements were provided by:

- Protecting 43 LOTs and 27 MOTs within two areas below Donazzan's Dam and one large area north east of the driveway (Figure 1);
- Revegetating 1.71 ha of cleared pasture within large northern area (Figure 2 – Swampy Riparian Revegetation Zone and Lowland Forest Revegetation Zone); and
- 2 ha of cleared land providing for the recruitment of 290 trees (Figure 2 – Lowland Forest Tree Protection and Recruitment Zone).

### 1.3 Targets

The OMP contains specific survival targets for the two revegetation areas. If planting at the site is undertaken in accordance with the amended schedule (Appendix 2) for the two revegetation areas and there is a 90% survival rate of the plants at 30/06/2018, then the requirements for the 1.71 ha of revegetation will be achieved. The required density of surviving plants is 2650 plants per hectare for the Swampy Riparian Woodland revegetation area and 3950 plants per hectare for the Lowland Forest Area.

The Large and Medium Old Trees have been protected through fencing and removal of stock from the site. They must now remain protected in perpetuity.

It is a requirement that by the end of the 10 year period (30/06/2018) 290 trees are recruited/planted within the 2 ha area allocated (Lowland Forest Tree Protection and Recruitment Zone). It is advisable that if required, planting be undertaken sooner rather than later to ensure that at least 290 trees are recruited/planted in time.

The OMP also requires that a range of management actions are implemented and that the progress is monitored by a site ecologist over the 10 year life of the Plan (see Section 4.1 – Table 6).

While the OMP only extends for 10 years, it is noted that the offset site will need to be “managed for its conservation values in perpetuity” (DSE 2007:21).

## **1.4 Aims of the assessment**

The aims of this monitoring report are to:

- Summarise progress during Year 5 relating to offset requirements and the implementation of the management actions detailed in the OMP; and
- Recommend any remedial actions if the required targets are not being achieved.

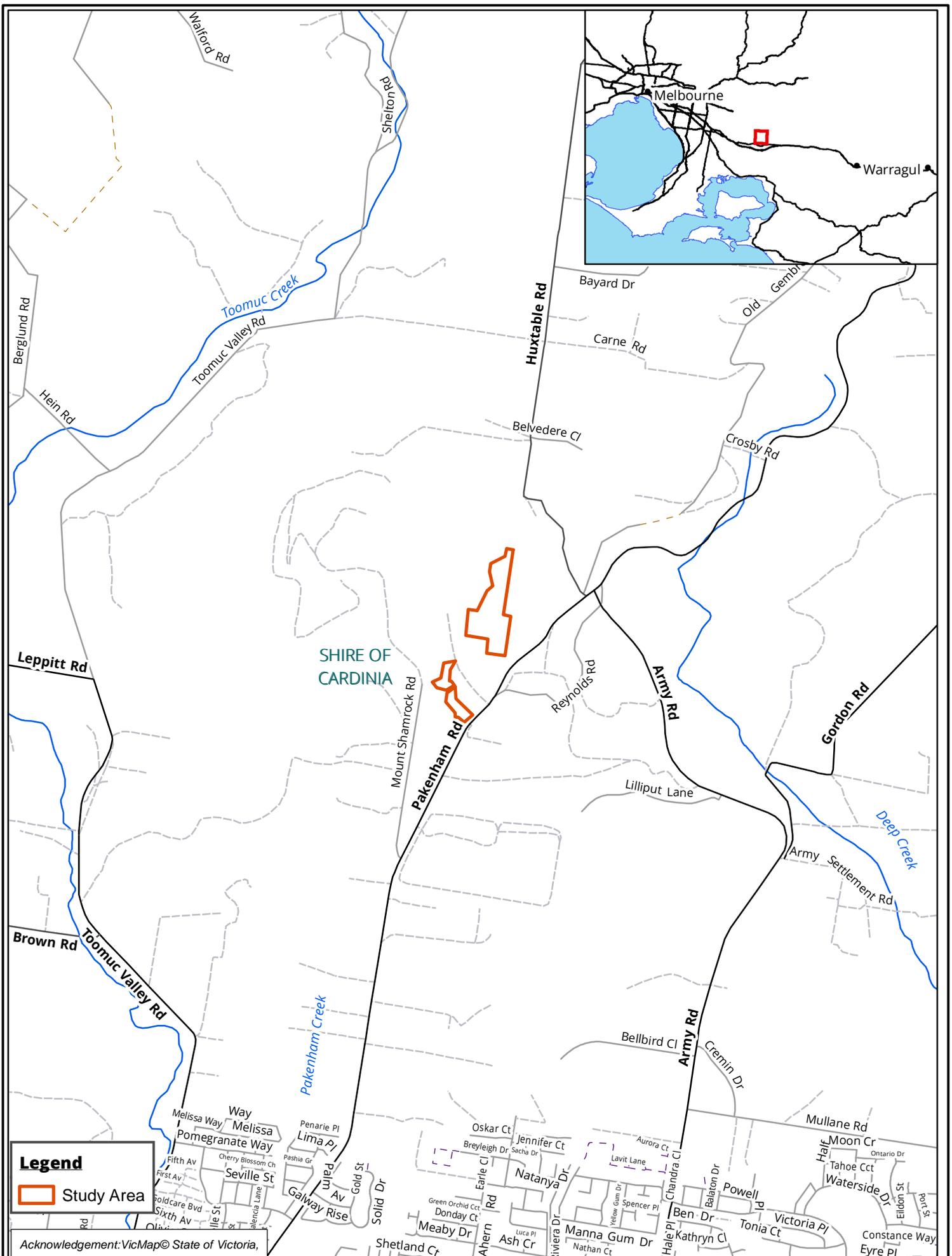


Figure 1: Location of the Study Area - Mount Shamrock Quarry, Pakenham, Victoria

## 2. Methods

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### 2.1 Site Visits

Site visits were conducted by a botanist on 8/11/2012 and on 25/6/2013. The site was walked on foot and observations were made on the management of the reserve. Photo points were located using a handheld GPS and photos were taken at each photo point using previous photos as a guide.

### 2.2 Percentage Cover and Canopy Health

The vegetation quality assessment was undertaken in accordance with the current methodology approved by the Department of Sustainability and Environment (2004) and based on the Lowland Forest EVC benchmark and Swampy Riparian Woodland EVC.

## 3. Results

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The offset areas are monitored to see whether progress is being made towards the target and management actions required under the OMP.

### 3.1 Percentage Covers and Canopy Health

The percentage cover of different components and canopy health measurements are provided in Tables 3, 4 and 5 below.

**Table 3: Southern Area Percentage Covers.**

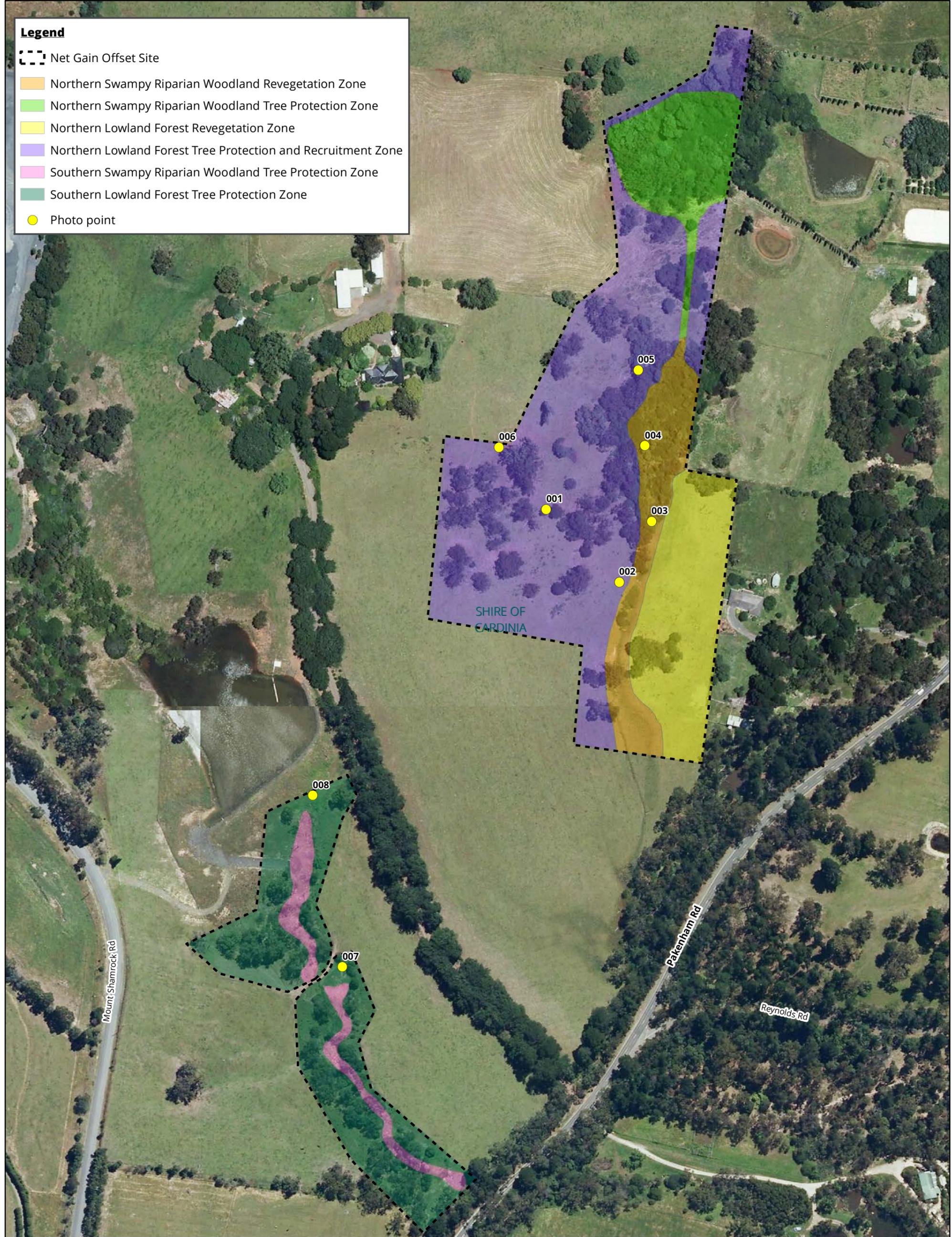
	Area	Swampy Riparian Tree Protection Zone					Lowland Forest Tree Protection Zone				
Origin	Date	27/06/2011	20/12/2011	5/06/2012	7/11/2012	25/06/2013	27/06/2011	20/12/2011	5/06/2012	7/11/2012	25/06/2013
Introduced	Woody	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
	Forbs	<5%	20%	20%	10%	20%	20%	20%	15%	5%	15%
	Grassy	70%	50%	60%	35%	30%	60%	70%	75%	85%	70%
Indigenous	Graminoids	40%	40%	25%	30%	35%	40%	<10%	10%	5%	10%
	Forbs	<5%	5%	<5%	5%	<5%	<1%	<1%	<1%	<1%	<1%
	Shrubs	5%	5%	5%	<1%	<5%	<5%	<5%	5%	5%	5%
	Fern	0%	0%	0%	0%	<1%	0%	0%	<1%	<1%	1%
	Immature Trees	<1%	5%	5%	1%	5%	<1%	<1%	5%	5%	10%
	Recruits	NA	NA	<1%	1%	1%	NA	NA	5%	5%	5%
<b>Organic Matter</b>		NA	10%	10%	5%	20%	NA	20%	10%	10%	20%
<b>Canopy Health</b>		>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%	70%

**Table 4: Northern Area Percentage Covers - Lowland Forest.**

Origin	Area	Lowland Forest Tree Protection and Recruitment Zone					Lowland Forest Revegetation Zone				
		27/06/2011	20/12/2011	05/06/2012	07/11/2012	25/06/2013	27/06/2011	20/12/2011	05/06/2012	07/11/2012	25/06/2013
Introduced	Woody	<1%	<1%	<1%	<1%	<1%	<1%	<5%	<1%	<1%	<1%
	Forbs	<10%	<10%	<10%	5%	5%	10%	10%	<5%	3%	5%
	Grassy	70%	80%	80%	90%	90%	90%	80%	85%	90%	90%
Indigenous	Graminoids	20%	10%	10%	5%	5%	5%	<5%	<5%	1%	1%
	Forbs	<5%	<5%	<1%	1%	1%	<1%	5%	<1%	<1%	<1%
	Shrubs	<5%	<1%	5%	5%	7%	0	<1%	5%	5%	5%
	Fern	NA	NA	<1%	<1%	<1%	NA	NA	<1%	<1%	<1%
	Immature Trees	1%	1%	1%	1%	1%	<1%	<1%	<1%	<1%	<1%
	Recruits	NA	NA	1%	<1%	<1%	NA	NA	<1%	<1%	<1%
Organic Matter		NA	30%	30%	35%	30%	45%	30%	40%	35%	40%
Canopy Health		>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%

**Table 5: Northern Area Percentage Covers – Swampy Riparian Woodland**

Origin	Area	Swampy Riparian Woodland Tree Protection Zone					Swampy Riparian Woodland Revegetation Zone				
		Date	27/06/2011	20/12/2011	5/06/2012	7/11/2012	25/06/2013	27/06/2011	20/12/2011	5/06/2012	7/11/2012
Introduced	Woody	NA	10%	10%	5%	3%	<1%	<5%	<1%	<1%	<1%
	Forbs	NA	20%	10%	5%	10%	10%	<5%	<5%	1%	1%
	Grassy	NA	<10%	<10%	5%	5%	25%	50%	10%	10%	10%
Indigenous	Graminoids	NA	70%	70%	60%	60%	60%	30%	80%	55%	60%
	Forbs	NA	NA	<1%	10%	10%	10%	10%	10%	15%	10%
	Shrubs	NA	40%	20%	15%	15%	<5%	<5%	5%	5%	5%
	Fern	NA	NA	20%	30%	30%	<5%	<5%	5%	5%	5%
	Immature Trees	NA	0%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
	Recruits	NA	NA	<1%	<1%	<1%	NA	NA	<1%	<1%	<1%
<b>Organic Matter</b>		NA	30%	40%	30%	40%	NA	20%	20%	20%	20%
<b>Canopy Health</b>		>70%	>70%	>70%	>70%	>70%	>70%	>70%	>70%	70%	>70%



**Legend**

- Net Gain Offset Site
- Northern Swampy Riparian Woodland Revegetation Zone
- Northern Swampy Riparian Woodland Tree Protection Zone
- Northern Lowland Forest Revegetation Zone
- Northern Lowland Forest Tree Protection and Recruitment Zone
- Southern Swampy Riparian Woodland Tree Protection Zone
- Southern Lowland Forest Tree Protection Zone
- Photo point

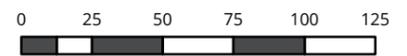
Figure 2: Offset sites, management zones and photo points, Mount Shamrock Quarry, Victoria



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Acknowledgements: VicMap Digital 2013

Matter: 11788,  
 Date: 20 December 2013,  
 Checked by: RDS, Drawn by: PMA, Last edited by: pangas  
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## 4. Management actions

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### 4.1 Assessment of OMP management actions

The OMP (Biosis Research 2007) describes a series of management actions for the sites. These actions, comments regarding their progress and recommendations related to implementation/management of these actions have been summarised in Table 6. This summary of progress is based on observation by the site ecologist during year 5.

**Table 6: Management actions, progress and recommendations**

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
<b>Site identification and protection</b>						
1	Establish an approved 173 Agreement under the <i>Planning and Environment Act 1987</i> .	A section 173 agreement protecting the sites in perpetuity should be established.	Complete	Complete	Complete	Completed. No further action required. A section 173 agreement exists for the sites, which protects them in perpetuity. See Norton Rose advice in Appendix 4
2	The offset site will be fenced in order to clearly delineate the site's extent. Fencing will be of a standard rabbit-proof farm fence	Naturelinks to monitor rabbit and fox populations by undertaking spotlights counts during September/October 2011. The results of this monitoring should be used to determine if rabbit proof fencing is required.	The sites are stock proof but not rabbit-proof fenced.	Naturelinks monitored rabbit and fox populations by undertaking two evening/night spotlight counts during September 2011. No rabbits or foxes were seen during the spotlighting and there is no evidence that they are present. As such rabbit proof fencing	Naturelinks noted that a number of cattle were sighted in the reserve during year 5. Cattle are accessing the reserve from the property to the north but vegetation had grown to the point that it should block stock access. However, fencing may have to be upgraded in this area to ensure that cattle are unable to access the reserve.	The ecologist and Naturelinks staff shall continue to monitor the site to ensure that cows are not able to access the reserves. If fencing requires upgrading then employ contractor to undertake the work.  Naturelinks and site ecologist to continue to monitor for the presence of

Management Actions - derived from the OMP (Biosis Research 2007)	Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
			is not required. Cows have been accessing the northern offset area. It is unclear how they have been gaining access. If this is through the existing fences, then they may require upgrading.	There was little evidence of a large population of rabbits/hares within the reserve.	rabbits/hares during works. If burrows, dung mounds or scratchings are located a follow-up spotlight survey may be undertaken to establish the extent of the population.
3	Install an appropriate sign to inform residents/visitors of the site's ecological characteristics, purpose and value.	N/A	Complete	Complete	Complete Completed prior to year 5. No further action required.
<b>Plant Propagation</b>					
4	Propagate plants or collect seed for dispersal for species listed per Appendix 3. These species are selected because they are components of Lowland Forest or Swampy Riparian Woodland and/or are locally indigenous species that are suitable for the offset site. Local provenance (material collected within 20 km) is	The source of seeds/plants obtained offsite should be checked by Naturelinks and reviewed by the site ecologist to ensure they are sourced from the local provenance prior to its use of site.	Seeds were collected on site by Naturelinks during December 2010. The remaining seeds/plants will be sourced offsite.	The source of seeds/plants obtained offsite was checked by site ecologist (see Appendix 5). Seeds were collected on site by Naturelinks, with further seed collection planned to	All plants collected from Green Circle Nursery are of local provenance. Continue to source plants of local provenance for plantings during years 6 -7.

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress - Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 - 30/06/2013	Status and Further Actions
<p>essential. Non-local provenance is not to be used, and any inadvertent plantings are to be removed. Species substitution within life forms is acceptable if species are not available.</p> <p>It is recommended that the plants/seed be ordered from an indigenous nursery 6 to 12 months in advance as they are not all likely to be in stock and most may need to be propagated from seed or cuttings specifically for this project. Since local provenance is required, failure to plan ahead may result in long delays in meeting the planning permit conditions.</p>				occur on site where possible. The remaining seeds/plants will be of local provenance but sourced offsite.		
<b>Site Preparation</b>						
<b>5</b>	<p>Prepare the site over a minimum six month period through:</p> <p>(a) monthly sprays of existing (introduced) vegetation to deplete the weed soil seed</p>	Mulching not recommended currently and has therefore been left out of the works plan— the site ecologists will	Site preparation undertaken satisfactorily	Site preparation undertaken satisfactorily	Site preparation undertaken satisfactorily	Mulching not recommended currently and has therefore been left out of the works plan— the site ecologists will

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress - Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 - 30/06/2013	Status and Further Actions
	bank; (b) cut and paint and/or drill and fill weedy shrubs such as Hawthorn, Briar Rose and Blackberry; (c) installation of a shallow layer of mulch (less than 5 cm deep) to prevent soil loss but not inhibit the germination of native plant species.	advise if/when/where this should change.				advise if/when/where this should change.  Site ecologist will continue to monitor weed diversity and cover at the site and inform Naturelinks of any additional work required.
<b>Planting</b>						
<b>6</b>	Plant / recruit appropriate species as per Appendix 3 within the offset site (Figure 2). Planting / recruitment densities need to comply with the minimum revegetation standards provided by DSE 2006.	N/A	Appropriate species have been selected, but planting has not yet commenced. Limited recruitment has occurred.	Some planting has occurred (4541 plants) in the revegetation areas, but further planting is required to meet DSE's minimum revegetation standards. Some recruitment has occurred. Naturelinks proposed revegetation plan for the offset sites (revegetation zones	A total of 4541 plants (76 Eucalypts and 4465 understory plants) have been planted at the end of year 5.	Continue progress towards meeting minimum planting guidelines stated in Appendix 2. An additional 2500 plants are required to meet DEPI's minimum planting guidelines. The Swampy Riparian Woodland Revegetation Zone requires 301 additional plants and the Lowland Forest Revegetation Zone requires 2199

Management Actions - derived from the OMP (Biosis Research 2007)	Previous OMP Audit Recommendations	Progress - Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 - 30/06/2013	Status and Further Actions	
				only) has been reviewed by site ecologist. Naturelinks was advised that the density of their plantings needed to be increased in order to meet DSE's minimum revegetation standards.		additional plants.
7	Maintain the plantings taking all necessary measures to ensure (a) survival and growth of the plants, and (b) good appearance or presentation of the plantings. Supplementary watering may be required during exceptionally dry periods. Plantings that do not survive are to be replaced. Substitution of species within life forms is acceptable for replacement purposes	Not applicable yet as planting has not begun.	Not applicable yet as planting has not begun.	Naturelinks have been spot spraying, brush cutting, hand weeding and spot burning to maintain revegetation areas.	Hand weeding, slashing and spraying has been undertaken to maintain plantings and plantings appear to be well managed	The revegetation maintenance will be ongoing for the rest of the offset plan period. Site ecologist will continue to monitor the progress of revegetation maintenance.
8	Undertake weed control across both offset sites on a monthly	N/A	Began November 2010.	Naturelinks have been undertaking	Hand weeding, weed spraying, removal of	Weed control across the site is an ongoing

Management Actions - derived from the OMP (Biosis Research 2007)	Previous OMP Audit Recommendations	Progress - Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 - 30/06/2013	Status and Further Actions	
	<p>basis during the primary weed season (June to December inclusive) and at other times as required. All weeds are to be controlled using appropriate and efficient techniques that do not damage the plantings. Manual control is an important technique, as plantings are frequently killed by herbicide spray drift.</p>		<p>control works throughout the site targeting species such as Blackberry, Honey Suckle, Ragwort and willows. Weed control is ongoing.</p>	<p>Willow shoots, brush cutting of pasture grasses, and cutting and painting of willows has been undertaken by Naturelinks.</p> <p>Good progress has been made in controlling weeds in the northern part of the north offset area and removal of willows and ongoing management of woody weeds has been effective.</p>	<p>process and there are still significant improvements to be made. The site still contains a range of woody and non-woody weeds and weed management should continue to target these species.</p> <p>The northern part of the north offset reserve is still a focus for the reserve and significant improvements can be made in this area.</p> <p>Herbaceous weeds are still abundant in wetter areas. These areas could be targeted using sensitive spraying techniques or hand weeding</p>	
<b>Offset management audit/monitoring</b>						
9	Undertake a management	Naturelinks to provide	This report	This report	This report contains a	Site visits will be

Management Actions - derived from the OMP (Biosis Research 2007)	Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
<p>audit/monitoring exercise at minimum 1, 2, 3, 5, 7 and 10 years after planting to evaluate performance and thus compliance with the planning permit. Photo points will be set up and offset progress will be shown in audit reports. Implementation and monitoring of the offset site is to be conducted by a qualified ecologist, engaged by Holcim. Their responsibilities include:</p> <ul style="list-style-type: none"> <li>(a) Ensuring offset site management contractors are suitably qualified;</li> <li>(b) Approving plant selection and supply;</li> <li>(c) Approving works plan;</li> <li>(d) Monitoring adherence to this plan such as site management, and recommending alternative actions where appropriate; and</li> <li>(e) Completion of audit/monitoring reports for submission to Holcim.</li> </ul>	<p>copies of qualifications to the site ecologist for review.</p>	<p>summarises the findings of year 3's progress</p>	<p>summarises the findings of year 4's progress. Naturelinks have provided a copy of their relevant personnel's qualifications. These have been checked by the site ecologist and are deemed appropriate.</p>	<p>summary of the findings of progress up to year 5.</p>	<p>undertaken by an ecologist each 6 months. The next monitoring report is to be prepared in year 7.</p>

**Implementation of further management actions as identified by audit**

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
<b>10</b>	Implement any further management actions as identified by the audit. The offset site manager should have a flexible adaptive approach to vegetation management and will undertake actions identified in the audits. Additional management actions that may be engaged to protect the offset site include ecological burning for biomass reduction, hand weeding between plantings, supplementary watering and targeted weed spraying.	N/A	The focus was implementing the management actions as specified within the OMP.	No additional requirements at this stage.	No additional requirements at this stage.	No additional requirements at this stage
<b>Reporting to responsible authority</b>						
<b>11</b>	Holcim will forward all audit reports (sequentially) to the Cardinia Shire Council.	N/A	N/A	N/A	Holcim to forward report to Cardinia Shire Council.	Holcim to forward report to Cardinia Shire Council.
<b>12</b>	Allocate staff time and appoint contractors (program ecologist, specialist bushland contractor) as appropriate for delivery of the program over the following year.	The site ecologist should visit the site 2–4 times throughout 2011 and provide a summary monitoring report of the findings	Okay	Naturelinks appointed on an ongoing contract.	Naturelinks appointed on an ongoing contract.	Naturelinks should continue to be engaged to undertake the actions required under the offset management plan.

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
		towards the end of 2011/start of 2012.				
<b>Annual management objectives</b>						
<b>13</b>	The bushland management contractor and the ecologist should conduct an initial site inspection together and discuss specific management issues and requirements for the site. The bushland management contractor should then prepare and implement an annual works program, including achievable management objectives consistent with this management plan. Management objectives are to be specific, with emphasis on the primary season for weed control (June to January).	N/A	Initial site inspection completed on 10 November 2010. Naturelinks produced a works plan shortly thereafter with specific management objectives focused on weed control late 2010/ early 2011 and planting during May 2011.	Naturelinks have prepared a workplan for the upcoming year (2012/13).	Naturelinks have prepared a workplan for the upcoming year (2013/14). Works plan is attached in appendix 1.	Continue yearly.
<b>Access</b>						
<b>14</b>	Control access to the Offset Site by fencing the boundary, providing adequate access for management activities through the strategic location of gates	Naturelinks has requested an additional gate is installed around the northern boundary of	Appropriate fences have been installed with management access gates in appropriate	Additional gate requested by Naturelinks has been installed. Cows have been	Fences are well maintained but there may be some areas where stock are still able to access the reserve	Naturelinks and Site Ecologist to monitor whether stock continue to access the site. If this is the case fences

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
		the offset north east of the driveway.	locations.	accessing the northern offset site. This has resulted in some damage to revegetation within the offset site.	intermittently.	will need to be upgraded by a fencing contractor.
15	Engage appropriate personnel (e.g. ecologist, graphic designer and landscape architect) to design and install information boards, as per Section 2.8 of this management plan.	N/A	N/A	N/A	N/A	No public access, so not required at this stage.
<b>Tree protection, logs and organic litter</b>						
16	All existing canopy trees are to be protected and tree canopy health should be monitored to ensure it is sustained.	Tree canopy health should be assessed by the site ecologist and summarised within the monitoring reports.	Existing canopy trees have been protected by fencing. Canopy health is in very good condition.	Existing canopy trees have been protected by fencing. Canopy health is in very good condition.	Existing canopy trees have been protected by fencing. Canopy health is good across the site.	Tree canopy health should continue to be assessed by the site ecologist and summarised within the monitoring reports.
17	Fallen logs and organic litter should be retained. Fallen logs may require shifting and/or trimming to ensure ease of slashing grasses where required.	N/A	Logs appear to have been left on site where they have fallen as required.	Logs appear to have been left on site where they have fallen as required.	Logs appear to have been left on site where they have fallen as required.	Ensure that any further tree/branch falls are retained in the reserves.
<b>Recruitment and enrichment planting</b>						

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
18	Facilitate recruitment of juvenile eucalypts as described in this plan.	N/A	Some natural recruitment was evident on site.	Active encouragement of recruitment, including burning.	A count of recruiting trees in June 2013 indicated that 129 trees have been recruited leaving a shortfall of 161. These will need to be planted/recruited prior to the end of the 10 year management period.	Nature links to continue to plant or facilitate the recruitment of new trees. The number of new trees should be counted by the Site Ecologist at year 7.
19	Any regenerating indigenous plants should be protected during weed removal or slashing.	Grassy weed should be carefully mown following a check of the site to locate and protect additional indigenous plant recruits, to reduce competition and encourage recruit growth.	Stakes have been installed beside some juveniles and tree guards appear to have been placed around others.	Stakes have been installed beside some juveniles and tree guards appear to have been placed around others.	Stakes have been installed beside tree recruits to ensure their protection during slashing operations.	Grassy weeds can continue to be carefully mown following a check of the site to locate and protect additional indigenous plant recruits. Slashing will reduce competition and encourage recruit growth.
20	Investigate and initiate appropriate methods for revegetation of ground flora.		Site prep and revegetation options for ground flora were investigated and discussed in year 3.	Site prep, including spraying and cluster planting was undertaken.	Site preparation and revegetation planting of ground flora was undertaken.	Continue site prep and planting towards the aim of meeting DEPI revegetation standards in Appendix 2.

Management Actions - derived from the OMP (Biosis Research 2007)	Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions	
<b>Weed control</b>						
<b>21</b>	<p>Remove woody weeds from the offset site. Techniques and timing of control are species dependent, and include manual removal and the use of herbicides.</p> <p>Key woody weeds targeted in year one are: Sweet Briar, Hawthorn and Blackberry.</p> <p>Stage 1 – Removal of all woody weeds, including appropriate disposal of plants.</p> <p>Stage 2 – Spot spray regrowth and seedlings.</p> <p>Wherever feasible, weed control should be carried out utilising non-herbicide methods. Consider that some chemicals are residual, and may contaminate waterways and affect regeneration or revegetation efforts</p>	<p>The results to be summarised in the Year 3 report.</p>	<p>This process began in late 2010.</p>	<p>Weed control was undertaken.</p>	<p>Control of woody weeds was undertaken including cut and paint of existing willows, removal of new willow shoots, spraying or cut and paint of woody weeds such as Blackberry, Hawthorn and Broom.</p> <p>Woody weed cover has been significantly reduced in the reserve and cover is now very low.</p>	<p>Management of weeds is an ongoing process and Naturelinks should continue a regime of spraying and removal of woody weeds.</p>
<b>22</b>	<p>Undertake control of pasture grasses in conjunction with revegetation of ground flora. Key weed grasses are: Soft</p>	<p>Naturelinks and the site ecologist to review the mowing method to ensure it doesn't</p>	<p>The pasture areas are being slashed when required. This is being undertaken</p>	<p>The pasture areas are being slashed when required. This is being undertaken</p>	<p>Exotic pasture grass levels are very high and are inhibiting the growth of natural regeneration</p>	<p>Management of the reserve should seek to reduce exotic biomass as a priority.</p>

Management Actions - derived from the OMP (Biosis Research 2007)		Previous OMP Audit Recommendations	Progress – Year 3 01/07/2010 - 30/06/2011	Progress - Year 4 01/07/2011 - 30/06/2012	Progress Year 5 01/07/2012 – 30/06/2013	Status and Further Actions
	Brome, Perennial Rye-grass, Sweet Vernal-grass, and Toowoomba Canary-grass	inhibit or cause damage to the offsets.	by an operator organised by Holcim but supervised on site by Naturelinks staff. Great care is taken to avoid any of the juvenile eucalypts and the revegetation beds.	by an operator organised by Holcim but supervised on site by Naturelinks staff. Great care is taken to avoid any of the juvenile eucalypts and the revegetation beds.	in areas of the site.  The pasture areas are being slashed when required. This is being undertaken by an operator organised by Holcim but supervised on site by Naturelinks staff. Great care is taken to avoid any of the juvenile eucalypts and the revegetation beds.	Slashing or brush cutting of pasture grasses should continue around plantings and across the broader reserve area.  Investigate the potential for small scale ecological burning on the site to reduce biomass further.
<b>Rubbish</b>						
23	On-going removal of litter from within the reserve	N/A	N/A	Some garden cuttings have been dumped in both the northern and southern offset areas.	Garden cuttings and debris from pruning still present in some areas, particularly in the northern Swampy Riparian Woodland Tree Protection Zone but this is not causing a significant impediment to works.	Continue to monitor for the presence of litter in the reserve and remove any future cutting from the reserve.

## 5. Summary of progress and Key recommendations

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### 5.1 Summary of Progress

The following management actions were identified as priority within the Year 3 and 4 monitoring report and progress has been made during Year 5.

- Woody weed removal (particularly at the northern end of the reserve) was a priority for management during year 5. A focus on management of woody weeds during year 5 has seen a significant reduction, particularly in Blackberry and Willow. Woody weed cover is now very low across the site.
- A total of 2580 plants have been planted in the Lowland Forest Revegetation Zone and 1885 plants have been planted in the Swampy Riparian Woodland Revegetation Zone at the end of year 5. This leaves a shortfall of 2199 and 301 plants in each respective zone.
- Slashing and brush cutting has effectively controlled biomass around plantings to ensure the survival of new plants.
- At November 2012 a total of 129 Eucalypt recruits were counted in the Northern Lowland Forest Tree Protection and Recruitment Zone leaving a shortfall of 161.

### 5.2 Priority Actions for Year 6 - 7 of the OMP

For the upcoming monitoring period (Year 6 - 7), the following should be considered priority actions:

- Continue weed management across the reserves, targeting high threat weed species identified in the OMP.
- Reduce the high level of herbaceous weeds in drainage lines and damp areas such as the Northern Swampy Riparian Woodland Tree Protection Zone, The Northern Swampy Riparian Woodland Revegetation Zone and Southern Swampy Riparian Woodland Tree Protection Zone, using hand weeding where necessary.
- Continue to cut and paint re-sprouting Willows in the Northern Swampy Riparian Tree Protection Zone.
- Continue planting in the Swampy Riparian Woodland Revegetation Zone and Lowland Forest Revegetation Zone as specified in the OMP with the aim of achieving DSE planting densities by the end of the 10 year period.
- The number of natural tree recruits in the Lowland Forest Tree Protection and Recruitment zone should be counted and if below the required number (290), supplementary tree planting should be undertaken before the end of the management period.
- Reduce biomass levels by brush cutting, slashing and small scale ecological burns where necessary to protect revegetation works and encourage natural regeneration.
- Investigate the potential to control weeds on adjacent properties and roadsides. Removal of adjacent weed sources will provide long term biosecurity for the site.

- The site ecologist should continue regular monitoring (at least twice annually) and the next report will be prepared at the end of year 7.
- Continue sourcing of local provenance seed for upcoming revegetation works.

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## Appendices

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## Appendix 1 – Works plan

**Table A1 – Works plan provided by Naturelinks 31/7/2013**

Naturelinks Quote Activity Identification.	Management Actions from Biosis OMP, 2012.	Proposed works	Intended Outcomes	Works timing.
<b>Planting</b>	Plant Propagation	<ul style="list-style-type: none"> <li>Collect seed from remnant species or source local seed of local provenance for propagation.</li> <li>Collect on-site cuttings of selective species to be directly sown in appropriate areas.</li> </ul>	<ul style="list-style-type: none"> <li>Meet DSE density and species diversity requirements.</li> <li>Stockpile seed for future propagation.</li> <li>Assist regeneration and out compete weed species.</li> </ul>	<ul style="list-style-type: none"> <li>Collection – Seasonal 2013 -2014</li> </ul>
	Planting	<ul style="list-style-type: none"> <li>Monitor existing plantings and conduct in-fill planting throughout the entire site if required.</li> </ul>	<ul style="list-style-type: none"> <li>Meet DSE's 2006 minimum revegetation standards.</li> <li>Ensure 90% success rate taking into account normal plant losses.</li> <li>Ensure species diversity.</li> </ul>	<ul style="list-style-type: none"> <li>Ordering – November 2013</li> <li>Planting – June 2014</li> </ul>
	Recruitment and Enrichment Planting	<ul style="list-style-type: none"> <li>Identify all juvenile eucalypts on-site and ensure protection.</li> <li>Identify areas of remnant species, mark the location if necessary and promote their natural recruitment through competition suppression</li> <li>Supervise pasture slashing to ensure juvenile recruits are not impacted.</li> </ul>	<ul style="list-style-type: none"> <li>Promote the recruitment of 300 or more eucalypts.</li> <li>Reduce competition and promote natural recruitment for indigenous species.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing.</li> </ul>
<b>Maintenance</b>	Weed Control and Revegetation	<ul style="list-style-type: none"> <li>Conduct monthly visits for revegetation maintenance,</li> </ul>	<ul style="list-style-type: none"> <li>Eradicate or reduce by a minimum of 90%, noxious</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing monthly visits basis dependant on species and</li> </ul>

Naturelinks Quote Activity Identification.	Management Actions from Biosis OMP, 2012.	Proposed works	Intended Outcomes	Works timing.
	Maintenance	<ul style="list-style-type: none"> <li>Remove all woody and noxious weeds including regrowth from the offset site. Primary target weeds include but not limited to <i>Salix sp</i>, <i>Rubus fruiticosis agg</i>, <i>Lonicera japonica</i>, <i>Senecio jacobaea</i>, <i>Cirsium vulgare</i>, <i>Rosa rubiginos</i>, <i>quercus spp</i> and <i>Crataegus monogyna</i>.</li> <li>Control weeds and establish 'buffer' zones around known remnant species, especially grasses.</li> <li>Seasonally control all weeds on site so as to not allow any further serious infestations.</li> </ul>	<ul style="list-style-type: none"> <li>weeds to ensure reinfestation throughout the site does not occur.</li> <li>Control weed species that are completing with, or encroaching upon, revegetation beds and remnant vegetation.</li> <li>Seasonally reduce seed set for weed species.</li> </ul>	season.
	Site Preparation	<ul style="list-style-type: none"> <li>Prepare further revegetation areas throughout the entire site.</li> </ul>	<ul style="list-style-type: none"> <li>Further consolidate and expand rehabilitation of the site.</li> <li>Provide future planting areas to account for high plant attrition rates or accommodate further DSE offset requirements.</li> </ul>	<ul style="list-style-type: none"> <li>If required.</li> </ul>
<b>Maintenance.</b>	Rubbish Removal	<ul style="list-style-type: none"> <li>Remove any rubbish from the offset site, notably disused fencing material</li> </ul>	<ul style="list-style-type: none"> <li>Remove any risk to site visitors and fauna.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing</li> </ul>
<b>Burning</b>	Low intensity ecological or localised burning	<ul style="list-style-type: none"> <li>Conduct low intensity or localised burning in revegetation beds.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce biomass and provide suitable conditions for natural germination.</li> <li>Reduce use of herbicides in weed control.</li> </ul>	<ul style="list-style-type: none"> <li>Autumn and Spring 2013 - 2014</li> </ul>
<b>Site Survey.</b>	Offset Monitoring.	<ul style="list-style-type: none"> <li>Establishment of (or use of existing)</li> </ul>	<ul style="list-style-type: none"> <li>Monitor progress over time.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing.</li> </ul>

Naturelinks Quote Activity Identification.	Management Actions from Biosis OMP, 2012.	Proposed works	Intended Outcomes	Works timing.
		photo points to monitor progress.		
	Pest Control	<ul style="list-style-type: none"> <li>Conduct surveying to monitor feral animal populations and report to client and site consultant.</li> </ul>	<ul style="list-style-type: none"> <li>Ascertain data as to whether feral animals are present and whether control measures are required.</li> </ul>	<ul style="list-style-type: none"> <li>Spring 2013 or ongoing as required</li> </ul>
	Site GPS Mapping	<ul style="list-style-type: none"> <li>Map all Eucalypts (Naturally germinating, remnant and planted) across the entire site</li> <li>Map any noxious weed occurrences across the entire site.</li> <li>Map evidence of native fauna across the entire site.</li> <li>Map significant indigenous species naturally reoccurring</li> </ul>	<ul style="list-style-type: none"> <li>Maintain records of all Eucalypt species to ensure compliance with DSE offset requirements and monitor survival rates or changes to growing conditions.</li> <li>Locate noxious weed outbreaks to coordinate control and monitor success of control methods.</li> <li>Monitor success of rehabilitation works through return of native fauna</li> <li>Monitor success of rehabilitation works through return of indigenous flora.</li> </ul>	<ul style="list-style-type: none"> <li>July/August 2013</li> <li>Ongoing</li> <li>Ongoing</li> <li>Ongoing</li> </ul>
<b>Administration</b>	Project administration	<ul style="list-style-type: none"> <li>Formulate works plan for 2014 - 2015</li> <li>Prepare monthly progress reports</li> </ul>		<ul style="list-style-type: none"> <li>Works plan submission – July 2014</li> <li>Annual works report sent to Biosis and Holcim</li> </ul>
	Stakeholder	<ul style="list-style-type: none"> <li>Attendance at stakeholder meetings</li> </ul>	<ul style="list-style-type: none"> <li>Maintain clear communication</li> </ul>	<ul style="list-style-type: none"> <li>Periodic</li> </ul>

Naturelinks Quote Activity Identification.	Management Actions from Biosis OMP, 2012.	Proposed works	Intended Outcomes	Works timing.
	Involvement		with all stakeholders	
	Site Meetings	<ul style="list-style-type: none"> <li>• Conduct meetings with client and consulting botanist.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain clear communication on all aspects of site management</li> </ul>	<ul style="list-style-type: none"> <li>• Periodic</li> </ul>

## Appendix 2 - Updated revegetation planting densities plan to DSE standards

**Table 7: Northern Swampy Riparian Woodland (syn. Northern Drainage Line Revegetation Zone) Planting Densities Plan (developed by Naturelinks; modified by Biosis)**

Plants	Lifeform	Benchmark %	DSE density per ha for 1%	DSE planting/ha	Proposed planting/ha (Biosis)	Proposed planting/ha (Naturelinks)	Required # for 0.75 ha area	plus 10% (attenuation)
<b>Eucalyptus cypellocarpa, E. ovata and E. viminalis</b>	C	20	NA	50	50	0*	37.5	41.25
<b>Leptospermum lanigerum</b>	T	30	10	300	200	170*	150	165
<b>Melaleuca ericifolia</b>	T				100	80*	75	82.5
<b>Acacia verticillata</b>	MS	20	40	800	300	300	225	247.5
<b>Leptospermum continentale</b>	MS				300	300	225	247.5
<b>Ozothamnus ferrugineus</b>	MS				200	200	150	165
<b>Lepidosperma elatius</b>	LTG	15 (used LTG figure only)	100	1500	250	250	187.5	206.25
<b>Juncus procerus</b>	LTG				250	250	187.5	206.25
<b>Poa labillardierei</b>	LTG				300	350	225	247.5
<b>Poa morrisii</b>	MTG				300	350	225	247.5
<b>Lomandra longifolia</b>	MTG				200	200	150	165
<b>Eleocharis acuta</b>	MTG				100	100	75	82.5
<b>Persicaria decipiens</b>	H				50	50	37.5	41.25

Plants	Lifeform	Benchmark %	DSE density per ha for 1%	DSE planting/ha	Proposed planting/ha (Biosis)	Proposed planting/ha (Naturelinks)	Required # for 0.75 ha area	plus 10% (attenuation)	
<b>Craspedia paludicola</b>	H				50	50	37.5	41.25	DSEs/ha total density * 0.75
Total				2650	2650	2650	1987.5	2186.25	1987.5

*\*Discrepancies between the density proposed by Naturelinks and the density required by DSE (2006)*

**Table 9. Northern Lowland Forest Planting Densities Plan (developed by Naturelinks; modified by Biosis)**

Northern Lowland Forest Revegetation Zone (Syn. Northern Drier Areas Revegetation Zone)									
Plants	Lifefor m	Benchmark %	DSE density per ha for 1%	DSE planting/ha	Proposed planting/ha (Biosis)	Proposed planting/ha (Naturelinks)	Required # for 1.10 ha area	plus 10% (attenuation )	
<i>Eucalyptus radiata, E. obliqua</i>	C	30	NA	150	150	0*	165	181.5	
<i>Acacia mearnsii</i>	T	10	10	100	50	50	55	60.5	
<i>Allocasuarina littoralis</i>	T				50	50	55	60.5	
<i>Banksia marginata</i>	MS	30	40	1200	350	350	385	423.5	
<i>Bursaria spinosa</i>	MS				350	350	385	423.5	
<i>Acacia verticillata</i>	MS				300	300	330	363	
<i>Ozothamnus ferrugineus</i>	MS				200	200	220	242	
<i>Correa reflexa</i>	SS	10	100	1000	250	250*	275	302.5	
<i>Pultenaea scabra</i>	SS				250	250*	275	302.5	
<b>Add additional SS spp.</b>	SS				500#	0#	550#	605#	
<i>Austrostipa rudis</i>	LTG	15	100	1500	500	165*	550	605	
<i>Dianella revoluta</i>	MTG				500	165*	550	605	
<i>Themeda triandra</i>	MTG				500	170*	550	605	DSEs/ha total density * 1.10
Total				3950	3950	2300	4345	4779.5	4345

\*Discrepancies between the density proposed by Naturelinks and the density required by DSE (2006) #Under their revegetation plan Naturelinks need to incorporate additional small shrubs within the Northern Lowland Forest area to meet the required DSE thresholds. It may be worth increasing the diversity slightly by including another small shrub species.

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## Appendix 3 – Monitoring photographs

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08/12/10



30/03/11



27/06/11



05/06/12



08/11/2012



12/06/2013



**Plate 1: Photo point 1**

08/12/2010



30/03/11



27/06/11



50/06/12



08/11/12



12/06/2013



**Plate 2: Photo point 2**

8/12/10



30/03/11



27/06/11.



05/06/12



08/11/12



12/06/13



**Plate 3: Photo point 3**

08/12/10



30/03/11



27/06/11



05/06/12



08/11/2012



12/06/2013



**Plate 4: Photo point 4**

08/12/10



30/03/11



27/06/11



05/06/12



08/11/2012



12/06/2013



Plate 5: Photo point 5

08/12/10



30/03/11



27/06/11



05/06/12



08/11/2012



12/06/2013



**Plate 6: Photo point 6**

<p><b>08/12/10</b></p> 	<p><b>30/03/11</b></p> 
<p><b>27/06/11</b></p> 	<p><b>05/06/12</b></p> 
<p><b>08/11/2012</b></p> 	<p><b>12/06/2013</b></p> 

**Plate 7: Photo point 7**

<p><b>08/12/10</b></p> 	<p><b>30/03/11</b></p> 
<p><b>27/06/11</b></p> 	<p><b>05/06/12</b></p> 
<p><b>08/11/2012</b></p> 	<p><b>12/06/2013</b></p> 

**Plate 8: Photo point 8**

## Appendix 4 – Norton Rose legal advice

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4 November 2011

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Dear Nathan

### **Pakenham Quarry – permanence of native vegetation protection**

1 Advice requested

1.1 We refer to our telephone conversation of 25 October 2011.

1.2 You have requested our advice as to whether the agreement under section 173 of the *Planning & Environment Act 1987 (Act)* between Cardinia Shire Council and Cemex Australia Pty Limited (**Agreement**) provides permanent protection for the offsets (**Offsets**) established in accordance with the 'Net Gain Offset Management Plan for the Readymix Mt Shamrock Quarry, Pakenham, September 2007' by Biosis Research (**NGOMP**).

2 Executive summary and recommendations

2.1 Based on the information and assumptions described in section 3, our opinion is that the Agreement does provide for permanent protection of the Offsets.

2.2 Further details appear in section 4.

3 Instructions, background and assumptions

3.1 The Pakenham Quarry is subject to a planning permit<sup>1</sup> that includes the following Condition 44:

*Before the commencement of Extractive industry works in the extension area, the permit holder must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 (the Act) that must provide for:*

(a) *Maintenance of landscape and landslip mitigation plantings outside the land controlled by this permit; and*

(b) *Maintenance and permanent protection of Net Gain offset areas identified in the Native Vegetation Offset Plan required under condition 40(k) of this permit.*

3.2 The Agreement was entered into to satisfy condition 44. We understand that the Agreement is recorded on title, but we have not independently verified this. The Agreement specifically refers to

<sup>1</sup> We have not reviewed a copy of the planning permit and rely on extracts included in the NGOMP and Agreement. APAC-#12033848-v1

Condition 44 (Recital D) and states that the parties entered into the Agreement to facilitate these requirements (Recital E).

3.3 Clause 3 of the Agreement provides:

**3 Specific obligations of the Owner**

*The Owner agrees:*

- (1) *To maintain the plantings for landscape and landslip mitigation purposes outside the Extractive Industry Area shown on and in accordance with the Landscape Plans to the satisfaction of the Responsible Authority.*
- (2) *To maintain and protect the Net Gain Offset Areas in accordance with the Native Vegetation Offset Plan to the satisfaction of the Responsible Authority.*

3.4 The Native Vegetation Offset Plan is the NGOMP.

3.5 The Agreement also includes the following clause:

**15 Ending of Agreement**

- 15.1 *This Agreement will end once the Owner has completed, to the satisfaction of the Responsible Authority all of the obligations imposed on it under this Agreement or otherwise by agreement between the parties in accordance with Section 177(2) of the Act.*
- 15.2 *Once this Agreement ends, the Responsible Authority will, as soon as practicable following a request from the Owner, make application to the Registrar of Titles under Section 183(2) of the Act to cancel the recording of this Agreement on the register.*

3.6 The NGOMP includes the following provisions:

**1.1 Background**

***Readymix will coordinate the conservation management of the offset area for the ten year duration of this plan. However beyond that the offset site could fall under different ownership. In this case, any gains achieved by the revegetation and management of the offset site will be of an ongoing and secure nature...***

**2.11 Long-term protection**

***Readymix is responsible for the management of this site for the next ten years. Subject to mutual agreement, formal arrangements may be made with in this period to delegate responsibility and funding to undertake management to a third party. Permanent protection of the trees and designated offset areas will be ensured through a legal agreement, to be negotiated with Council.***

3.7 The NGOMP also specifically references Condition 44 of the planning permit.

3.8 Biosis Research, undertaking an audit of the NGOMP in accordance with the NGOMP, has queried whether the Agreement provides for permanent protection of the Offsets, given that it includes a provision for ending the Agreement.

4 Reasons for and details of our advice

4.1 We consider that the Agreement does provide for permanent protection of the Offsets because:

- (1) The Agreement can only be ended:
  - (a) with the agreement of both parties, which means that Council would have to agree to end the Agreement. In any case, the Agreement clause is simply a re-statement of the applicable law (Act, s 177(2)); or
  - (b) once the Owner has completed, to the satisfaction of the Responsible Authority, all of the obligations imposed on it under this Agreement.
- (2) The obligations in the Agreement are to maintain and **protect** the Offsets in accordance with the NGOMP to the satisfaction of the Responsible Authority.
- (3) Although there is no specific statement that the protection is to be permanent:
  - (a) the purpose of the Agreement is to satisfy Condition 44 of the planning permit, which requires permanent protection;
  - (b) there is nothing in the Agreement to suggest anything short of permanent protection; and
  - (c) the NGOMP clearly envisages permanent protection of the Offsets in sections 1.1 and 2.11, and by virtue of reference to the Condition 44 of the planning permit. The fact that the NGOMP does not deal explicitly with management beyond 10 years is only to be expected given that the requirement for active management is limited to 10 years.

4.2 We therefore conclude that while the obligations are somewhat circular, the intention is clear that the obligations imposed on the Owner under the Agreement are of a permanent, ongoing nature. Although the Agreement could be ended upon agreement with Council, we think it is highly unlikely that Council will ever agree to end the Agreement. We note that if the ability to end an agreement under section 173 of the Act meant that obligations secured by such an agreement were not considered "permanent", these agreements would never be suitable for net gain security purposes. Further, the Owner can never 'complete' the ongoing obligations, meaning that the second criterion for ending of the Agreement will never be satisfied and therefore the protection of the Offsets is permanent.

5 Next steps

5.1 If you have any queries, please contact Tamara Brezzi (8686 6226) or Alex Guild (8686 6713).

Yours faithfully



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